



STIKES AL INSYIRAH  
PEKANBARU



# PROCEEDING

# AISCH<sup>2nd</sup>

Al Insyirah International Scientific Conference on Health

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**Elaboration and  
Collaboration in Efforts  
to Improve the Quality of  
Human Life during the  
Pandemic Period**

February 26-27, 2021  
Pekanbaru, Indonesia

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## OPENING SPEECH

BISMILLAH

ASSALAMUA'ALAIKUM WARRAHMATULLAHI WABARAKATUH

Peace be upon You.

First of all, let us praise and convey our gratitude to Allah. The Most Gracious and the Most Merciful. Salawat and greetings are dedicated to our Prophet Muhammad.

All respect and honor to all the Outstanding International Seminar Speakers that held by STIKES AL Insyirah Pekanbaru:

1. His Excellency Drs. Ronny Prasetyo Yuliantoro, Master of Arts : Ambassador Extraordinary and Plenipotentiary of The Republic of Indonesia to The Islamic Republic of Iran
2. Dr. Muhammad Asif Hussain: Department of Electrical and Computer Engineering, Faculty of Engineering, King Abdul Aziz University, Jeddah Saudi Arabia
3. Prof. Chien Hue Kao, Ph.D. : Director of Department of Nurse-Midwifery and Women Health in National Taipei University of Nursing and Health Science
4. Prof. Datuk Dr. Hj. Bibi Florina Abdullah: Pro-Chancellor Lincoln University College, Malaysia
5. Hendry Surendra, Master of Public Health, Ph.D. : Epidemiologist, Eijkman Oxford Clinical Research Unit, Indonesia

And grateful and big thanks for:

Chairman Representatives, Chairman of Units, Chairman of Study Programs, Chairman of Committees as well as the whole Civitas of STIKES Al Insyirah Pekanbaru, and all of the attendees of the 2nd International Seminar STIKES Al Insyirah Pekanbaru that have made this agenda being successful today.

Ladies and gentlemen. This International Seminar Event is the second event held by STIKES Al Insyirah Pekanbaru, as an intention of implementation of the Al Insyirah Strategy Plan towards A national global-based Healthy Institution, so that we are presenting all competent speakers to this international standard seminar.

The theme of the seminar today is “Elaboration and Collaboration During The Pandemic Period in Efforts to Improve The Quality of Human Life ”, which is nowadays being a significant global-issue. This issue has become our responsibility to solve and minimalize the critical conditions of the Pandemic within our life, both cross-sectoral and cross-program.

In every single explanation delivered by the speakers, we do hope all attendees to pay attention, to be focus and well comprehend the exposure. And of course, all attendees will get insights and strategies those can be implemented in all cross of activities and sciences.

Once again, we would like to say thank you to all of the speakers. May The Almighty God always endow us a healthy and blessingful life. For all attendees. Thank you very much indeed for being together with us today and welcome to The 2nd Al Insyirah International Scientific Conference from STIKES Al Insyirah Pekanbaru, Riau - Indonesia.

Wassalaamu’alaikum Wr.Wb

Best Regards,

Chairman of STIKES Al Insyirah Pekanbaru

**Dr. Ns. Hj. Rifa Yanti, S.Kep, M. Biomed.**

## COMMITTE REPORT

Assalamualaikum wr wb

A very good morning, and may I extend a warm welcome to our special guests:

The Chairmans of Indonesia Health Professional Organizations from PPNI, IBI, IAKMI, and IKATEMI

Our keynote speakers:

- Prof. Datuk Dr. Hjh. Bibi Florina Abdullah
- Prof. Chien Hue Kao, PhD
- Drs. Ronny Prasetyo Yuliantoro, M.A.
- Dr. Muhammad Asif Hussain
- Hendry Surendra, M.PH, PhD
- The Chairman of Al Insyirah School of Health Science Pekanbaru, Dr. Ns. Hj. Rifa Yanti, S.Kep., M.Biomed

First of all, let us praise and express our gratitudes towards Allah SWT, because at the moment, we are given the opportunity to attend the 2nd Al Insyirah International Scientific Conference on Health.

It's my pleasure to walk you through the conference, introduce you to the speakers and delegates that have come from all over the world today, to share their knowledge and enhance our mental horizon, to improve our capabilities as researchers, to give us insight about health and science research utilization.

This year's conference has about 750 participants, and we accepted 67 articles from different institutions across the country and 4 articles from overseas institutions. Selected articles will be published at national journals with SINTA 2, 3, 4 accreditation.

The theme of this conference is "Elaboration and Collaboration in Efforts to Improve the Quality of Human Life During The Pandemic Period". We have experts from across the field who will be staying with us, sharing their thoughts, knowledge and opinions with the rest of us.

I'm proud to announce that this conference is being conducted along with the cooperations and supports from different parties:

1. The Chairman of Al Insyirah School of Health Science Pekanbaru
2. Our keynote speakers
3. The Chairmans of Indonesia Health Professional Organizations from PPNI, IBI, IAKMI, and IKATEMI
4. The technical committee and the support team
5. Presenters, participants, reviewers, moderators
6. Our partner institutions: AcTion Journal, STRADA Journal, International Journal of Nursing and Health Services, Science Midwifery journal

I would like to conclude my speech, by encouraging the delegates to participate, with an increasing number, in all the activities and discussions through the digital platforms, so that we're all able to create a good research atmosphere, and a strong, sustainable and high quality research culture, in accordance with the development of health science and technology.

Wassalamualaikum wr wb

Sincerely,

**Ns. Fitra Mayenti S.Kep., M.Kep**

## CONFERENCE RUNDOWN

THE 2nd AL INSYIRAH INTERNATIONAL SCIENTIFIC CONFERENCE ON HEALTH  
(AISCH), FEBRUARY, 26 – 27, 2021 / PEKANBARU, INDONESIA

### Day I (Friday, February 26<sup>th</sup>, 2021)

No	Time (WIB)	Activities	Speaker	PIC/Moderator/MC
<b>First Session</b>				
1	08.45 – 09.30	Registration		Moh. Habib Amras, S. Kom
2	09.30 – 09.45	Opening ceremony		Icha Fatwasauri, S.Si., MT
		Welcome remarks by the chairman of 2 <sup>nd</sup> AISCH	Ns. Fitra Mayenti, S. Kep., M. Kep	
		Welcome remarks by the chairman of STIKes Al Insyirah	Dr. Ns. Hj. Rifa Yanti, S. Kep., M. Biomed	
<b>Second Session</b> (This session is a panel that every speaker expressed about the material presented. Duration given to keynote speakers for 30 minutes)				
3	09.45 – 10.15	Keynote Speaker 1	Prof. Datuk Dr. Hjh Bibi Florina Abdullah (Pro Chancellor Lincoln University College)	Ns. Irna Kartina, MSN
	10.15 – 10.45	Keynote Speaker 2	Prof. Chien Hue Kao., Ph.D (Director of The Department of Midwifery and Women Care National Taipei University of Nursing and Health Sciences; Taiwan Midwives Assosiation/The President)	
	10.45 – 11.00	Discussion		
	11.00 – 11.30	Keynote Speaker 3	Drs. Ronny Prasetyo Yuliantoro, MA Ambassador Extraordinary and Plenipotentiary Of The Republic of Indonesia to the Islamic Republic of Iran, Concurrently the Republic of Turkmenistan, domiciled in Tehran	Rino Ferdian Surakusumah ST., M. Eng
	11.30 – 11.45	Discussion		
4	11.45 – 13.45	Break		Moh. Habib Amras, S. Kom
<b>Third Session</b> (This session is a panel that every speaker expressed about the material presented. Duration given to keynote speakers for 30 minutes)				
5	14.00 – 14.30	Keynote Speaker 4	Dr. Mohammad Asif Hussain (Professor Department of Electrical Engineering and Computer Engineering, Faculty	Rino Ferdian, M. Eng



			of Engineering) King Abdulaziz University, Jeddah, Saudi Arabia	
	14.30 – 15.00	Keynote Speaker 5	Henry Surendra, M.P.H, Ph.D (Epidemiologist, Eijkman Oxford Clinical Research Unit)	
	15.00 – 15.15	Discussion		
6	15.30	Close		Icha Fatwasauri, S. Si., MT

### Day II (Saturday, February 27<sup>th</sup>, 2021)

No	Time (WIB)	Activities	Speaker	PIC/Moderator/MC
<b>Fourth Session</b>				
1	08.00 – 08.30	Registration		Moh. Habib Amras, S. Kom
<b>Five Session (Oral Presentation)</b> (This session is a panel that every speaker expressed about the material presented. Duration given to presenter for 10 minutes and discussion 5 minutes)				
<b>Parallel Room A (Public Health)</b>				
2	08.30 – 08.45	Oral Presentation 1	Ahmad Ghiffari	Ns. Sumandar., S.Kep., M. Kes
	08.45 – 09.00	Oral Presentation 2	Wiwik Eko Pertiwi	
	09.00 – 09.15	Oral Presentation 3	Rina Dwi Urbaningrum	
	09.15 – 09.30	Oral Presentation 4	Zata Ismah	
	09.30 – 09.45	Oral Presentation 5	Otik Widyastutik	
	09.45 – 10.00	Oral Presentation 6	Titin Nasiatin	
	10.15 – 10.30	Oral Presentation 7	Dian Kristiani Irawaty	
	10.30 – 10.45	Oral Presentation 8	Imas Arumsari	
	10.45 – 11.00	Oral Presentation 9	Najib	
	11.00 – 11.15	Oral Presentation 10	Zulfikar Abdul Aziz	
	11.15 – 11.30	Oral Presentation 11	Misna Sabilla	
	11.30 – 11.45	Oral Presentation 12	Nadia Purnama Dewi	
	11.45 – 12.00	Oral Presentation 13	Dessy Abdullah	
	12.00 – 13.00	Break		Moh. Habib Amras, S. Kom
	13.00 – 13.15	Oral Presentation 14	Ade Teti Vani	Ns. Sumandar., S.Kep., M. Kes
	13.15 – 13.30	Oral Presentation 15	Hana Haryani	
	13.30 – 13.45	Oral Presentation 16	Paulus Subiyanto	
	13.45 – 14.00	Oral Presentation 17	Rika Mianna	
	14.00 – 14.15	Oral Presentation 18	Riska Epina Hayu	
	14.15 – 14.30	Oral Presentation 19	Jufenti Ade Fitri	
	14.30 – 14.45	Oral Presentation 20	Yani Maidelwita	
	14.45 – 15.00	Oral Presentation 21	Budiman	
15.00 – 15.15	Oral Presentation 22	Mishbahuddin		
<b>Parallel Room B (Nursing)</b>				
3	08.30 – 08.45	Oral Presentation 1	Wina Rizky Arfi Insani	Ns. Ika Permanasari, M.Kep
	08.45 – 09.00	Oral Presentation 2	Rino Ferdian Surakusumah	
	09.00 – 09.15	Oral Presentation 3	Andalia Roza	
	09.15 – 09.30	Oral Presentation 4	Yulia Febrianita	
	09.30 – 09.45	Oral Presentation 5	Awal Darmawan	
	09.45 – 10.00	Oral Presentation 6	Ainil Fitri	
	10.15 – 10.30	Oral Presentation 7	Lora Marlita	
	10.30 – 10.45	Oral Presentation 8	Sidqon Mustofa	
	10.45 – 11.00	Oral Presentation 9	Wardiyah Daulay	

	11.00 – 11.15	Oral Presentation 10	Riski Muliani	
	11.15 – 11.30	Oral Presentation 11	Seriga Banjarnahor	
	11.30 – 11.45	Oral Presentation 12	Rahmaniza	
	11.45 – 12.00	Oral Presentation 13	Fatima Nuraini Sasmita	
	12.00 – 13.00	Break		Moh. Habib Amras, S. Kom
	13.00 – 13.15	Oral Presentation 14	Vike Pebri Giena	Ns. Ika Permanasari, M.Kep
	13.15 – 13.30	Oral Presentation 15	Ari Rahmat Aziz	
	13.30 – 13.45	Oral Presentation 16	Rohmi Fadli	
	13.45 – 14.00	Oral Presentation 17	Destria Efliani	
	14.00 – 14.15	Oral Presentation 18	Mersi Ekaputri	
	14.15 – 14.30	Oral Presentation 19	Ahmad Redho	
	14.30 – 14.45	Oral Presentation 20	Arya Ramadia	
	14.45 – 15.00	Oral Presentation 21	Dilgu Meri	
	15.00 – 15.15	Oral Presentation 22	Jannaim	
	15.15 – 15.30	Oral Presentation 23	Iralivelya Pasaribu	
<b>Parallel Room C (Midwifery and Electro Medical)</b>				
4	08.30 – 08.45	Oral Presentation 1	Cecen Suci Hakameri	Rani Nur Setia Ningsih, SST., M. KM
	08.45 – 09.00	Oral Presentation 2	Endah Yulianingsih	
	09.00 – 09.15	Oral Presentation 3	Yusni Podungge	
	09.15 – 09.30	Oral Presentation 4	Juli gladis Claudia	
	09.30 – 09.45	Oral Presentation 5	Mona Dewi Utari	
	09.45 – 10.00	Oral Presentation 6	Nia Desriva	
	10.15 – 10.30	Oral Presentation 7	Restu Octasila	
	10.30 – 10.45	Oral Presentation 8	Fera Riswidautami Herwandar	
	10.45 – 11.00	Oral Presentation 9	Nurnaningsih Ali Abdul	
	11.00 – 11.15	Oral Presentation 10	Rafidaini Sazarni Ratiyun	
	11.15 – 11.30	Oral Presentation 11	Resi Putri Naulia	
	11.30 – 11.45	Oral Presentation 12	Fatma Richa Rahmana	
	11.45 – 12.00	Oral Presentation 13	Rina Kartikasari	
		12.00 – 13.00	Break	
	13.00 – 13.15	Oral Presentation 14	Putri Wulandini	Rani Nur Setia Ningsih, SST., M. KM
	13.15 – 13.30	Oral Presentation 15	Kalvin Ginting	
	13.30 – 13.45	Oral Presentation 16	Icha Fatwasauri	
	13.45 – 14.00	Oral Presentation 17	Yeni Pertiwi	
	14.00 – 14.15	Oral Presentation 18	Fajar Sari Tanberika	
	14.15 – 14.30	Oral Presentation 19	Ary Oktora Sri Rahayu	
	14.30 – 14.45	Oral Presentation 20	Yesi Septina Wati	
	14.45 – 15.00	Oral Presentation 21	Rifa Rahmi	
	15.00 – 15.15	Oral Presentation 22	Komaria Susanti	
	15.15 – 15.30	Oral Presentation 23	Lisviarose	
<b>Six Session (Ceremony)</b>				
5	15.30 – 15.45	Best Oral Presentation Announcement and Closing Ceremony and Wrap-up		Icha Fatwasauri, S. Si., MT

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# HEALTH STUDENT SATISFACTION WITH METHODSONLINE TEACHING DURING PANDEMIC COVID 19 IN 2020

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## **ABSTRACT**

*Learning is at the core of the educational process. The quality of education describes the quality of learning. Improving the quality of education can be done through improving the quality of learning. The COVID pandemic demands online learning even though there are many pros and cons. The purpose of this study was to determine the satisfaction of health students with the online lecture method during the COVID-19 pandemic in 2020. This type of research is quantitative with a descriptive research design, using google form to retrieve health student satisfaction data. Pupulation, namely all health students with a sample of 427 people. The results showed that 205 respondents (48%) expressed satisfaction, 167 respondents (39%) expressed dissatisfaction, 34 respondents (8%) expressed dissatisfaction, and 21 respondents (5%) stated that they were very satisfied with the online learning method. So that it is hoped that the lecturers will be more motivated to complete the learning tools in the form of modules, videos for each lesson.*

**Keywords:** *satisfaction, student health, online lectures*

## **1. INTRODUCTION**

The COVID 19 pandemic in Indonesia began to occur in March 2020, starting with a positive victim in the city of Depok. After that, an increase in cases occurred throughout the Greater Jakarta area so that it became a red zone area. The National Disaster Management Agency (BNPB) issued decree number 13 A regarding the determination of the emergency period due to the Corona virus. (Novita, 2020).

Learning is at the core of the educational process. The quality of education describes the quality of learning. Improving the quality of education can be done through improving the quality of learning. However, online learning has many pros and cons, including the cons, namely: Online learning still confuses students, One of the things that is of concern in online learning is the implementation of learning. Recently, many students complained about the large number of assignments without sufficient material so that they were somewhat overwhelmed in the learning process. Even the Whatsapp,

e-learning, and Zoom applications are still confusing for students (Novita, 2020).

Even though online learning using various applications is implemented, teachers and lecturers still have to pay attention to how the learning models and scenarios of learning will be carried out because learning without a careful plan will make it difficult for educators and students to achieve learning goals. In reality, there are still many educators who have an understanding that learning is a transmission of knowledge to students. This causes students to be passive, less creative and productive in developing their potential and the accumulation of information / concepts in students is less useful. It cannot be denied that the concept is very important, but it does not lie in the concept itself, but in how the concept is understood by students. The importance of understanding concepts in the teaching and learning process greatly influences attitudes, decisions, and ways of solving problems, so the most important thing is the process of learning (Sari D, 2020).

The level of student satisfaction is one measure of the quality of e-learning. The level of student satisfaction using e-learning can show that students enjoy the online learning process. Quality learning will have a high level of satisfaction for its users. One of the methods used to measure the effectiveness of learning is end-user computing satisfaction (EUCS) (Cheok M. L., and S. L. Wong, 2015). In the EUCS method, there are several factors that affect the level of user satisfaction of a media. The factors used to measure the level of satisfaction with the EUCS method include; ease of use, perceived benefits, accuracy and interaction (Purwandani, 2018)

In this study, the level of student satisfaction with e-learning vocational learning media will be measured using the EUCS method. The satisfaction level of students who take e-learning can be a reflection of the quality of online learning as a vocational learning media. Good quality of learning will produce good outcomes too. The indicators used to measure the level of student satisfaction using the EUCS method are content, accuracy, format, ease of use, and timeliness. a) Content is the content of the system in the form of system functions and also information generated by the system itself. Measuring the level of student satisfaction with online learning of vocational learning media is seen in terms of e-learning content. In this study, the content was viewed from the appearance of e-learning, and the availability of all information (material & assignments) for lectures. b) Accuracy is the accuracy between the data displayed in e-learning and the syllabus of vocational learning media. In this study, student satisfaction in terms of the accuracy of e-learning in terms of the suitability of the material and assignments presented in e-learning with the lecture syllabus. c) Form is a form of e-learning, vocational learning media. Measuring the level of user satisfaction in terms of form is seen from the e-learning display itself (Purwandani, 2018).



The level of student satisfaction in implementing e-learning reflects the quality of e-learning as a vocational learning media. Good quality learning will produce optimal learning outcomes. The high level of satisfaction can be an indication that online learning in vocational learning media courses is going well. In this study, the effect of the level of student satisfaction using e-learning in vocational learning media courses on student learning outcomes during the Covid19 pandemic will be observed.

From the results of the initial survey via online or via WhatsApp to 10 students who were undergoing online lectures or during this pandemic, where were the students I asked how they thought about online learning methods? So 8 of them answered that they said they did not like online learning, which was constrained by unstable networks, waste of internet quota used, lack of understanding of the material provided and too many assignments given by lecturers. Based on the above phenomenon, researchers are interested in seeing the satisfaction of Health Students with the Online Lecture Method during the Covid 19 Year 2020 Pandemic.

The purpose of this study is to determine the satisfaction of health students with the online lecture method during the Covid 19 year 2020 pandemic. Where it is hoped that this research will serve as a means of identifying student satisfaction in the application of online recovery. And become input so that institutions can find other solutions related to this pandemic.

## 2. METHODS

This type of research is quantitative with a descriptive research design, which is a type of research that emphasizes time measurement / data observation to discuss the satisfaction of health students with the online lecture method during the COVID-19 pandemic in 2020. The population in this study were all health students at Abdurrah University totaling 2135 people. The sample is part of the number and characteristics of the population (Sugiyono et al, 2013). The research sample used a formula > 1000 population, 10-20% was taken, and the sample of this study was 427 people. (Nursalam, 2017)

## 3. RESULTS

Based on the research results, the following data were obtained

No	Information	Total	Percentage (%)
1.	<b>Gender</b>		
	Female	325	76,2
	Male	102	23,8
	Total	427	100

<b>2. Program Studi</b>		
Nurse	95	22.2
Physiotherapy	89	20.8
Pharmacy	93	21.8
Medical Laboratory	115	27
Engineering	35	8,2
Midwife	427	100
Total		

Table 1. Characteristics of Respondents

Based on table 1, the majority of the gender of DIII Health students at the Faculty of Pharmacy and Health Sciences, Abdurrab University, female respondents, amounting to 325 respondents (76.2%) and male respondents totaling 102 respondents (23.8%). Based on the table above, it can be seen that the distribution of the distribution of students based on study programs is almost the same, and the majority of study programs, namely medical laboratory engineering, are 115 respondents (27%).

No	Information	Total	Percentage (%)
1	very satisfied	21	5%
2	Satisfied	205	48%
3	less satisfied	167	39%
4	not satisfied	34	8%
	Total	427	100

Table 2. Student Satisfaction

From table 2, it is found that there are almost the same between satisfied and less satisfied, where respondents who said they were satisfied with online lectures were 205 respondents (48%) and those who expressed dissatisfaction were 167 respondents (39%).

#### **4. DISCUSSION**

From the research results, it was found that 205 respondents (48%) stated that they were satisfied with the online learning method, 167 respondents (39%) stated that they were not satisfied with the online learning method, 34 respondents (8%) stated that they were not satisfied with the online learning method, and 21 respondents (5%) stated that they were very satisfied with the online learning method.

This is in line with the Hutabar 2020 research, where simplicity of use, easy to understand and suitable use and the role of Lecturers when online learning takes place affect the level of student satisfaction. Health students are students who are required to master theory, practicum and clinics where direct involvement or direct practice is mandatory for the creation of professional health worker graduates. With the implementation of online learning caused by the COVID-19 pandemic, it demands the ministry to provide rules for implementing learning to all institutions online.

Based on the results of research by Prasetya (2020), most respondents stated that they were satisfied with e-learning as a vocational learning media. The level of student satisfaction can show how much e-learning can be accepted by students. The level of student satisfaction can also be a measure of the quality of online learning. Measurement of student satisfaction with e-learning in vocational learning media courses is carried out using a questionnaire. There are five factors used to measure the level of student satisfaction, namely; content, accuracy, form, ease of use, and timeliness. Based on the results of filling out the questionnaire, according to the student's perspective, the content of the e-learning vocational learning media is interesting in terms of appearance and all information about lectures is available on e-learning. From the accuracy factor, the material and assignments presented in the elearning are in accordance with the syllabus. From the form factor, e-learning has provided space to study material, collect assignments, view grades, and communicate. From the convenience factor, most respondents stated that e-learning is easy to use. From the punctuality factor, according to most respondents, the time provided is sufficient to study the material and do the assignments given

Based on the researchers' assumptions, this was obtained because the online implementation carried out at Abdurrab University was 40:60, where 60 online were carried out not only in the form of zoom / meet / classroom, e-learning, but also lecturers making direct learning videos when related to competency learning. . So that 40% in the form of clinical practicum carried out according to the health protocol can be directly absorbed by students.

Students have been given theories, videos, learning modules to support these online activities.

## 5. CONCLUSION

From the results of the study, it was found that 205 respondents (48%) stated that they were satisfied with the online learning method, 167 respondents (39%) stated that they were not satisfied with the online learning method, 34 respondents (8%) stated that they were not satisfied with the online learning method, and 21 respondents (5%) stated that they were very satisfied with the online learning method. So it is hoped that the lecturers will be more motivated to complete the learning tools in the form of modules, videos for each lesson.

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# THE EFFECT OF HEALTHY SELF-MANAGEMENT EDUCATION ON THE KNOWLEDGE OF NURSES WORKING IN COVID-19 TREATMENT ROOMS

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## **ABSTRACT**

*Covid-19 is a pandemic in the world today. Nurses are the forefront of handling Covid-19 so they are susceptible to infection, it is necessary to provide counseling on how to prevent Covid-19 in order to reduce the number of infected nurses. PPNI data on May 8, 2020, were 19 nurses who died and 53 positive people, currently the number still increasing. Adherence to health protocols believed to be able prevent transmission of Covid-19 among nurses. Providing education is method used to increase knowledge. This study aims to determine the effectiveness of providing online education on healthy self-management behavior to avoid Covid-19 transmission to nurses who work in the Covid-19 care unit in private hospitals. This study uses Quasi-Experiment method with Non-Randomized Without Control Group Pretest and Posttest Design approach. The population is all nurses who work in the Covid-19 care unit, with sample 116 people. The sampling technique used a purposive sampling with certain criteria. Based on the results of the statistical test with the Dependent T-Test, the value of  $P = 0.000 < 0.05$ , this indicates that there is a significant difference in knowledge before and after being given education about self-management to stay healthy.*

**Keywords:** Covid-19, Education, Nurse

## **1. INTRODUCTION**

The world is currently experiencing a viral pandemic, namely covid-19. This virus was originally discovered in the Wuhan area, China, which began spreading in December 2019. This virus has been identified as a zoonotic coronavirus, similar to the SARS coronavirus and MERS coronavirus and named Covid-19. As of 8 February 2020, 33,748 confirmed cases and 811 deaths have been reported in China (Liu, et al., 2020). Coronavirus is one of the main pathogens that mainly targets viruses of the human respiratory system (Ruan, 2020). Previous outbreaks of coronavirus (CoV) including severe acute respiratory syndrome (SARS) -CoV and Middle East respiratory syndrome (MERS) -CoV which were previously characterized as agents that pose a major public health threat, as of March 12, 2020, Covid-19 confirmed. that 125.

On June 21, 2020, based on data from the Task Force for the Acceleration of Handling Covid-19, 216 countries had contracted the disease, and 8,708,008 confirmed cases, while 461,715 died. While in Indonesia alone on that date there were 45,891 positive. For the West Java province there were

2848 cases, while for the DKI Jakarta area there were 9830 positive cases. PPNI data on May 8, 2020, there were 19 nurses who died due to Covid-19 and 53 positive people, currently the number is still increasing. Covid-19 is spreading fast. People can become infected without showing symptoms, but they can still spread it to other people. If we don't take preventive measures in the form of avoiding crowds, the number of infected people will explode and health service facilities will be overwhelmed so that many cases will not be handled (Indonesian Ministry of Health, 2020).

Nurses who are the forefront of being exposed to the corona virus are very vulnerable to being exposed to the corona virus, so PPNI calls on the fulfillment of personal protective equipment (PPE) for medical personnel, health workers must always be healthy, if they are not healthy they don't need to work first, maintain health, always think positively, take vitamins , get enough rest, comply with the Covid-19 SOP, such as the procedure for wearing PPE and Burning PPE, because this is very important to minimize the risk of getting Covid-19.

The best way not to become infected is to avoid being exposed to viruses. Covid-19 can spread from person to person through droplets when coughing or sneezing. then what can be done is: Wash your hands frequently with soap or hand sanitizer, avoid touching the face, especially the nose, mouth and eyes, clean the surface of objects touched by many people Physical Distancing, minimize physical contact with others, keep a distance of 1-3 meters with others, stay at home, avoid traveling to public places when not necessary, always wear a mask if you have to leave the house and interact directly with other people (WHO, 2020).

Nurses are at the forefront of handling Covid-19 so they are susceptible to contracting it, it is necessary to provide education on how to prevent Covid-19 so that there is no increase in the number of nurses who contract Covid-19. With this pandemic, a good education to do for nurses is through online education. Education will make the knowledge of nurses who initially do not understand will understand, both for individuals and groups (Notoatmojo, 2012).

Based on the available evidence, Covid-19 is transmitted through close contact and droplets, the people most at risk of infection are those who are in close contact with Covid-19 patients or who care for Covid-19 patients. To break the chain of transmission of Covid-19, it is necessary to prevent transmission, one of which is that education is needed, with current conditions, appropriate education is online. The online education will contain preventive behaviors for nurses / health workers including recommendations from WHO (2020) regarding procedures for protecting themselves at work from Covid-19 for health workers, first follow the health service facility management guidelines and tell colleagues about the Covid-19 safety procedures. 19, when entering the room where a suspected or confirmed case of Covid-19 is located, wear: disposable gloves, clean long sleeve robe, medical mask covering mouth and nose, eye protection, such as glasses.

Third In performing aerosol-generating procedures such as intubation, use a particulate respirator such as the N95 and check the tightness, all four boots and overalls are not required, and remember personal protective equipment must be changed if reused and also changed for each patient. Disposable personal protective equipment (eg, masks, gloves, disposable face shields) should be disposed of in a closed trash can and wash hands thoroughly. Single-use items should not be reused or sterilized. Do not touch eyes, nose or mouth with gloves or hands until hands are properly cleaned, and always wash hands. clean long sleeve robe, medical mask covering mouth and nose, eye protection, like glasses.

According to Ginting (2020), as much as 90% of services performed in hospitals are nursing services. Nurses are also at the forefront of dealing with Covid-19 patients so they are vulnerable to exposure to the virus. The actions taken by nurses in handling Covid-19 patients if they do not comply with the correct recommendations / protocols can also have an impact on the nurses themselves, as evidenced by the number of nurses who become patients and some nurses also died from exposure to the virus. Thus the researchers intend to conduct counseling on self-management to stay healthy and avoid transmission during the Covid-19 pandemic for nurses who work in the Covid-19 care unit in order to break the chain of spreading Covid-19 to nurses.

## **2. METHODS**

This study used a pre-experimental research design with this type of research, namely One-group pre-post design. The research method used is the pre-test and post-test, which aims to determine the initial and final measurements of the respondents (Sutiyatno, 2017). Measurement of preventive behavior was measured twice, including before treatment and after treatment. The treatment referred to in this research is the provision of education. The population in this study were nurses who worked in the Covid-19 care unit at a private hospital.

The unit of analysis in this study was the research subject, namely nurses who worked in the Covid-19 care unit in a private hospital, by paying attention to inclusion and exclusion criteria. The respondent in this study is someone who is the source of the research data, namely nurses who work in the Covid-19 care unit in a private hospital.

The inclusion criteria in this study were nurses who worked in the Covid-19 care unit at a private hospital and were willing to become respondents. The exclusion criteria in this study were nurses who worked in the Covid-19 care unit but were not cooperative in following this study and nurses who worked in the Covid-19 care unit in a private hospital but refused to be respondents. The minimum use of samples in this study was rounded to 116 people. The sample size in this study refers to nurses who meet the inclusion



criteria. then the research was conducted at a private hospital, Implementation Time: September 2020 - December 2020.

Methods of data collection using a questionnaire that is made by the researcher which refers to the concepts and theories described in the literature review and the results of previous research, the questionnaire consists of name (initials), age, gender, and latest education, indicators of knowledge, attitudes, and actions regarding the behavior of nurses in maintaining healthy management. Delivering online education in the form of exposure through zoominars.

After providing online education on knowledge about staying healthy self-management has been completed, the researchers conducted a reassessment of the nurses who worked in the Covid-19 care unit by filling out a questionnaire (post test). The collected data was then copied and entered into the Master Table / SPSS. The test used in this study is the Dependent T-Test because the data is normally distributed.

### 3. RESULTS AND DISCUSSION

Variable	Mean	SD	Min	Max
Age	32,05	7,365	22	55

Table 1. Distribution of Respondents by Age of Nurses (n = 116)

Based on table 1 above, it is obtained that the mean (mean) of the respondents' ages is 32.05 with a standard deviation of 7.365. The youngest age was 22 years and the oldest age of the respondents was 55 years.

This research is in line with the journal Fadli et al. (2020) explained that the average number of nurses who work in handling Covid-19 is more than 30 years old (39.1%). Everyone actually has the potential to be infected with the Corona Virus but certain groups of people have a higher risk level of being exposed to the Corona Virus which can lead to death. Based on the 2020 Covid-19 Handling Task Force Expert TEAM, there are five groups vulnerable to Covid-19. The first is the elderly, the second has low immunity, has comorbidities who are overweight, and the last is a group of pregnant women.

Researchers can conclude that the hospital is currently handling Covid-19 recruiting nurses who are <30 years old because it can reduce the risk of being exposed to Covid-19 transmission so that it can break the chain of Covid-19 spread.

No	Characteristic	Frequency	Percentage (%)
1	Gender		
	Male	19	16,4
	Female	97	83,6
2	Education		
	D3	68	58,6
	S1	14	12,1
	Ners	33	28,4
	S2	1	0,9

Table 2. Distribution of Respondents by Gender, and Nurse Education (n = 116)

Based on table 2 above, it can be seen that 19 respondents (16.4%) were male and 97 respondents (83.6%) were female. The results of this study indicate that most of the respondents in this study were women.

Nurses, when viewed from their profession as health workers, do not differ in gender roles between women and men, but in practice, when carrying out health tasks, many women who work as nurses in Indonesia are still domiciled. This causes the large percentage of female nurses who work in the hospital.

Based on the respondent's latest education, it is known that 68 respondents (58.6%) have a D3 education, 14 respondents (12.1%) have a Bachelor's degree in Nursing, 33 respondents (28.4%) have a Ners professional education, and 1 respondent (0.9%) ) educated in Master of Nursing. The results of this study indicate that most of the respondents in this study had the latest D3 Nursing education.

Based on the assumptions of researchers, the diploma level education program aims to prepare personnel who can determine expertise and skills in their fields, ready to work in their fields, so that many hospitals recruit employees with D3 education levels.

Variable	Mean	SD	Min	Max
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### Knowledge

Pre	5,78	1,377	3	8
Post	7,22	0,747	6	8

Table 3. Distribution of Respondents Based on the Average Pre and Post Test Knowledge Value of Management Education Stay Healthy for Nurses Working in the Covid-19 Care Unit (n = 116)

Table 3 shows the results that the majority of nurses prior to education had a mean value (5.78) after education had a mean value (7.22), it can be concluded that there was an increase in the mean average value before and after education counseling.

The education provided is a form of activity that does not only provide knowledge, but also provides skills through mentoring so that nurses can apply them independently in taking action. This activity is a form of educational activity that is informally expected to influence the knowledge, skills and attitudes / behavior of nurses. According to Hamalik (2010), extension education is an effort that aims to influence people in adapting to their environment, so as to cause changes in themselves to be positive or even better in their environment.

On an ongoing basis, this education is expected to become a living behavior that can be applied in a disciplined manner by nurses so that they can avoid Covid-19. According to Kurniawan (2017), the educational activities provided can be a basis for taking actions such as PHBS to achieve a good degree of health. Efforts to provide knowledge (education) can be an effort to minimize the risk factors for Covid-19 transmission to nurses. In the long term, the knowledge they have acquired can develop into an independent behavior and become a habituation (habit) to be applied in their daily lives.

No	Variable	Frequency	Percentage
<b>1</b>	<b>Attitude</b>		
	Good	59	50,9
	Not Good	57	49,1

<b>2</b>	<b>Action</b>		
	Good	75	64,7
	Not Good	41	35,3

Table 4. Frequency Distribution Based on Respondents' Attitudes and Actions in Performing Self-Management Stay Healthy for Nurses Working in the Covid-19 Care Unit (n = 116)

Table 4 shows the results that nurses who have good attitudes in self-management are still healthy, there are 59 respondents (50.9%) while nurses who have Not Good attitudes are found as many as 57 respondents (49.1%). Having Not Good knowledge will influence a good attitude too, because attitude is a predisposing factor for capturing a positive or negative stimulus (Wawan and Dewi, 2016).

There were 75 respondents (64.7%) who had good actions in self-management, while 41 respondents (35.3%) had not good actions.

Variabel	Group	n	Mean	SD	SE	Mean Difference	P value
Healthy Self-Management Education on The Knowledge of Nurses	Pre test	116	5,78	1,377	0,128		0,000
	Post test	116	7,22	0,747	0,069	-1,448	

Table 5. Analysis of the Difference in Average Knowledge of Respondents Before and After Intervention through Self-Management Education to Stay Healthy for Nurses (n = 116)

From the results of the analysis in table 5, it was found that the statistical test for the average pre and post test value of respondents before and after the intervention was obtained the mean value of 5.78 and 7.22, SD 1.377 and 0.747, for the p value of 0.000, because the p value < 0.05 indicates that there is a significant effect between before and after the provision of self-management education interventions to stay healthy.

This research is in line with the research of Safitri et al. (2020) that education using audiovisual media is easy to understand, especially in the current pandemic. Online education is one of the methods used to increase nurses' knowledge, especially about the importance of implementing health protocols and maintaining personal health. Education is carried out online because it takes into account the current pandemic conditions so it is not possible to do it offline.

Extension using online education can have an impact on increasing understanding and changing behavior (Mulyani et al., 2020). Based on the journal Sabarudin, et al (2020), there are several factors that influence the success of online education, namely from individual factors, presentation of video material and leaflets, choice of words used, visualization on leaflet and video media and audio used in video media.

Providing education has the main objective of changing behavior by improving knowledge, attitudes, and behavior so that it can be used to improve or maintain health. In addition, factors that shape a person's behavior, one of which is social communication in the form of information received by the individual, changes in behavior experienced by the individual are influenced by an increase in knowledge about the benefits and ways of changing their behavior (Buana, 2020).

#### **4. CONCLUSION**

From the results of data analysis with statistical tests it can be concluded that for the mean pre and post test scores of respondents before and after the intervention, the mean values were 5.78 and 7.22, SD 1.377 and 0.747, for the p value 0.000, because p < 0.05 indicates a significant effect between before and after giving self-management education interventions to stay healthy.

The results of this study can be an input for the hospital, related to the level of security and safety of nurses who are caring for Covid-19 patients. Because the safety and security of nurses is an important principle, it is necessary to conduct education so that there will be fewer health workers who are exposed to Covid-19 as input for the leadership in formulating policies related to nurse safety.

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# WORKING MOTHER'S FOSTER PATTERN RELATIONSHIP TOWARDS CHILD'S SELF-RELIANCE LEVEL

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## ABSTRACT

Parents ' foster pattern is an active role for parents on the development of their children. Especially when they are still in the pre-school stage, to increase self-reliance on children there are 3 kinds of foster pattern namely democratic, authoritarian, permissive. The purpose of this research is to analyse the relationship between mother's foster patterns that work with self-reliance on children. The design of this research is correlated with a cross sectional approach, sample selection with purposive sampling. The research was conducted from October 2019 to April 2020 with data collection in March 2020 using questionnaire at 176 mothers Desa Tualang Kec. Tualang Kab.Siak. Data processing and variable dependent.. The test results statistic obtained a significant relationship between mother's foster pattern working with the child's self-reliance level, with a value of  $P \text{ value} = 0.011 < \alpha = 0.05$ . With a good democratic foster pattern of 134 respondents who have children with a very independent level of self-reliance. Based on the results of these studies the researchers suggest that health works provide parenting training to mother's so they can broaden their horizons in educating and caring for their children.

**Keywords** : Parenting, parents, self-reliance patterns

## 1. INTRODUCTION

Parenting is a way for parents to encourage children to achieve the desired goals. The application of proper parenting is the way parents provide arrangements for children, how to pay attention to children so that children can be educated both directly and indirectly (Isni Agustiawati, 2014). One of the phases of development in children has developmental characteristics and tasks such as gross motor skills, fine motor skills, language and social skills. These abilities are reflected in children's behavior such as the desire to play, a sense of adventure and imagination (Sumiati et al., 2016).

The parenting style of accepting parents will make children feel loved, protected, valued and supported by their parents. This parenting style is very conducive to supporting the formation of a personality that is proposial self-confident, and independent but very concerned about the environment.



Meanwhile, parenting that refuses can make children feel unacceptable, unloved, belittled, and even hated by their parents. Children who experience rejection from their parents will become individuals who are not independent, or appear independent but do not care about others (Wibowo, 2012). According to Al Tridhonanto (2014), there are several factors that influence children's parenting, namely the age of the parents, the involvement of both parents. The parenting pattern considers that the mother is an important role in caring for and educating her children. The role of mothers is needed by their children, especially when children are in the development stage (Astuti, 2013).

Research in big cities in Indonesia, where (51.7%) good parenting style and the rest (41.7%) poor parenting style. This is due to the role of parents who always spoil their children causing the child to be socially less mature, less independent and less confident. The prevalence of the population in Indonesia is the population who apply democratic parenting (53.85%), authoritarian parenting (23.66%), and permissive parenting (22.49%) (Fakhruddin, 2011).

Independence according to Novan Ardy Wiyani (2014) is a character that can make children independent, independent from other people, especially their parents. The independence of children is influenced by several factors. Novan Ardy Wiyani (2014) shares the factors that encourage children's independence, namely there are two kinds, namely internal factors (from within the individual) and external factors (from outside the individual). Internal factors consist of two conditions, namely conditions physiological and psychological conditions. There are several indicators of children's independence according to Muhammad Yamin (2010), namely: children are more confident, responsible, and disciplined when doing activities they enjoy.

The level of independence in children can be grown by allowing children to do the activities of their choice (Hurlock, 2013). Mothers can encourage

their children by asking what their children want. The development of the level of independence in children can be seen from the time the child was a child and will continue to develop through certain stages until it becomes a relative character. As children have developed a level of independence, they can wear shoes, wear clothes without assistance, eat while interacting with others, and clean themselves (Isni, 2014).

In today's development, many women are competing for the advancement of their family's economy and science. Women can work outside the family environment as career women. There are many reasons why mothers work, starting from meeting the economic needs of the family to as a form of self-actualization. The pros and cons of the phenomenon of working mothers continue. There are those who say that mothers should be at home so that children's development is better, but there are also those who argue that staying quiet at home does not guarantee a better child's development. Along with these pros and cons, many results have emerged. the results of research both against and supporting working mothers (Itabiliana, Vera K. Hadiwidjojo, 2013).

Hertz (2011) revealed that there were no adverse effects for children whose mothers worked. This study was conducted by a team in America which revealed that there were no developmental problems in children whose mothers worked outside the home. This study revealed that mothers are indeed an important source of childcare but do not have to stay at home for 24 hours with children.

The mother is central in the early development of the child, while the position of the father is only a secondary role, the father is solely a moral booster for the mother, the mother can give her milk and have maternal hormones, which determine the child's behavior (Gunarsa, 2012). The parenting patterns of working mothers, the educational background of parents have an influence on the early development of children. Parents who

have a high educational background will pay more attention to all changes and every development in their child. Working mothers usually apply very strict parenting styles, so that when the child is far from their parents, the child is able to carry out activities on their own without the help of others (Baumrind, 2010). The independence of the child usually depends on how the parenting style is given to the child (Desmita, 2012).

In Indonesia the number of women working is increasing. From the data of the National Statistics Agency in 2012, it shows that out of 100% of women in Indonesia, 97.25% are found working and the remaining 2.74% of women who do not work (Taju et al., 2015). The demands and service standards that a working mother must provide have a dual role, namely as a career woman on the one hand as a housewife is neglected. Children's rights become a hereditary problem to grow child independence. In addition, child custody is neglected ( Samsu, 2016). Interpersonal skills and emotional control are needed by parents to raise children to provide a sense of comfort to children. So that with proper parenting will affect the level of independence in children (Ulfah, 2015).

Research conducted by (Sofian, 2014) states that children's development cannot be separated from the important role of parents, where parents are responsible for everything, especially the role of a mother in caring for and educating children. When mothers work it has a negative impact and a positive impact on children's development. The negative impact of mothers who do not work is that the presence of the mother in the daily life of the child is less spoiled, so that the mother's opportunity to provide motivation is very limited. The positive impact of working mothers on children can be seen from the children's good social interactions, as well as the physical or independence of children who are more active.

The phenomenon of parenting mothers who work towards the level of independence in children is parents, especially mothers who play an

important role in cultivating independence in children. Working mothers make free time for children less, so that children tend to do their own activities. Working mothers do not abandon their main role as babysitter. Children who are raised with parenting styles that match the child's way will be more independent, easier to work, more confident and creative. The growth and development of children is very much influenced by the way parents take care of them, especially mothers play an important role in child care. In America, there is an interesting phenomenon in which a mother has a dual role which turns out to be a natural thing. If the traditional society in rural areas views that mothers only play a role in caring for and looking after the house, it turns out that this is not in accordance with the findings in America. American mothers who work become the majority. Even though, usually not many or even very few women in rural areas choose to leave traditional patterns and switch to modern patterns by playing multiple roles (Hertz, 2011).

Based on the 2019 monograph data of Tualang Village, it is known that Tualang Village is one of the largest villages in the sub-district with a large area of 30,409 ha. Tualang Village is a village that has many factories, where the socio-economy of Tualang village is medium, this can be seen from the majority of the population who work as employees. Initial data were obtained in Merbau hamlet, one of the hamlets in Tualang village. In this Merbau hamlet, an interesting phenomenon was found about mothers who have dual roles, namely as mothers in charge of caring for children and mothers who work. Researchers obtained information about the process of caring for working mothers from various sources. The researcher obtained information that the majority of mothers who live in Tualang village have a dual role as child caregivers and work to earn a living. From this the researchers are interested in knowing the parenting process carried out by working mothers.

Based on this data, it is known from the population report of Tualang village that there are 90 heads of families, 77 mothers are involved in caring, 45 of whom work and only 32 are housewives. The majority of working mothers work as teachers as many as 9 people, as many as 8 private civil servants, 18 traders and 10 factory workers. Some of the phenomena that occur in Tualang village are when children are neglected because they are not able to spend enough time. When you are busy with work and come home with supplies in the form of office tasks that must be completed quickly so that it can drain the mother's energy. As an effect, it is physically weak and the feeling is weakened due to a busy mother. So that the time together between mother and child is reduced or even consumed by the presence of a figure named office duties. Automatically the attention to children can be less.

Based on the above phenomena that have been described, researchers are interested in conducting research on "The Relationship of Working Mother Parenting to the Level of Independence in Children".

## **2.MATERIALS AND METHODS**

In this study, researchers used a type of correlation research with cross sectional research design, which aims to obtain information about the relationship between working mothers' parenting and the level of children's independence. In this study, the population was the parents (mothers) who worked in the village of Tualang Perawang as many as 316 mothers. Because the total population of 316 mothers means <1000, the researchers used the formula:  $n = \frac{N}{1 + N}$  (d) 2. SAMPLE TOTAL 176 mothers. research instruments using a questionnaire. Data analysis used univariate and bivariate analysis.

## **3.RESULTS**

**Table 1 Frequency Distribution of Respondents based on Parenting Patterns of Working Mothers on the Level of Child Independence**

No	Parenting	Frekuensi	Persentase
1	Permisif	18	10,2
2	Otoriter	24	13,6
3	Demokratis	134	76,1
<b>Total</b>		<b>176</b>	<b>100%</b>

**Table 2 Distribution of Respondents Frequency Based on Independence in Children**

No	Level of Independence	Frekuensi	Persentase
1	Independent	111	63,1
2	Not Independent	65	36,9
<b>Jumlah</b>		<b>176</b>	<b>100%</b>

**Table 3 Relationship between Working Mother Parenting and the Level of Child Independence**

Parenting	Childrens Independent						P value
	Independent		Not Independent		Total		
	N	%	N	%	N	%	
Demokratis	92	52,3	42	23,9	134	100	0,011
Permisif	10	5,7	8	4,5	18	100	
Otoriter	9	5,1	15	8,5	24	100	
<b>Jumlah</b>	<b>111</b>	<b>63,1</b>	<b>65</b>	<b>36,9</b>	<b>176</b>	<b>100</b>	

#### 4. DISCUSSION

The results of the analysis of the relationship between maternal parenting and children's independence found that 111 respondents (63.1%) of children had independence and 65 respondents (36.9) children did not have independence. In democratic parenting, there are 134 respondents who have democratic parenting, so there are 92 children (52.3%) who already have independence and there are 42 children (23.9%) who do not have independence. Then, in permissive parenting there are 18 respondents, so that 10 respondents (5.7%) children have independence and 8 respondents (4.5%) children do not have independence. In authoritarian parenting, there were 24 respondents, so that 9 child respondents had independence, and 15 child respondents did not have independence. The results of statistical tests show that the P value = 0.011 <  $\alpha$  = 0.05. It can be concluded that there is a

significant relationship between maternal parenting and children's independence in Tualang Village, Tualang District, Siak Regency in 2020.

Children who have independence and do not have independence are caused by many factors, one of which is parenting. If parents have proper parenting, children tend to have a level of independence. Even though the mother has provided proper parenting, the child still does not have independence, this happens because of other supporting factors, such as: family and school environment (Restiani, 2017).

Democratic parenting is how parents communicate, transact, interact, their words and actions are always rational, responsible, open, objective, firm, warm, realistic, flexible, so as to be able to foster confidence, self-confidence in children to make decisions about their activities and needs. . This is supported by the opinion of Santrock (2009), which states that democratic parenting is very good in an effort to increase independence.

Permissive parenting is how parents when communicating, transacting or interacting with children, always give freedom to children, are less demanding of responsibility, ignore them, are very weak in implementing discipline, and are less assertive in implementing regulations. According to Santrock (2009), Gordon (2000), parental behavior makes the child's personality not develop well, including inhibiting the child's independence.

Authoritarian parenting is how parents communicate, transact, interact with children, tend to set standards that absolutely must be obeyed, demand obedience, dictate, are less warm, stiff and hard, lack trust, punish. This is supported by Papalia (2008), Santrock (2009), that authoritarian parenting makes children not develop well, because they feel depressed and afraid, so they are unable to be independent.

This result is in line with the research findings of Indrawati (2002) and Komaruddin (2005) which state that more independent children are cared for with democratic parenting. The results showed that there was a positive and significant relationship between parenting styles and children's independence. This finding is consistent with Komaruddin (2005) who examined the contribution of parenting to student independence, which revealed that there was a positive and significant contribution of parenting to children's independence; Indrawati (2002) about the influence of parenting styles on adolescent independence at SLTP Muhammadiyah 6 DAU Malang, provides the findings that there is a positive and significant influence between parenting and independence; Arifin (2008) examined children's independence from parenting styles, concluding that there is a meaningful and meaningful relationship between parenting styles and children's independence. Astuti (2009) examines the role of parenting in the formation of independent learning of students in SMA PGRI 1 Taman Pematang Regency 2008/2009 academic year, concludes that there is a significant relationship between the role of parenting and the formation of student learning independence.

Based on the explanation above, the mother's parenting style can make the child more independent, even though the mother has to work outside the home. This is because mothers are able to educate and provide parenting as desired, such as directing with good words and sentences.

From the research data above, it is found that democratic parenting according to Baumind in Dariyo (2014) is the position between children and parents who are equal. A decision is taken together with the consideration of both parties, the child is given responsible freedom, meaning that what the child does must still be under parental supervision and can be morally responsible.

## **5.CONCLUSION**



Based on the results of research and discussion conducted on March 24, 25 and 26, 2020, the following conclusions can be drawn:

The mother's parenting style in Tualang Village, Tualang District, all have democratic parenting with a total of 134 respondents (76.1%), in permissive parenting, 18 respondents (10.2%) are obtained, and 24 authoritarian parenting styles are obtained. (13.6%). So, the parenting style applied by mothers who work in Tualang Village is democratic parenting

Some children in Tualang Village, Tualang District, have a level of independence that is independent.

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# HOSPITAL BUILDING SAFETY: A SYSTEMATIC REVIEW

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## **ABSTRACT**

*Safety is the most important aspect that needs to be considered in a hospital. There are several types of safety: patient safety, health personnel safety, building safety, equipment safety, green productivity, and hospital business safety. Building safety is determined to be the third common adverse event that occurred in hospital and affects directly to the safety of patients and health workers. Building safety in hospitals consists of electrical installations, fire and lightning protection, wastewater treatment plants, medical gas systems and medical vacuum, and elevator installation. A systematic review of problems and solutions to improve hospital building safety is expected to become a useful information for any health profession, engineers, and researchers. The purpose of this study is to identify the result of research on the implementation of building safety in the hospital. Some literature on adverse events and solutions from 2000-2019 was reviewed. The result shows various adverse events such as fall of the elevator, fire, damage electrical current which resulted in many victims. The result of this literature review can be a reference for hospitals to conduct evaluation and innovation in the implementation of building safety in hospitals.*

**Keywords:** *Building Safety Hospital, Electrical Installation, Fire, Wastewater Treatment Plants*

## **1. INTRODUCTION**

Hospitals need well-constructed buildings as well as reliable medical devices. Hospital buildings should be capable of resisting various loadings such as dead load, live load, wind load, earthquake load, flooding load, thermal load, fire and others (Chen & Chen, 1995). All of these health activities in hospitals use a large number of Medical Devices or MD, which must be constantly efficient to guarantee their life-saving functions and the continuity of surgical and outpatient procedures for patients. The MD is powered by electric energy and this must be guaranteed without interruption (Stroili, Pavan, Gorela, & Kenda, 2015). If a large earthquake occurs, especially in developing countries, the function of hospitals is very important to save the lives of injured people. On the other hand, hospitals are very dependent on the performance of medical devices, especially critical ones. A Series of adverse events in the hospital (see in table 1).

An adverse event is defined as an injury resulting from a medical intervention, not from the underlying condition of the patient (Edmonds, 2010), or

as an unintended injury caused by medical management, rather than by a disease process, which has resulted in death, life threatening illness, disability at time of discharge, admission to hospital, or prolongation of hospital stay (Michel P, Quenon JL, De Sarasqueta AM, n.d.)

**Table 1**  
**Adverse Event in Hospital**

<b>Time</b>	<b>Location</b>	<b>Cause</b>
August, 08, 2020	Bethesda Hospital Yogyakarta	Fire because short circuit electricity
February, 27, 2019	Saiful Anwar Hospital, Malang	Electrical panel fire

In these above adverse events took a lot of casualties and huge material losses. Most of the victims are patients in hospital, because of their limited walking, resulting in higher probability of casualties than that of healthy people. Therefore, how to design a hospital that has a good installation system, is resistant to fire, earthquake and other adverse events. The purpose of this article is to identify the result of research on the implementation of building safety in the hospital.

## **2. Materials and Methods**

Selection of articles to be reviewed focuses on the type of quantitative and qualitative research. This review is compiled from original studies published online. The literature search results were performed on Google Scholar databases. Keywords used are hospital safety, hospital building safety, hospital fire, and implement hospital building safety.

## **3. RESULTS AND DISCUSSIONS**

There are 30 articles reviewed. All reviewed journals focus to identify the result of research on the implementation of building safety in the hospital. Implementation of building safety in the hospital is divided into four themes: the implementation of electrical installations, fire, wastewater treatment plants, and medical gas systems and medical vacuum.

### **b. Implementation of Electrical Installation in Hospital**

Based on literature review 10 research articles found that the implementation of electrical installations in hospitals based on some reference Indonesia and aboard. The implementation of electricity installation based on PUIL 2011 (Mardiyah, 2016) to know the conformity

about electricity installation which installed at a private hospital in East Jakarta with the standard of PUIL 2011 or no, see the significance of electrical installations in hospital. The research result of the quality of electrical installation showed that the installation picture did not correspond to the picture, the presence of instrument of protection against fire and protection against direct touch didn't exist, as well as there was an error of phase installation using the yellow striped green cable. Current and voltage measurements produced the magnitude of losses in the neutral cable that was caused by power imbalance between phases. The magnitude of losses can cause the electricity bills to swell. The voltage of each phase is always changeable, but still within safe limits.

Another study conducted by Sandi et al (Carnolis & Surapati, 2017) who researched the feasibility of existing electrical installation systems in hospitals, such as electrical distribution systems, electrical installation system, grounding system and shrinkage stress occurs and light intensity on the field work in the operating room. The results of the calculations obtained for qualification In MDP incoming cables of 25.47 A using NYFGBY 4x50 mm<sup>2</sup> cable types. Value In a cable from the outgoing to the incoming MDP SDP OK obtained at 15.32 A. In the security system at 152.09 incoming MDP A. In the security SDP of 25.47 A. The intensity of illumination on the work plane is measurable range 687- 710 lux, grounding wire using a type BC 50 mm<sup>2</sup> mounted on MDP and SDP OK. The value of the voltage drop of MDP to SDP accounted for 7,84Volt, and the percentage fall in voltage of 3.6%.

The health and technical legislation has established general principles for guaranteeing the continuous electricity supply necessary for the safety of the people treated in hospitals (Stroili et al., 2015). Another study about implementing electrical installation in hospitals shown in table Table 2.

**Table 2**  
**study about implementing electrical installation in hospitals**

Title	Result
Evaluation of Electrical Installations in the Multi Center Of Excellent (MCE) Building Sultan Agung Islamic Hospital Semarang (Wahyu Pramon, Karnoto, & Nurhayati, 2018)	The results of the analysis can be concluded that the electrical installation system in the MCE building of the Sultan Agung Islamic Hospital Semarang is in good condition and safe. The MCB security unit is installed in accordance with the PUIL 2000 standard. On the size of the cables that are installed some are not in accordance with the PUIL 2000 standard so that cable replacement is required. For example, the SDP 1 cable for the Floor Divider Panel 1 where the cable installed is 4x35 mm <sup>2</sup> replaced with 4x95 mm <sup>2</sup>
Feasibility Study of Electrical Installation Systems in the Operating Room of the Kepahiang Regional General Hospital (Carnolis & Surapati, 2017)	This study aimed to evaluate the feasibility of existing electrical installation systems in hospitals, such as electrical distribution systems, electrical installation system, grounding system and shrinkage stress occurs and light intensity on the field work in the operating room. The results of the calculations obtained for qualification In



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MDP incoming cables of 25.47 A using NYFGBY 4x50 mm<sup>2</sup> cable types. Value In a cable from the outgoing to the incoming MDP SDP OK obtained at 15.32 A. In the security system at 152.09 incoming MDP A. In the security SDP of 25.47 A. The intensity of illumination on the work plane is measurable range 687- 710 lux, grounding wire using a type BC 50 mm<sup>2</sup> mounted on MDP and SDP OK. The value of the voltage drop of MDP to SDP accounted for 7,84Volt, and the percentage fall in voltage of 3.6%.

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Analysis of the Saving of Electrical Energy at the Regional General Hospital of Doctor Soedarso Pontianak in terms of installation design (Suharto, 2016)

The electric power distribution network within the dr. Soedarso consists of two groups, namely networks with land cables and air cables. The land cable network uses the NYFGBY type that connects distribution substations with service buildings, embedded in the ground without being equipped with safety signs. The distribution of the electricity network in service buildings in general uses a radial system, adding to the load that occurs when it does not consider the ability to conduct cable currents and the coordination of existing electrical safety. reinstallation

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Mitigation of the Magnetic Field Produces by Low Voltage terminals of Electric Transformation Chamber for Hospital Buildings (Chafra, Garcés, & Quevedo, 2017)

In the present work is analyzed the behavior of the magnetic flow created by the outputs in low voltage of the transformer located in the vicinity of the old hospital buildings, using the method of vortices it is possible to express graphically the dispersion of the magnetic field contemplating a global analysis of affecting the field density generated and not only one point like to study in magneto-static subjects. To mitigate the presence of this physical phenomenon, is simulated the installation of magnetic shielding films of AARONIA company on the walls of the transformation electric center. This mitigation method achieves a shielding efficiency of 57%, this percentage varies depending on the location of the analyzed area.

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### **c. Implementation of Fire in Hospital**

Based on the literature review 10 articles were found on the implementation of Evacuation in Hospital Fire, as stated by Weiling et al (W. Zhang & Yao, 2010) in his research entitled “A Reformed Lattice Gas Model and Its Application in the Simulation of Evacuation in Hospital Fire”. The research simulates the pedestrian evacuation and chases down a plan to solve during rescue. The simulation result indicated that the reformed lattice gas model can simulate the scene of evacuation in hospital fire realistically.

While research conducted by Guoliang et al (G. Zhang, Li, & Lu, 2019) titled “Analysis of Fire Evacuation in High-rise Hospitals from a High-rise Hospital Fire Case”. The paper took the fire caused by the thermal insulation material of the outer wall that took place at a high-rise hospital somewhere as an example to analyze and summarize the fire disposal. Another study about implementation of fire in hospitals shown in table.

**Table 3**

## Study About Implementing Fire in hospitals

Title	Result
Implementation of Fire Safety Using Quality Protocols in Port Said Private Hospital (Heba & Mohamed, 2021)	Hospital management has a prime responsibility toward safety of patients by implementing control measures to fire accidents. Impact of fire could be reduced with proper and ideal safety management in hospital building. Every single employee of a hospital shall follow her/his responsibility during fire emergencies and try to save as many potential victims as possible without waiting for instructions.
Evaluation of Fire Safety Preparedness among Healthcare Providers in Braithwaite Memorial Specialist Hospital (Ikpa, Dienne, P., & Jumbo, 2018)	The methods in this research is cross sectional study of 248 healthcare providers attending a workshop on infection prevention control recruited by purposive sampling technique after stratification according to respondent's cadre. The results show fire safety awareness and training among the respondents is low. Fire safety education and preparedness should be instituted as part of training and retraining of health personnel.
Analysis of Fire Protection System Standard in Hospital: Case Study in Jakarta, Indonesia (Djunaidi & Pratiwi, 2015)	The objects of this study are active fire protection, passive fire protection, and means of evacuation. The data was collected by observation, interviews, and document review. The results showed that from 112 variables of fire protection systems and means of evacuation, 30 variables do not comply with the NFPA standards. Other findings showed that the fire safety standards in the hospital have not been based upon the unique activities and conditions in the hospital. Besides that, the priority and commitment of management toward fire safety in the hospital are very low
Fire Safety Related Challenges Faced by Existing Hospitals: A Review (Hakim Choudhary, Kausar, Satpathy, & Sharma, 2020)	There is poor enforcement of law by agencies. Retrofitting for conformance to fire safety regulations is difficult. Issues like faulty equipment, improperly kept inflammable material, evacuation difficulties due to higher acuity of patients, operational issues like maintenance of all fire safety equipment and installations, and training of staff, etc. are highlighted. Focussed interventions and an all-encompassing fire safety risk management plan is the need of the hour. Significant insights into critical issues of fire safety is of immense benefit to healthcare professionals as a basis to make hospitals safe places.
Fire Safety Management of Public Buildings: A Systematic Review of Hospital Buildings in Asia (Muhamad Salleh, Agus Salim, Jaafar, Sulieman, & Ebekozen, 2020)	This paper recommends a fire safety management plan as one of the practical possible measures for addressing technical, management and legislation factors. Also recommended is training and fire safety education of healthcare staff in collaboration with safety firefighters to address major issues that may arise from management factors. The government should upgrade the safety technology equipment in healthcare facilities as part of measures to mitigate issues concerning technical and legislation factors. Also, the identified factors are part of the theoretical contributions to the advancement of knowledge and this brings to the front burners new opening

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Implementation of Fire Safety Management System at DR. Sobirin Hospital District of Musi Rawas 2013 (Arrazy, Sunarsih, & Rahmiwati, 2014)

Management policies have been socialized to all employees through the training. Fire hazard identification hasn't been documented well. Fire prevention and control programme has also been started. The Organization has formed the Committee of safety, fire and disaster precautions with a clear job description. Training hasn't been done routinely. Means of fire protection was still relying on the Fire Extinguisher. Inspection and maintenance processes have been carried out routinely. Fire emergency response was prepared by creating standard operating procedure (SOP) and a special diagram when fires break out. Reporting system hasn't been done although it already has procedure and report formats. Audit fires already done internally and not routine

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Evaluation of the Implementation Fire Emergency response in Hospital of Jombang District (Zurimi, W, & Yudhastuti, 2016)

This study aims to evaluate the implementation of fire emergency in Jombang Hospitals District on the fulfillment of standards based the decision of Health minister of Indonesia Republic Number.1087/Menkes/SK/VIII/2010 on occupational safety and health standards in hospital. This study is an observational study with cross sectional approach where the sample was determined by using simple random sampling method in which each member of the population being randomly and have equal opportunity to be sampled, so that the number of samples obtained as many as 68 people. The data collected by using questionnaires, observation and inspection of creating checklists in the form of a list. Data processing is performed by means of descriptive analysis and correlation analysis by using the chi-square test. The result of study obtained from 68 respondents to the evaluation of the implementation of the fire emergency response toward on the fulfillment of standards based on the decision of health minister of Indonesia republic number.

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#### **d. Implementation Wastewater Treatment Plants in Hospital**

In ancient times, hospitals were built in areas far from residential areas, with the consideration that hospital wastewater would not have an impact on settlements. In line with population development, currently the location of the hospital is close to residential areas. So the problem of environmental pollution due to hospital wastewater becomes a problem today. This is because hospital wastewater contains pathogenic compounds that can cause disease if not treated properly.

Combination of biofilter anaerob – aerob technology and ozonation is the effective strategy to manage and process hospital wastewater in Indonesia (Prayitno, 2011). This is because the anaerobic-aerobic biofilter technology has high processing efficiency, is more economical, has a small potential impact and is adaptive to technological developments. By applying this Anaerobic - aerobic biofilter system, the concentrations of COD, BOD and suspended solids can be significantly reduced as well as detergents and

ammonia (Hartaja, 2018). The anaerob-aerob biofilter process have some excellence for example its simple operation, yielded a few or little of mud, can be used for the processing of waste water with low concentration and also high concentration, hold up to fluctuation of debit or concentration, and also its cheap operating expenses (Said, 2018).

Hospital wastewater must be treated before it is discharged into the environment. RK Charitas Hospital Wastewater Treatment Plant (WWTP) has not been evaluated. The analysis results of RK Charitas Hospital Palembang's wastewater showed that the wastewater still has high levels of ammonia (NH<sub>3</sub>) and phosphate (PO<sub>4</sub>) that are not sufficient to the environmental quality standards and other terms are at the threshold. Phosphate (PO<sub>4</sub>) level is 2.134 to 2.213 mg/l which exceeded the environmental quality standards is 2 mg/l and ammonia (NH<sub>3</sub>) level is 0.174 to 0.186 that exceeded the environmental quality standards is 0.1 mg/l. This research was conducted to evaluate the process, processing time, material, and costs of WWTP at RK Charitas Hospital Palembang and provide a solution for redesign of a miniature WWTP that will be simulated (Mulyati & Narhadi, 2016).

Most hospital waste is a hazardous medical waste that is infectious. Research carried out in public hospitals WZ John Kupang showed fairly good efficiency. The WWTP used activated sludge has an efficiency of over 60% for all parameters and is relatively efficient. The highest level of efficiency was the parameter of TSS (83.60%) and the lowest was the BOD (62.03%). However, the treatment of wastewater was classified not as effective with an average percentage of 60%, meaning that waste management which carried out was used all available resources but does not meet the expected target, or in other words sewage treatment efficient but not effective (Greza Waang et al., 2016).

## **5. CONCLUSION**

The result of this literature review can be a reference for hospitals to conduct evaluation and innovation in the implementation of building safety in hospitals.

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# REGULATORY EMOTION RELATIONSHIP WITH BULLYING BEHAVIOR IN PGRI JUNIOR HIGH SCHOOL PEKANBARU STUDENTS

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## **ABSTRACT**

*Bullying is an aggressive behavior of a student or group of students who are shown intentionally that is repetitive to disturb other weak students. Emotion regulation is an intrinsic and extrinsic process that can control and adjust emotions that arise to achieve a goal. The purpose of this study was to determine the relationship of emotional regulation with bullying behavior in Pekanbaru PGRI SMP students. This type of research is correlated with cross sectional research design. The population in this study were students in classes VII and VIII, amounting to 280 students, the sample used was 165 students. The sampling technique is cluster sampling technique. The research instrument used a questionnaire. The data obtained was processed by univariate and bivariate data analysis. The results obtained by P Value 0.39 means P Value > 0.05, it can be concluded that there is no significant relationship between emotional regulation and bullying behavior in students at SMP PGRI Pekanbaru. It is expected that the school together with parents work together to prevent and provide health education for assertive behavior, namely the ability to communicate what is desired but still maintain the feelings of others.*

**Keywords: Emotion Regulation, Bullying Behavior**

## **1. INTRODUCTION**

Bullying is an aggressive behavior of a student or group of students that is shown on purpose that is repeated to disturb other weak or strange students (Panggabean, 2015). Bullying can take the form of verbal, physical, psychological or cyber or electronic (Priyatna, 2010). Bullying behavior is behavior that is not normal, unhealthy and socially unacceptable (Wiyani, 2012). Based on data from KPAI (Indonesian Child Protection Commission) in 2011-2016, the number of cases of children in Indonesia as perpetrators of bullying has increased each year, namely 48 cases in 2011, 66 cases in 2012, 63 cases in 2013, 67 cases in 2014, 93 cases in 2015, and 112 cases in 2016 (KPAI, 2016). In CNN (Cable News Network) Indonesia, commissioner of KPAI Jasa Putra stated that from 2011 to 2016 there were around 253 cases of bullying recorded (Muthmainah, 2017). June 2017 there



were 117 complaints about bullying cases (Oda, 2017). In 2018, there were 161 cases of perpetrators of violence and bullying to children (Listyarti, 2018). The first case of bullying occurred at SMP Negeri 3 Pangkal Pinang, Bangka Belitung Islands. This bullying was carried out by a group of students to a female student. A student is forced to kneel to kiss his friends' feet because of a disagreement (Malacca, 2018). The second bullying case occurred at SMP Negeri 2 Tarogong Kidul, West Java. This bullying was carried out by a student to a student from different schools. The perpetrator swore with harsh words and poured mineral water on the face and head of the victim (Solihin, 2018).

Bullying cases have also occurred in Riau, it was reported that a student at a public high school in Bangkinang was a victim of suicide bullying. The student's family said that before the student committed suicide, she did not want to go to school and asked the family to move the school because her friends often mocked (Tanjung, 2017). SMA N 5 Pekanbaru students also experienced cases of bullying. The student submitted his case to the Pekanbaru Mayor's office. He could not stand it because for three years his friends often mocked him with harsh words. He complained to the Pekanbaru Mayor's office because he wanted the bullying to get strict sanctions (Antara, 2017). If the incidence of bullying continues to increase, it will cause bad effects.

Bullying can have an impact on victims, perpetrators and witnesses of bullying (The United State Government, 2017). The impact on victims is that they are lazy to go to school, decreased academic achievement can even lead to depression and suicide (Victoria, 2017). The impact on bullies is that they are often involved in fights, can suffer injuries from fights and can even be expelled from school. The impact on people who witness bullying, they will often experience anxiety, and become timid (Priyatna, 2010). Actually, bullying behavior can be prevented if the child can regulate emotions (Kurniasih, 2013). Parkway (2016) states, people who can regulate

their emotions will feel calmer, do not increase problems, do not cut ties, prevent fights. Junior high school students find it difficult to regulate emotions, so they tend to engage in bullying behavior (Desmita, 2011).

Junior high school students (Middle School) are students aged 12-15 years. The stage of development of this junior high school age child is categorized as the stage of adolescent development (Desmita, 2011). Adolescence is a period of transition from childhood to adulthood. During this period, they experience a lot of emotional instability that can trigger delinquency behavior, one of which is bullying (Kartono, 2014). The results of Umasugi's (2013) research on the relationship between emotional regulation and religiosity with the tendency of bullying behavior in adolescents show that there is a significant negative relationship between emotional regulation and religiosity with the tendency of bullying behavior in adolescents at SMA Negeri 5 Yogyakarta. This means that adolescents who have good emotional regulation and religiosity will not bully, on the other hand, adolescents who have poor emotional regulation and religiosity will tend to bully.

The results of Mawardah and Adiyanti's (2014) study which examined the regulation of emotions and peer groups of cyber bullying actors showed a negative relationship between cyberbullying perpetrators and emotional regulation, the lower the emotional regulation, the higher the tendency to become a cyberbullying actor and vice versa. This is in line with the results of Puspitasari's research (2015) on XI high school adolescents at the Islamic Modern Islamic Boarding School Assalam, which also shows that the higher the emotional regulation, the lower the bullying behavior.

Researchers conducted a preliminary survey to determine the phenomenon of bullying and emotional regulation of students at SMP PGRI Pekanbaru. Researchers used the interview method to the counseling teacher at SMP PGRI Pekanbaru. The results of the interview, he said that cases often

reported by students at PGRI Junior High School either via verbal or mailbox were bullying cases. According to him, the most bullying is verbal bullying, such as mocking friends' names, taunting parents' names, and some even physically mocking. He said one of the students did not want to come to school because his friends mocked his legs that were not the same length. He also said that several students who were victims of bullying had brought their parents to school to punish the bully and asked him to remove the bullying from school.

The initial survey was also conducted on 10 students of SMP PGRI Pekanbaru by using the interview method which showed that all students had done bullying, be it verbal bullying, physical bullying, social bullying, and cyber bullying. The results of the interviews with several students were 6 students said that they had done verbal bullying such as mocking their parents' names, physically taunting friends and cyber bullying such as taunting friends on social media, and 4 other students said they had done physical bullying such as hitting and kicking friends. Based on the phenomena described, researchers are interested in conducting research on "The Relationship between Emotional Regulation and Bullying Behavior in SMP PGRI Students".

## **2. MATERIALS AND METHODS**

This study uses a quantitative research approach and uses a correlation type of research. This research was conducted at SMP PGRI Pekanbaru. The population in this study were all students of class VII and class VIII at SMP PGRI Pekanbaru as many as 280 students. The sample in this study amounted to 165 students with a sampling technique (cluster sampling) with inclusion criteria. The research instrument used was a questionnaire. Data analysis used Chi-Square statistical testing.

### 3. RESULT

The results of distributing questionnaires that were conducted on March 14, 2020 at SMP PGRI Pekanbaru to 165 respondents, about the relationship between emotional regulation and bullying behavior. The results obtained were only 150 respondents, because the other 15 respondents had permission to leave by reason of going to the bathroom, but did not return to class. The independent variable in this study is emotional regulation, while the dependent variable is bullying behavior. The results are as follows:

#### A. Univariate Analysis

##### 1. Characteristics of respondents based on age

Table 1. Frequency distribution of respondents by age

No	Age	Frequency	Persentase
1	12 year	5	3
2	13 year	36	21,8
3	14 year	75	45,5
4	15 year	49	29,7
	Total	165	100

Based on table 1 above, it shows that of the 165 respondents at SMP PGRI Pekanbaru, the largest distribution of respondents according to age was 14 years, totaling 75 respondents (45.5%).

##### 2. Characteristics of respondents based on gender

Table 2. Distribution of respondents based on gender

No	Gender	Frequency	Persentase
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1	male	74	44,8
2	female	91	55,2
	Total	165	100

Based on table 2 above shows that out of 165 respondents at SMP PGRI Pekanbaru, the largest distribution of respondents based on gender was female with a total of 91 respondents (55.2%).

### 3. Overview of emotional regulation

Table 3: Distribution of respondents based on emotional regulation

No	Emotional Regulation Level	Frequency	Persentase
1	High	83	50,3
2	Low	82	49,7
	Total	165	100

Based on table 3 above, it shows that of the 165 respondents at SMP PGRI Pekanbaru, the most distribution of respondents based on emotional regulation was respondents who had high emotional regulation with a total of 83 respondents (50.3%).

### 4. Description of bullying behavior

Table 4 Distribution of respondents based on bullying behavior

No	Bullying behaviour	Frequency	Persentase
1	High	94	57
2	Low	71	43
	Total	165	100

Based on table 4 above, it shows that of the 165 respondents at SMP PGRI Pekanbaru, the distribution of respondents based on bullying behavior was mostly respondents who had high bullying behavior with a total of 94 respondents (57%).

## B. Bivariate Analysis

Table 5. Relationship between emotional regulation and bullying behavior

Emotional Regulation Level	Bullying Behaviour Level						P value
	High		Low		Total		
	N	%	N	%	N	%	
High	44	53,7	38	46,3	82	100	0,39
Low	50	60,2	33	39,8	83	100	
Total	94	57	71	43	165	100	

The results of the analysis of the relationship between emotional regulation and bullying behavior found that out of 82 respondents who had high emotional regulation, 44 respondents (53.7%) had high bullying behavior and 38 respondents (46.3%) had low bullying behavior. Meanwhile, of 83 respondents who had low emotional regulation, 50 respondents (60.2%) had high bullying behavior and 33 respondents (39.8%) had low bullying behavior. The results of statistical tests show that the P value = 0.39 >  $\alpha$  = 0.05. It can be concluded that there is no significant relationship between emotional regulation and bullying behavior among students at SMP PGRI Pekanbaru

#### 4. DISCUSSION

##### A. Univariate Analysis

##### 1. Emotion regulation

Based on the results of the study, it was found that the distribution based on emotional regulation was mostly respondents who had high emotional regulation with a total of 83 respondents (50.3%). Emotional regulation is a person's ability to realize and understand, manage and balance emotions in oneself and change emotions so that they are able to motivate themselves from difficult circumstances (Silaen & Dewi, 2015). The results of this study are consistent with Hasanah's research (2010) on the relationship of self-efficacy and emotional regulation with juvenile delinquency in students

of SMPN 7 Klaten, which states that the majority of respondents have high emotional regulation as many as 74 respondents (51.7%).

The results of this study indicate that there is a slight difference between respondents who have high emotional regulation (83 respondents) and respondents who have low emotional regulation (82 respondents). Although the characteristics of adolescents are emotionally unstable, there are other factors that influence emotional regulation in adolescents such as the relationship between parents and children, environmental factors, and factors of emotional experience of these adolescents. Emotional regulation of students at SMP PGRI Pekanbaru is high. Because some of them can control their feelings, manage and balance their emotions in themselves and hold back their emotions. Thus according to the assumption of researchers that in the results of this study, emotional regulation in adolescents has differences, such as unstable emotions, rudimentary self-control, and environmental influences.

## 2. Bullying behavior

Based on the results of the study, the distribution of respondents based on bullying behavior was mostly respondents who had high bullying behavior with a total of 94 respondents (57%). Bullying is the aggressive behavior of a student or a group of students who is shown intentionally and repeatedly to disturb other weak or strange students. , usually without provocation (Panggabean, 2015). The results of this study are in line with Sistrany's (2016) research on the effect of bullying on emotional intelligence in students at SMP Negeri 2 Samarinda, which states that the majority of respondents are in the category of high bullying behavior, namely 70 respondents (56.7%).

Bullying behavior of students at SMP PGRI Pekanbaru is high. One of them is due to social factors, they will quickly be influenced to act harshly to their friends if someone invites them. Thus, according to the assumption of

researchers that in the results of this study, bullying behavior in adolescents is high, this is due to social risk factors and family risk factors.

## B. Bivariate analysis

Relationship between Emotion Regulation and Bullying Behavior. Based on the results of this study, it is revealed that there is no relationship between emotional regulation and bullying behavior. From the statistical test results, there is only a slight difference between adolescents with high and low bullying behavior in regulating emotions. The results of the analysis of the relationship between emotional regulation and bullying behavior found that out of 82 respondents who had high emotional regulation, 44 respondents (53.7%) had high bullying behavior and 38 respondents (46.3%) had low bullying behavior. Meanwhile, of 83 respondents who had low emotional regulation, 50 respondents (60.2%) had high bullying behavior and 33 respondents (39.8%) had low bullying behavior. The results of statistical tests show that the  $P \text{ value} = 0.39 > \alpha = 0.05$ . It can be concluded that there is no significant relationship between emotional regulation and bullying behavior among students at SMP PGRI Pekanbaru.

The results of this study are different from what was expressed by Mawardah and Adiyanti (2014) that the ability to manage good emotions can help a person control himself not to engage in negative behavior, especially when experiencing problems and pressures. This means, the ability to regulate emotions affects a person's ability to control himself so that good self-control can make someone direct their behavior properly and avoid bullying behavior.

The results of this study are inversely proportional to Umasugi's (2013) research on the relationship between emotional regulation and religiosity with the tendency of bullying behavior in adolescents, showing that there is



a significant relationship between emotional regulation and religiosity with the tendency of bullying behavior in adolescents in SMA Negeri 5 Yogyakarta. Likewise, Puspitasari's research (2015) in class XI high school adolescents at the Assalam Modern Islamic Boarding School also shows that the higher the regulation of emotions, the lower the bullying behavior.

The majority of respondents in this study already have high emotional regulation, but the bullying behavior factor is not only emotional regulation, there are other factors. According to research by Putri, Nauli, and Novayelinda (2015), there is an influence between personality type, self-confidence, school climate, and peer social support on bullying behavior. According to research conducted by Sufriani and Sari (2017) there is a relationship between family attachment, peers, and the media with bullying behavior.

Sejiwa (2008) states that there are two factors of bullying behavior, namely family factors and social factors. Family factors include a lack of warmth and a low level of parental care for their children, too permissive parenting styles, lack of parental supervision, the attitudes of parents who like to give examples of bullying behavior, and the influence of sibling behavior at home. . Meanwhile, social factors include socializing with children who are used to bullying, and associating with children who like violence.

According to research conducted by Eninta, Nauli, and Woferst (2017), there is a relationship between group conformity and bullying behavior. Adolescents consider loyalty with their group mates to be something that must be done, even though some of the group's behavior seems deviant. If adolescents with positive groups do meaningful activities and do not violate the rules and norms of the environment, but if adolescents with negative groups do the opposite. Thus according to the assumption of the researcher that in the results of this study the majority of adolescents who have high or low emotional regulation can do high bullying behavior depending on other factors that influence it.

## 5. CONCLUSION

Based on the results of research conducted in March 2020 on 165 respondents about "The Relationship between Emotional Regulation and Bullying Behavior in SMP PGRI Pekanbaru Students", it can be concluded that the results of the analysis of the relationship between emotional regulation and bullying behavior indicated that out of 82 respondents who had high emotional regulation there were 44 respondents (53.7%) had high bullying behavior and 38 respondents (46.3%) had low bullying behavior. Meanwhile, of 83 respondents who had low emotional regulation, 50 respondents (60.2%) had high bullying behavior and 33 respondents (39.8%) had low bullying behavior. The results of statistical tests show that the  $P \text{ value} = 0.39 > \alpha = 0.05$ . It can be concluded that there is no significant relationship between emotional regulation and bullying behavior among students at SMP PGRI Pekanbaru. Suggestions for schools of the results of this study can provide information and input for classroom teachers and counseling teachers related to things that affect bullying behavior so that it can prevent and provide health education on assertive behavior, namely the ability to communicate what people want, feel, and think other but while maintaining and respecting the rights and feelings of other parties

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## DIOXIDE (NO<sub>2</sub>) IN AIR AMBIENT TO STREET VENDORS IN PASAR PAGI AREA SAMARINDA

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### **ABSTRACT**

*One of the main source of air pollutions is motor vehicles or transportations. As for the pollutants which resulted from the process of engine ignition that uses fuels such as CO, NO<sub>2</sub>, SO<sub>2</sub>, dan HC gas. Both CO and NO<sub>2</sub>, gives negative effects through the inhalation process and is capable of causing inhalation injury. This research is a descriptive research which uses Environmental Health Risks Analysis (EHRA) Approach, to analyze risks exposure of Carbon Monoxide and Nitrogen Monoxide to street vendors in Pasar Pagi Area with total 30 persons. The results of the research shows that the concentration amount of CO is 1,512 mg/m<sup>3</sup> with intake exposure  $CO < RfC$  (7,667mg/kg/day) and the concentration amount of NO<sub>2</sub> is 0,028 mg/m<sup>3</sup> with intake exposure  $NO_2 < RfC$  (0,02 mg/kg/day). Nilai RQ 1 at the exposure of CO and NO<sub>2</sub> which signify there is no health risks of non carcinogenic on the exposure duration realtime and lifetime with total 30 persons of street vendors (100%), but there are complaints of eye irritations (76,6%), cough (56,7%), Headache/Dizziness (33,3%), Asphyxiate (16,7%), and nausea (10,0%). It can be concluded that the risks which emerged from the exposure of CO and NO<sub>2</sub> is still in the safe limits.*

*Keywords: Carbon Monoxide (CO), Nitrogen Monoxide (NO<sub>2</sub>), Street Vendor*

### **1. INTRODUCTION**

One of the main sources of air pollution is motor vehicle activity or transportation. Combustion process by engines that use fossil fuels to produce CO, NO<sub>2</sub>, SO<sub>2</sub>, and HC (Mukono, 2008). Exposure to CO (Carbon Monoxide) gas that exceeds normal concentrations can cause health problems such as cardiology, hematology, neurology and respirology disorders (Rivanda, 2015). If NO<sub>2</sub> is inhaled it will enter the deeper respiratory tract of mucous membranes and pulmonary tissues, then it will enter through the bloodstream (Hikmiyah, 2018). Both pollutant gases, both CO and NO<sub>2</sub> have a negative impact especially on the respiratory tract because it enters through the inhalation process and can cause inhalation injuries.

Based on data from the Regional Revenue Agency of East Kalimantan Province in 2018 the number of motor vehicles in Samarinda city in the last

three years increased by 637.936 units in 2016, increased in 2017 by 671.000, and continued to increase in 2018 by 706.375 units (Badan Pendapatan Provinsi Kalimantan Timur, 2018). Along with the increasing number of motor vehicles in Samarinda City will have an impact on the volume of vehicles on the road traffic so that this can lead to an increase in pollution caused by gas emissions resulting from the combustion of motor vehicles on the highway.

According to air quality monitoring data by the Samarinda City Environment Office (2019) shows different concentrations of CO and NO<sub>2</sub> at two sampling locations in the Intersection Pasar Pagi Samarinda in June 2019 and October 2019. The measurement concentration in period I of Pasar Pagi Samarinda Intersection was 4.405 µg/Nm<sup>3</sup> for CO and 19,34 µg/Nm<sup>3</sup> for NO<sub>2</sub> and period II amounted to 2.226 µg/Nm<sup>3</sup> and 25,10 µg/Nm<sup>3</sup>. The figures show that CO and NO<sub>2</sub> concentrations are still below ambient air quality standards based on PP No.41 of 1999 of 30.000 µg/Nm<sup>3</sup> (CO) and 400 µg/Nm<sup>3</sup> (NO<sub>2</sub>). Although it is still below quality standards and still safe from air pollution, it is necessary to be aware of the properties of CO gas and also NO<sub>2</sub> which has a bad impact on the respiratory system.

The concentration of NO<sub>2</sub> which is below the air quality standard value ambient does not mean it can be declared safe from health risks. According to Darmawan's research on ARKL levels of NO<sub>2</sub> as well as health complaints on toll ticket collectors, the concentration of NO<sub>2</sub> at 3 times the measurement at different hours does not exceed the quality standard, but on the results ARKL calculation shows as many as 2 respondents have a value of RQ<1 and 15 respondents who have RQ>1. Health complaints that occur 4 respondents were coughing, red eyes, sore eyes, dizziness, and out of breath (Darmawan, 2018).

The street vendor is a profession of choice for the community especially the lower middle economy in Samarinda city in making a living. Most street vendors are near the highway that is traversed by motor vehicles for a long

time, so it becomes one of the high-risk communities because it is located at the source of exposure.

The Pasar Pagi area is a commercial area where there are a number of other facilities such as Mesra Indah mall, restaurants and various kinds of other shops. This area is one of the economic centers of Samarinda City to meet daily needs. Such conditions cause the flow of traffic becomes heavy, namely from 09.00 to 12.00 pm due to vehicles of visitors who are on the side of the road, city transportation that waits and lowers passengers and street vendors who sell on the road body.

This research is aimed at street vendors, so as to prevent the deterioration of the health quality of street vendors, it can be done risk analysis of exposure to CO and NO<sub>2</sub> in street vendors. The purpose of this study was to determine the level of non-carcinogenic health risk from carbon monoxide (CO) and nitrogen dioxide (NO<sub>2</sub>) in ambient air in street vendors at Pasar Pagi Samarinda Area.

## **2. MATERIALS AND METHODS**

This type of research is a descriptive study which uses Environmental Health Risks Analysis (EHRA) Approach. Execution time the research was conducted in July - August 2020 on 30 traders street vendors that sell in the Jendral Sudirman area and KH Abdul Khalid area.

The variables measured in this study consisted of CO concentration obtained through ambient air measurement by NDIR method and NO<sub>2</sub> concentration obtained through ambient air measurement by Griess Saltzman method using Spectrophotometer conducted by Baristand Industri Samarinda officer, non carcinogenic intake and CO and NO<sub>2</sub> risk.

The intake calculation uses the formula:



$$I_{nk} = \frac{C \times R \times tE \times fE \times Dt}{Wb \times tavg}$$

Remarks:

- I = intake, mg/kg/day
- C = concentration of risk agent, mg/M3
- R = intake rate, M3/hr
- tE = length of exposure, hours/day
- fE = frequency of exposure, day/year
- Dt = duration of exposure, years
- Wb = weight, kg
- Tavg = average time period

The health risk is expressed as Risk Quotient (RQ, level risk) for non-carcinogenic effects and Excess Cancer Risk (ECR) for carcinogenic effects. Calculated by the formula:

$$RQ = \frac{Ink}{RfD \text{ atau } RfC}$$

Description:

- RQ = Risk Quotient
- Ink = intake non-carcinogenic
- RfC = Reference Concentration (for inhalation exposure)

### 3. RESULT AND DISCUSSION

Based on Tabel 1 CO and NO2 concentration measurement results in Jendral Sudirman Area and KH Abdul Khalid Area obtained results of 1,512 mg/m3 dan 0,028 mg/m3.

The concentration measurements result obtained were lower than at the time of measurements carried out by the Samarinda City Environment Office in 2019 amounting to 4.405 g/Nm3 for CO and 19,34 g/Nm3 for NO2 and period II of 2.226 g/Nm3 and 25,10 g/Nm3. This is because when the research was conducted in the state of WFH (Working From Home) due to the Covid-19 pandemic so that the increase in the number of vehicles on the highway decreased.

The location point of the highest concentration of CO is on KH Abdul Khalid Area which is 2,245 mg/m<sup>3</sup>, while at the highest concentration of NO<sub>2</sub> is on Jendral Sudirman Area which is 0.03616 mg/m<sup>3</sup>, both concentrations are still below the quality standards set by Government Regulation No. 41 of 1999. The concentration value can be influenced by high transportation on the highway and meteorological factors such as humidity, temperature, sunlight, and air movement.

This is reinforced in ramayana research shows the relationship between moisture and CO concentration is directly proportional that if the humidity value is high then the value of CO concentration will be high, and if the humidity is low then the concentration of carbon monoxide will be low (Ramayana and Istirokhatun, 2013). Darmawan stated there is a tendency of NO<sub>2</sub> levels to the increased air temperature will increase the level of gas and particles that exist. When the humidity increases, the decreased air temperature also has an impact on the measured amount of NO<sub>2</sub> (Darmawan, 2018) and in Serlina (2020), there is an influence between the measured concentration of NO<sub>2</sub> and meteorological factors which includes temperature, relative humidity, precipitation and wind speed.

Based on the distribution of data contained in Table 2 that the characteristics of the street vendors respondents in this study were seen from aspects of gender, age, weight, and patterns of exposure (exposure time, duration of exposure and frequency of exposure). In this study, respondents of street vendors totaling 30 people with the age range of 25-65 years, the most distribution was found in the age group >45 years. A person's age will affect the body's resistance to exposure to chemicals or toxic substances (Mahawati, et al., 2006).

The gender of respondents in this study was mostly women (66.7%), one of the factors that can affect impaired lung function is gender. Alchamdani states that women have a small volume of lungs so that the intake of

chemicals received through the inhalation pathway is less, compared to men. However, female respiratory organs are more sensitive when exposed to air pollutants such as NO<sub>2</sub>, SO<sub>2</sub>, benzene, toluene, ethylbenzene and o/m/pxylene (Alchamdani, 2019).

The weight distribution of the most respondents in the group was 61kg-80kg (50.0%). In the ARKL research weight loss affects the amount of intake received. In accordance with Darmawan's research result is weight inversely proportional to the amount of intake (Darmawan, 2018). It can be concluded that the greater the weight of street vendors, the smaller the intake of air pollutants CO and NO<sub>2</sub> received.

Most health complaints came from the age group of >45 years, which often experienced complaints of eye irritations and coughs. This is supported by Darmawan (2018), namely with the age of a person will be followed also by a decrease in all functions of the body organs so that in the elderly there will be a decrease in endurance or susceptible to disease. And in the study Dewanti's showed that the concentration of CO is still below the quality standard but on the examination of COHb levels in the blood shows the majority of blood COHb levels fall into the high category of >3.5%. The majority of respondents with high blood COHb had complaints of dizziness, had no complaints of visual impairment, had complaints of impaired concentration, had no complaints of nausea, never vomited, and had no complaints of shortness of breath. Where such complaints can be a sign or symptom caused by continuous exposure by CO and NO<sub>2</sub> pollutants (Dewanti, 2018).

In Table 3 the most street vendor exposure patterns at exposure time, exposure frequency, and exposure duration are working for ≤8 hours/day, 334 days/year, and >10 years. The amount of intake value is directly proportional to the value of pollutant concentration, exposure time,

frequency of exposure, and inhalation rate, which can be interpreted as the greater the value, the greater the intake of a person.

In risk analysis, if the longer a person works then the more risk of exposure to the dangers posed by the work environment. According to Lovita in Darmawan (2018), the length of a person's working life can increase the risk of developing respiratory diseases. This indicates that the longer a person's work will be the longer the exposure to pollutant gases.

Based on Table 4 and Table 5 the calculation of CO and NO<sub>2</sub> intakes in this study is calculated based on real time and lifetime intake (projection of the next 30 years). Intake in realtime is the intake received by a person or respondent by kilograms of body weight by the day from the beginning of work until the time of research conducted. While lifetime intake is the estimated intake received by a person or respondent by kilogram of body weight by day in the future, for pollutants with non-carcinogenic effects is 30 years later.

Based on the results of exposure intake of CO and NO<sub>2</sub> in real time and lifetime in street vendors showed not yet RfC value (Reference of Concentration or dose response) amounting to 7,667 mg/kg/day of exposure for CO and 0.02 mg/kg/day of exposure for NO<sub>2</sub>. From the calculation is known that the exposure time and duration of exposure affects the value of intake, the longer the working period of street vendors, the greater the intake value and the risk to obtain adverse health effects will be higher. Body weight also affects intake, the greater a person's weight is also the safer the person is from exposure to air pollutants.

From the results of the calculation can be seen that the number of intake levels of CO and NO<sub>2</sub> inhaled every day is still small and below the ambient air quality standard, but if the level is inhaled every day for a long time it will affect the amount of intake of CO and NO<sub>2</sub>.

Based on the calculation of non-carcinogenic risk levels (RQ) in real time and lifetime can be seen in Table 6 that all respondents have a value of non-

carcinogenic RQ exposure CO and NO<sub>2</sub> ≤ 1 which means safe if inhaled. From these calculations, it can be concluded that there is no risk of non-carcinogenic health of CO and NO<sub>2</sub> exposure to street vendors based on the duration of real time and lifetime exposure in Pasar Pagi Area Samarinda.

Risk management is carried out in the presence of health risks or expressed in RQ > 1 by taking into account the amount of intake from risk agents based on body weight and can be calculated safe concentration determination (C), determination of safe exposure time (tE), determination of frequency of safe exposure (fE), and determination of safe exposure duration (Dt). The calculation of major health risks of CO and NO<sub>2</sub> exposure to street vendors in the Pasar Pagi Area on real time and lifetime exposure has not shown any non-carcinogenic risk (RQ ≤ 1) so risk management is not required as a follow-up. However, based on data on health complaints through direct interviews to street vendors obtained results that showed as many as 23 respondents (76.7%) felt complaints of eye irritations, then the second most common was coughing as many as 17 respondents (56.7%) while the third most common complaint was headache / dizziness as many as 10 respondents (33.3%), complaints of shortness of breath experienced as many as 5 respondents (16.7%) and the least perceived complaint was nausea of 3 responden (10.0%). This could be due to other risk agents whose doses are more dominant in the air or the combination effect between CO and NO<sub>2</sub> with other risk agents that have the same effect.

To overcome the complaints felt by street vendors can be preventive in the form of the use of personal protective equipment (PPE) especially masks for daily work activities, so as to reduce exposure to risk agents through the inhalation process.

Then can do prevention in the form of self-preventive efforts or self-protection to maintain endurance. Furthermore, to maintain the concentration of CO and NO<sub>2</sub> remains below ambient air quality standards

by conducting regular inspections of vehicle exhaust emissions. And to reduce and keep air pollutants below ambient air quality standards is to care for and add plants that are already around Pasar Pagi Samarinda. In accordance with Izzah's research that planting trees tightly can withstand the movement of wind that carries CO pollutants so that more pollutants can be reduced by adsorption by leaves and the presence of green road vegetation can effectively decrease the spread of CO concentration by 8.5% compared to open green lines (Izzah et al., 2019).

#### **4. CONCLUSION**

From the results of the study, it was concluded that the calculation of CO and NO<sub>2</sub> exposure intake did not show any risk to street vendors and the value of  $RQ \leq 1$  in CO and NO<sub>2</sub> exposures meant that there was no non-carcinogenic risk in real time and lifetime durations. However, health complaint data based on interviews with 30 street vendors showed complaints of coughing, shortness of breath, headaches/dizziness, nausea and eye irritations. This can be caused by other risk agents whose dosage is more dominant in the air or the combination effect between CO and NO<sub>2</sub> with other risk agents that have the same effect.

To reduce adverse effects for the environment and people who are at high risk of exposure to pollutants in the air can be done by procuring plants that can reduce the level of air pollution around Samarinda Morning Market, such as ornamental plants tongue-in-law (*Sansevieria* sp), lilies paris (Spider plant), and ivory betel (*Scindapsus aureus*). It is recommended for street vendors to make various preventive efforts. For example, eating foods rich in vitamins A, C, and E, and the use of masks.

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# AGGRESSIVE BEHAVIOR IN ADOLESCENTS AFTER IMPLEMENTING PIK-R AT SMA NEGERI "Z" PEKANBARU IN 2020

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## **ABSTRACT**

*Adolescence is a period of transition from childhood to adulthood. In adolescence, the search for identity is often influenced by negative things, one of which is aggressive behavior. The existence and role of PIK-R within adolescents is very important in helping adolescents obtain information and counseling services. The purpose of this study was to determine the aggressive behavior after PIK-R was implemented in SMA Negeri "Z" Pekanbaru. This research design uses quantitative research. The research instrument used was the Brief Aggression Questionnaire with 12 questions. The sample in this study amounted to 227 high school students. The results showed that after the implementation of PIK-R in SMA Negeri "Z", it was found that the average student / I showed aggressive behavior in the low category, namely 52%. Suggestions from this research, it is hoped that schools will further activate the implementation of PIK-R because the existence of PIK-R is very important for adolescents, especially in directing adolescent behavior towards a better direction.*

*Keywords: Adolescent; Aggressive Behavior; PIK-R*

## **1. INTRODUCTION**

Adolescence is a time filled with shocks and stress because the problems experienced seem so complex. Adolescence lasts between the ages of 12 to 21 years for women and 13 years to 22 years for men (Ali, 2014). According to (Sumara, 2017) adolescents aged 13-18 years have surpassed childhood but are still not mature enough to be considered adults. This period is a period of transition and self-discovery, which is why people often commit acts known as aggressive behavior. Aggressive behavior is behavior that aims to injure or hurt someone or something, either verbally or nonverbally, which creates hostility. Aggressive behavior is a response capable of providing a harmful / destructive stimulus to other organisms (Kartono, 2011). This behavior will harm himself and those around him. Santrock (2012) states

that one of the factors that causes juvenile delinquency is the malfunction of parents as role models for children.

The Riau Provincial Police Chief noted an increase in juvenile delinquency cases from 30 cases in 2015 to 41 cases in 2019, namely 37%. delinquency committed by adolescents in Pekanbaru City is driven by the absence of attention from parents and the environment towards children's growth and the inculcation of religious values from the environment in which children grow and develop, as well as a lack of attention and motivation from teachers and peers .

In general, aggressive behavior can occur due to internal and external factors. Therefore we need a place that can accommodate teenagers so that they have direction during the process of finding their identity. For the school environment, PIK - R can be an option. For the city of Pekanbaru, SMA Negeri "Z" is one of the schools that has been recognized by the local government as an active school in conducting PIK-R for its students. The role of PIK-R in the youth environment is very important in helping adolescents to get correct information and counseling services (Hidayah, 2016).

Based on the explanation above, the purpose of this study is to see the condition of the aggressive behavior of adolescents after the implementation of PIK-R at SMA Negeri "Z" Pekanbaru in 2020.

## **2. MATERIALS AND METHODS**

This research uses quantitative research, with a descriptive research design. The research was conducted in 2020, at SMA Negeri "Z" Pekanbaru. The population in this study were students of SMA Negeri "Z" Pekanbaru with a sample of 227 students. The sample technique used was accidental sampling. The research instrument used was the Brief Aggression Questionnaire. This questionnaire is a standard instrument in assessing aggressive behavior in adolescents. Contains 12 statements consisting of

four components, namely physical aggression, anger, verbal aggression, and hostility. Each component consists of 3 statements (Webster, 2015).

### 3. RESULTS

The results of research conducted at SMA Negeri "Z" with 227 respondents using the Brief Aggression Questionnaire can be seen in the table below:

Table. 1  
Characteristics of Respondents Based on Gender

No.	Gender	Frequency	Percentage
1.	Man	101	45
2.	Women	126	55
Total		227	100

Based on the table. 1 above we can see that from 227 respondents, the gender of women was 126 respondents (55%), while men were 101 respondents (45%).

Table. 2  
Characteristics of Respondents by Age

No.	Age (Years)	Frequency	Percentage
1	15 – 16	94	43
2	17 - 18	133	57
Total		227	100

Based on the table. 2 above, it can be seen that of the 227 respondents, the majority were between the ages of 17 and 18 years.

Table. 3  
Aggressive Behavior in Adolescents After Implementing PIK-R at SMA  
Negeri "Z" Pekanbaru in 2020

No	Variabel	Frequency	Percentage
1	Aggressive Behavior	110	48
2	Not Aggressive Behavior	117	52
Total		227	100

Based on table 3 above, we can see that out of 227 respondents, 117 (52%) of them did not show aggressive behavior (not aggressive behavior).

#### **4. DISCUSSION**

Based on research on Adolescent Aggressive Behavior After PIR-R was implemented in SMA Negeri "Z" Pekanbaru in 2020, the results obtained from 227 respondents 110 (48%) showed aggressive behavior, and 117 (52%) respondents did not show aggressive behavior.

Enopadria (2018) states that aggressive behavior is physical or verbal behavior that is intended to injure objects that are targeted aggressively. There are many factors that can cause aggressive behavior to occur in adolescents, namely internal and external factors. Internal factors such as frustration, adolescent observation and response disorders, emotional and emotional disorders. While external factors are family, school, and environmental factors (Kartono, 2011). This component of aggressive behavior consists of physical, verbal, aggressive behavior, feelings of anger, and hostility towards others (Gallagher et al, 2016). This aggressive behavior can occur directly or indirectly, can be passive or aggressive, which is displayed in physical or verbal form (Rajasakran et al, 2014).

One program that can be used as a forum for overcoming aggressive behavior is PIK-R (Sopiah, 2017). PIK-R is an activity in the GenRe (Planning Generation) program developed by BKKBN which is managed

for teenagers or students. The PIK-R program aims to provide information and counseling services, maturity of marriage age, eight family functions, TRRIAD TRC (sexuality, HIV and AIDS and drugs), life skills (life skills), advocacy skills and IEC (Counseling, Information, and Education. ) (BKKBN, 2012). For lab skills, there are also teenage ambassadors, whose focus is to discuss everything related to adolescent problems.

Most of PIK-R in Pekanbaru High School are in the GROWING stage (Husanah, 2019). At SMA Negeri "Z" Pekanbaru, PIK - R is actively implemented. The implementation of PIK-R that has been carried out is in the form of training students to become genre ambassadors. After that the students are trained to become counselors for their peers under the guidance and supervision of BK teachers. Providing counseling is initiated between peers. If the problem faced is big, the counseling will continue with the authorized BK teacher. Problems that are often discussed by students in PIK-R counseling are problems related to Bronkenhome, romance, bullying, and aggressive youthful actions. In addition, in the PIK \_ R program there is also counseling that brings in people outside the school who are experts in their fields. The topics that have been discussed are related to drugs, HIV and AIDS, juvenile delinquency, etc.

The activities of PIK-R in this school have yielded good results. Based on the results of research conducted at SMA Negeri "Z", with the implementation of PIK-R, the aggressive behavior shown by adolescents was only 48%. Teenagers can control themselves if someone instigates them so they don't beat others. To protect his rights, not by force. Facing trivial matters teenagers do not get angry easily.

When interviewed, most of SMA Negeri "Z" Pekanbaru teenagers answered that after participating in PIK-R there were many benefits that were felt, in addition to gaining knowledge about reproductive health, preventing and dealing with bullying, controlling aggressive actions. In addition, during the extension, students are taught to think mature and think critically. The same

results as this study stated by Raivi (2016), he shows that after the implementation of PIK-R, the average teenager does not show aggressive behavior

## **5. CONCLUSION**

Aggressive Behavior of Adolescents After Implementing PIR-R at SMA Negeri "Z" Pekanbaru in 2020, the results obtained from 227 respondents, 110 (48%) showed aggressive behavior, and 117 (52%) respondents did not show aggressive behavior.

It is hoped that schools (schools) will continue to activate the PIK-R program in schools because in some way this program has proven to be a means of suppressing aggressive behavior that occurs in students in Pekanbaru and its surroundings.

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# DIFFERENCES IN THE EPIDEMIOLOGICAL OF H5N1, COVID-19 AND OTHER GLOBAL ZONOSIS FLU

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## ABSTRAC

*Human avian influenza has caused serious outbreaks in several countries, especially in Asia, one of which is Indonesia. Human avian influenza has become an important public health problem because of the high mortality rates and because of the possibility of causing a global pandemic. The source of the virus is thought to come from bird migration and transport of infected birds. Laboratory tests can be done by examining leukocytes, platelets in suspected cases. Clinically suspicious of AI testing can be done simultaneously, which is taking blood for serology, throat swabs, nasopharynx, and oropharynx for RT-PCR examination and viral culture gold test as confirmation. Until now it is known that there have been five zoonotic flu diseases that cause a global pandemic and have taken many casualties in the world including SARS, MERS, H1N1, H5N1, and new diseases namely COVID-19. The method to be used for this review is literature study. The data obtained were compiled, analyzed, and concluded in order to get conclusions about the literature study. The five zoonotic flu diseases have differences from one another. So the classification of differences between H5N1 with each of the zoonotic flu diseases above needs to be done.*

**Keywords:** Avian influenza (AI) H5N1 virus, Covid19, Epidemiology, Global pandemic, Zoonotic flu

## 1. INTRODUCTION

Human avian influenza is an infection that occurs in humans caused by the influenza A virus subtype H5N1. Avian influenza was discovered to attack in Italy about 100 years ago. This outbreak virus struck humans in Hong Kong in 1997 with 18 victims and six of them dead. Avian influenza (H5N1) or highly pathogenic avian influenza (HPAI) has caused serious



outbreaks in several countries, especially in Asia. Since May 2005 the number of confirmed cases of avian influenza A (H5N1) has expanded to various countries in the world. Human avian influenza (H5N1) has become an important public health problem because it has a high mortality rate and likely to cause an influenza pandemic.<sup>1</sup>

Avian Influenza (AI) is a contagious avian disease caused by influenza type A viruses from the family of Orthomyxoviridae. This virus most commonly affects birds (for example domestic chickens, turkeys, ducks, quails, and geese) as well as various wild birds. Some bird flu viruses are also known to attack mammals, including humans.<sup>2</sup>

Based on data from the Ministry of Research and Development of the Ministry of Health (2005), avian influenza transmitted by Avian Influenza type H5N1 viruses in poultry has been confirmed to have occurred in the Republic of Korea, Vietnam, Japan, Thailand, Komboja, Taiwan, Laos, China, Indonesia, and Pakistan. The source of the virus is thought to come from bird migration and transport of infected birds.<sup>3</sup>

Until now the AI pandemics still occur in both developing and developed countries, the possibility of transmission from the movement of birds from endemic to non-endemic countries. Although AI disease attacks poultry, or other livestock, but can transmit to humans. Transmitted between humans, can not be proven. The laboratory tests can be carried out by examining leukocytes, platelets carried out in suspected cases. A suspicious clinical examination of AI can be done simultaneously, namely taking blood for serology, throat swabs, nasopharynx, and oropharynx for RT-PCR examination as well for viral culture gold test as confirmation. Weaknesses in laboratory examinations, not all referral laboratories can perform RT-PCR examinations.<sup>4</sup>

The Ministry of Health of the Republic of Indonesia said that as of 30 December 2005, 142 cases of poultry influenza infections in humans had been reported from various regions. At that time human transmission was

still limited in Cambodia, Indonesia, Thailand, with epicenter in Vietnam (65.5% of all cases), 72 people (50.7%) had died. This number has now increased again, especially with the widespread and increasing deaths in Indonesia. Also from several other countries (Turkey, Iraq), there have been reports of cases of this avian influenza in humans. Cumulative cases of H5N1 since 2014-2018 were 860 cases with 454 deaths (CFR 53%). Based on data from the Indonesian Ministry of Health (2019), in 2018 there were no H5N1 cases reported yet. Cases in Indonesia from 2005 to 27 October 2018 were 200 cases with 168 deaths (CFR 84%).<sup>5</sup>

Until now it has been known that there have been five zoonotic flu diseases that cause a global pandemic and have taken many casualties in the world including SARS, MERS, H1N1, H5N1, and new diseases namely COVID-19. The five zoonotic flu diseases have differences from one another.

## **2. METHODS**

The data collection method is literature study. The method to be used for this review is literature study. The data obtained were compiled, analyzed, and concluded in order to get conclusions about the literature study. Research with literature studies is a study whose preparation is the same as other research, but the sources and methods of data collection are by taking data from libraries, reading, taking notes, and processing research materials. Research with literature studies is also a study and can be categorized as a scientific work because data collection is carried out with a strategy in the form of a research methodology.

## **3. RESULT AND DISCUSSION**

### **EPIDEMIOLOGY**

#### **1. Agent**

The virus that causes bird flu is classified as family orthomyxoviridae. Viruses consist of 3 different antigenic types, namely A, B, and C. Influenza A viruses can be found in poultry, humans, pigs, horses, and sometimes

other mammals, such as mink, seals, and whales. However, natural herpes are wild birds. In contrast, influenza B and C viruses are only found in humans (shown in **fig.1**). Avian influenza also called avian influenza, is caused by influenza A virus. This virus is an RNA virus and has haemagglutinin (HA) and neuraminidase (NA) activity. The division of virus subtypes is based on the surface of the antigen, the surface of the hemagglutinin, and the neuraminidase they have.<sup>6</sup>

## **2. Clinical Symptoms**

According to Vascellari (2007), the symptoms of bird flu are highly variable and depend on the infected bird species. The incubation period of this virus for poultry ranges from a few hours to 3 days, sometimes 7 days depending on the dose of the virus, the route of contact, and the species of poultry attacked. Whereas in humans 1-3 days, the infection period is 1 day before until 3-5 days after symptoms appear. In children for up to 21 days. Avian influenza in poultry can be found in two forms, namely mild form and acute form (highly pathogenic avian influenza, HPAI).<sup>7</sup>

The symptoms of ducks/poultry attacked by bird flu include such as neck twisted, convulsions, difficulty standing, lack of appetite, vaginal discharge, for laying ducks egg production suddenly decreases (weakness, flaccid eggshell), and widespread bleeding or spots are often found in the trachea mucosa, proventriculus, intestine, fat layer, chest muscles, and legs.<sup>7</sup>

According to Damayanti (2004), human symptoms of bird flu that is, the majority of sufferers of AI (H5N1) symptoms are the same as another influenza early fever over 38°C and lower respiratory tract symptoms. Diarrhea, vomiting, abdominal pain, chest pain (pleuritic), and bleeding from the nose and gums. The resulting sputum varies sometimes with blood, respiratory distress, tachypnea, and cracked inspiration. Diffuse progressive respiratory failure, bilateral, infiltration, and display of acute respiratory symptoms (ARDS = Acute Respiratory Distress Syndrome).<sup>8</sup>

Failure of many organs of the kidney, heart dysfunction including dilation and supraventricular arrhythmias. Other complications associated with ventilation are pneumonia, pulmonary bleeding, pneumothorax,

pancytopenia, symptoms of Reye, and sepsis without bacteremia. Early-onset of a sudden and rapidly worsening disease, high fever, muscle aches, and dry cough are often found in AI infections (H5N1). Differential diagnoses of AI (H5N1) include respiratory syncytial virus (RSV), adenovirus, parainfluenzavirus, rhinovirus, *Mycoplasma pneumoniae*, *Chlamydia*.<sup>8</sup>

### **3. Chain Of Infection**

According to Ong (2008), the influenza A / H5N1 virus is very virulent and contagious, at first, transmission only occurred between wild birds and then spread among poultry through livestock, equipment, transportation equipment, food, pens, and clothing. After an outbreak of avian influenza infection in poultry, this virus can spread from birds to humans. This influenza A virus can cause a pandemic because it is easily mutated, either in the form of antigenic drift or antigenic shift to form new variants that are more pathogenic.<sup>9</sup>

WHO (2008) states that the exact time when exposure is difficult is determined because in many cases the exposure is repeated many times, but the estimated incubation period for H5N1 virus infection in humans after exposure to sick poultry is generally between 2-7 days, and in one cluster case it is estimated reach 8-9 days.<sup>10</sup>

Transmission can also occur indirectly, for example through air polluted by material/dust containing influenza viruses (aerosols); food/beverage, livestock equipment/supplies, cages, chicken cages, clothing, vehicles, egg trays, birds; mammals and insects that contain or are contaminated with influenza viruses. In connection with the mode of transmission, the influenza virus can be spread easily to various regions by people or equipment/equipment and vehicles used to market poultry products.<sup>8</sup>

### **4. Natural History Of Disease**

#### **A. Prepathogenesis**

According to Ririh (2006), the susceptible phase (pre-pathogenesis) is the stage of the etiological process, in which the first causative factor meets the host for the first time (Host). This first causative factor has not yet caused

the illness but has begun to lay the foundations for future disease development. This first causative factor is also called a risk factor because its presence leaves the possibility of disease occurring before the irreversibility phase.

The vulnerable stage in bird flu is people who are in endemic areas. At this stage, the spread and transmission of the virus occur, but the process of spreading is not yet fully understood. Ducks and geese are carriers of influenza A subtypes H5 and H7. This wild waterfowl also becomes a natural reservoir for all influenza viruses. It is estimated that the spread of the bird flu virus was due to migration from these wild birds.<sup>11</sup>

### **B. Pathogenesis**

This stage includes 4 sub-stages, namely :

#### a) Incubation Stage

On Poultry: 1 week

In Humans: 1-3 days, The infection period is 1 day before until 3-5 days after symptoms appear. In children for up to 21 days.

#### b) Early Disease Stage

This stage is through the appearance of symptoms of a disease that seems mild. This stage has started to become a health problem, in the form of diarrhea, vomiting, abdominal pain, chest pain, hypotension, and bleeding from the nose and gums can also occur.<sup>11</sup>

#### c) Advanced Disease Stage

At this stage shortness of breath begins to occur after the next 1 week. Clinical symptoms can worsen rapidly which is usually characterized by severe pneumonia, dyspnea, tachypnea, abnormal radiographic features such as diffuse, multifocal, patchy infiltrates; interstitial infiltrates; and segmental or lobular abnormalities. Death and complications are usually caused by respiratory failure, acute respiratory distress syndrome (ARDS), ventilator-associated pneumonia, pulmonary hemorrhage, pneumothorax, pancytopenia, Reye's syndrome, sepsis syndrome, and bacteremia.<sup>12</sup>

### **C. Pascapathogenesis**

In this final stage, most sufferers end in death. Mortality rates indicate that the H5N1 virus has a high virulence rate. This is because the more freely the avian influenza virus causes severe pain which can no longer be saved.<sup>12</sup>

## **5. Distribution Of Person, Place and Time**

### **A. Person**

Judarwanto's research (2005) states that out of 86 confirmation cases, 56% were male and 44% were female. The distribution of cases according to the age group 0-5 years was 11.24%; 6-15 years as much as 28.09%; 15-45 years 59.55%, and >45 years 1.12%. Bird flu sufferers are more prevalent in males and afflict productive age, this is possible because of exposure to higher risk factors in males and productive ages.<sup>13</sup>

At present the second largest number of cases of bird flu in humans in Indonesia after Vietnam, with the highest mortality rate in the world. Compared to other countries that are also infected with avian influenza / H5N1, bird flu in Indonesia continues to grow and tends to increase from year to year. According to reports from the CDC that cases of Avian Influenza are more common in children and young adults, due to a higher risk of exposure. The proportion of cases previously exposed to several risk factors was 56.2%. Cases in infants occur due to an immune system that is not yet strong.<sup>14</sup>

Exposure to the H5N1 virus which may originate directly from poultry, which suffers from Avian Influenza (100%). This shows that toddlers are a high-risk group that needs to be maintained so as not to contact with birds and poultry. The case fertility rate in infants reaches 100%, followed by adults (87.5%) and school-age children (40%). The highest mortality rate of H5N1 infection occurred in infants (89%). The difference in mortality is caused by the difference in response rate that is carried out. Toddler mortality is high due to slow case management (> 2 days).<sup>13</sup>

### **B. Place**

According to Judarwanto (2005), if an increase in cases in animals occurs, the risk of transmission to humans will also be even greater. In Indonesia, up to February 2006, cases of confirmed Avian Influenza have occurred in

the provinces of Lampung, DKI Jakarta, West Java, Banten, and Central Java. The five provinces had previously experienced cases of Avian Influenza in poultry or other animals. The northern coastline (Pantura), especially Indramayu Regency, has airspace that every season is a traffic lane for millions of birds, including areas infected with the H5N1 virus. In the course of migration, birds from Australia or Europe that travel thousands of kilometers make the Rakit islands a resting place or transit. North Rakit Island, Gosong, and South Rakit or Biawak Island became a haven for millions of birds for 2-2.5 months to reproduce, mate, and even hatch their eggs.<sup>13</sup>

According to WHO (2006), in addition to weather events in animals are also affected by the migration of wild birds. The H5N1 virus with high pathogenicity (HPAI) can last a long time in environments with low air temperatures.<sup>15</sup>

### **C. Time**

The Indonesian Ministry of Health (2006) states that in Indonesia the first case of Avian Influenza in humans and which ended in death occurred in July 2005 (shown in **fig. 2**). The case was shocking because it was experienced by people who did not work on the farm and whose homes were far from the farm location. Entering the rainy season, in September 2005, there was an increase in cases six times the cases in July 2005. After that, until February 2006 there were always reported new cases with fluctuating numbers. The weather when Avian Influenza was endemic in the September 2005 February 2006 period was the same as the weather when an outbreak occurred in animals in 2004, namely the rainy season.<sup>16</sup>

The relatively lower ambient temperature will make the virus last longer because it can survive in water at 22°C for four days. The nature of this virus can theoretically transmit to humans through the nose. The increase in winter cases is cause habit of staying indoors and the habit of bringing their livestock into the house. This causes more frequent contact, so the risk of transmission between animals or animals to humans becomes greater.<sup>17</sup>

## **6. Risk Factors**

### **A. Knowledge**

Knowledge is a very important domain for the formation of a person's presence and activities, therefore, community knowledge about the spread of bird flu is very important to see the extent of their knowledge about the causes, ways of transmission and prevention of bird flu to avoid the possibility of contracting bird flu.<sup>18</sup>

### **B. Cage Environment and Enclosure Personnel**

Cage hygiene and personnel are part of biosecurity and are a potential aspect that influences the possibility of disease agents entering the farm. The spread of the bird flu virus between cages can be reduced by always maintaining the cleanliness of the cage and its equipment, especially if you always use the right disinfectant. Movement of people such as breeders, veterinarians, and guests on farms is one of the factors spreading bird flu virus between cages. According to Marangon and Capua (2005), analyzes conducted on cases of HPAI outbreaks in Italy during 1999/2000 showed that 9.4% of infections were indirectly due to exchanges of employees, equipment, and others.<sup>19</sup>

### **C. Factor Cage Break Time**

The cage break time factor is very effective in reducing existing microbial populations. Microbes cannot last long in the environment, because for breeding they require a host (host). Farmers rest their cages for a long time if there are special reasons such as difficulty in getting seeds or when prices are high in the market. Even though the cage break is very effective in reducing the existing microbial population.<sup>19</sup>

### **D. Factor Distance Between Enclosures**

The factor of the distance between cages on farms is important because the closer distance between cages will also increase the risk of contracting the disease if the nearest neighbor's farm is affected by the disease. A study in Italy showed that 26.2% of the incidence of bird flu was found in the environment within a radius of one kilometer around attacked farms. Poultry in a radius of 5-6 kilometers from a positive location of bird flu must continue to watch out for. While the IEC in a workshop in Hanoi stated that



the bird flu virus is transmitted by birds or wild animals within a radius of 10 km from a positive location of bird flu, so radius it is considered a contagious zone that must be wary of.<sup>20</sup>

#### **E. Maintenance System**

The maintenance system factor is not one of age is one of the potential aspects that influence the possibility of avian influenza spread in livestock. One of the steps to prevent the spread of avian influenza virus between cages is by applying strict biosecurity, an all-in all-out maintenance system, always maintaining the cleanliness of the cage and the cage officers along with their equipment, and using appropriate disinfectants.<sup>18</sup>

### **7. Preventions**

The avian influenza mortality rate is still high, so various prevention efforts are needed so that the disease does not occur. Some efforts can done to prevent avian influenza, including 5 levels of prevention, namely:

#### **A. Primordial Prevention**

No vaccine can prevent bird flu, it was difficult to handling if it has been infected by humans. Therefore the prevention of bird flu or the H5N1 virus is very important in the following way; training yourself and maintaining healthy food, washing hands with soap and dropping water after contact with poultry and other poultry products, also before preparing food and before eating, buy healthy poultry, do not eat raw blood, meat or eggs undercooked poultry, do not slaughter sick birds, do not eat dead or sick birds, avoid contact with infected sources, do not allow children to play near cages, do not allow birds to roam around the house, use masks or gloves when in contact or slaughter birds, bury poultry waste (feathers, viscera, and blood), bathing and changing clothes and clothes that are worn with contact with poultry washed with soap if you have a high fever, chest pain, difficulty breathing headaches and muscle aches ache after contact with poultry immediately go to the hospital to get the right treatment by a doctor.<sup>11</sup>

## **B. Primary Prevention**

Primary prevention is prevention carried out on people who are at risk of contracting bird flu, can be done by:

- a. Carry out health promotion to the wider community, especially those who are at risk of contracting bird flu such as poultry farmers.
- b. Carry out biosecurity, which is an effort to avoid contact between animals and microorganisms, in this case, avian influenza viruses, such as by disinfection and sterilization of livestock equipment that aims to kill microorganisms on livestock equipment so that they do not infect animals.
- c. Carry out vaccinations against farm animals to increase their immunity. Vaccination is done by using an inactive HPAI (H5H2) and recombinant vaccine for chickenpox or fowlpox by inserting the H5 avian influenza virus gene into the smallpox virus.
- d. Keep poultry livestock pens from living quarters.
- e. Use personal protective equipment such as masks, hats, long sleeves, long pants, and boots when entering the farm area.
- f. Cook cooked meat before consumption. It aims to kill the virus contained in chicken meat because the results of the study of the bird flu virus died at 60°C heating for 30 minutes.
- g. Conducting the mass destruction of animals on farms that are positively found in the bird flu virus in livestock in large numbers.
- h. Do quarantine people who are suspected or positive for bird flu.
- i. Conduct surveillance and monitoring that aims to collect reports on morbidity and mortality, field investigation reports, isolation and identification of infectious agents by the laboratory, the effectiveness of vaccination in the population, and other data that is used for epidemiological studies.

## **C. Secondary Prevention**

Secondary prevention is prevention carried out to prevent the onset of disease with early detection and appropriate treatment. By making early detection, disease control can be given early to prevent complications, hinder its journey, and limit the inability that can occur.<sup>11</sup>

This prevention done in the presymptomatic phase and clinical phase. Avian influenza secondary prevention is carried out by screening which is an attempt to actively find the disease in people who have not shown clinical symptoms. Screening for bird flu is done at the airport by installing a body heat detector so people suspected of contracting bird flu can be treated immediately and quarantined so that it is not transmitted to others.<sup>11</sup>

### **C. Tertiary Prevention**

Tertiary prevention is any attempt made to limit capacity. In bird flu, tertiary prevention efforts that can be done is by conducting intensive treatment and rehabilitation.<sup>11</sup>

Until now, antiviral therapy is as early as possible a form of tertiary prevention.<sup>52</sup> There are 4 types of antiviral drugs for the treatment and prevention of H5N1, including amantadine, rimantadine, zanamivir, and oseltamivir (Tamiflu).<sup>53</sup>

Among the 4 types of antiviral drugs, oseltamivir treatment is one of the most reliable therapies.<sup>54</sup> Oseltamivir is known to shorten the illness and reduce the length of treatment if given within the first 48 hours after onset.<sup>55</sup>

### **D. Quaternary Prevention**

According to Brodersen (2014), quaternary prevention is an action taken to protect individuals or patients who have been infected from medical interventions so that an illness does not recur. Quaternary prevention in bird flu is in the form of keeping poultry cages away from homes. Hold poultry in a cage so as not to catch the disease from other birds, and wear a mask and goggles when in chicken or poultry farms.<sup>2</sup>

## **GLOBAL PANDEMIC ZOONOSIS FLU**

Several zoonotic flu diseases have plagued up to become a global pandemic, namely the H5N1 disease that had the plague in 1997, SARS in 2003, H1N1 in 2009, MERS in 2012, and which is currently being endemic, namely COVID-19 in 2020. The five diseases of zoonotic flu have many differences from one another.

### **1. Clinical Symptoms**

Clinical symptoms in someone suffering from H5N1 disease, (100%) had a high fever  $>38^{\circ}\text{C}$ , (86.49%) had a cough, (81.08%) experienced shortness of breath, and (62.16%) experienced malaise.<sup>22,23</sup>

Clinical symptoms in someone suffering from COVID-19 disease, (87.9%) having a high fever  $>38^{\circ}\text{C}$ , (67.7%) having a cough and (38.1%) experiencing malaise.<sup>24</sup>

Clinical symptoms in someone suffering from SARS, (100%) have a high fever  $>38^{\circ}\text{C}$ , (75%) have a cough, (45%) experience pain in the chest/muscles/joints, and (45%) experience malaise.<sup>25,26</sup>

Clinical symptoms in someone suffering from MERS disease, (89%) have a high fever  $>38^{\circ}\text{C}$ , (89%) have a cough, (56%) have shortness of breath, and (87%) have chills.<sup>27, 28, 29, 30, 31</sup>

Clinical symptoms in someone suffering from H1N1 disease, (93%) had a high fever  $>38^{\circ}\text{C}$ , (83%) had a cough, (54%) experienced shortness of breath, and (68.42%) had a runny nose/nasal congestion.<sup>32, 33</sup>

## **2. Agent Of Diseases**

### **H5N1**

The virus that causes bird flu is classified as family orthomyxoviridae. Viruses consist of 3 different antigenic types, namely A, B, and C. Influenza A viruses can be found in poultry, humans, pigs, horses, and sometimes other mammals, such as mink, seals, and whales.<sup>6</sup>

### **COVID-19**

The virus that causes COVID-19 is SARS CoV 2 (Severe Acute Respiratory Syndrome Coronavirus 2). Coronavirus classification is an RNA virus that belongs to the family Coronaviridae, suborder Coronidovirineae, which belongs to the Order of Nidovirales and Riboviria. It is one of 39 species in 27 subgenera, and 5 genera.<sup>34</sup>

### **SARS**

The virus causes SARS is SARS-CoV which is one of 36 coronaviruses in the Coronaviridae family in the order of Nidovirales. Coronaviridae members are known to cause respiratory or intestinal infections in humans and animals. Although there is a clear degree of phylogenetic divergence

from other known coronaviruses, SARS-CoV is considered a coronavirus 2b group.<sup>35</sup>

### **MERS**

The virus Mers cause is Mers CoV which is classified in the genus coronavirus in order of Nidovirales. There are 3 main groups of coronaviruses: alpha ( $\alpha$ ), beta ( $\beta$ ), and gamma ( $\gamma$ ). The coronavirus causes Middle Eastern Respiratory Syndrome (MERS-CoV) is a beta coronavirus.<sup>36</sup>

### **H1N1**

The virus that causes H1N1 is influenza virus type A. This virus comes from the family Orthomyxoviridae, based on surface hemagglutinin (H) and neuraminidase antigen (N). Type A influenza virus antigens can undergo two types of changes or mutations, namely: antigenic drift if the mutation occurs slowly and antigenic drift that occurs suddenly.<sup>37</sup>

### **3. Pathogenesis**

Influenza A / H5N1 virus is very virulent and contagious. Initially, transmission only occurred between wild birds and spread among livestock poultry through equipment, transport equipment, food, pens, and clothing. After an outbreak of avian influenza infection in poultry, this virus can spread from birds to humans. This influenza A virus can cause a pandemic because it is easily mutated, either in the form of antigenic drift or antigenic shift to form new variants that are more pathogenic.<sup>9</sup>

For infections produced by H1N1 occur in the upper or main airways of the body. During the 2009 pandemic, evaluation of tissue samples from fatal cases showed the H1N1 virus infects cells in the lungs. The study also shows that early evidence of bacterial pneumonia contributes to deaths related to H1N1. Pathologists determine microscopic examination of tissue can be used to identify bacterial co-infection after death.<sup>38</sup>

In 2012, a new type of Coronavirus was discovered in the Middle East under the name MERS-CoV. Although MERS and SARS clinically have the same thing. However, the difference between the two is very clear. MERS with the genus Betacoronavirus, with the subfamily Coronavirinae, the

Coronaviridae family, and the sequence Nidovirales. MERS tends to be less infectious than SARS. MERS is thought not to spread easily from human to human but has a high mortality rate of around 40%.<sup>39</sup>

In the SARS-CoV study, the S protein binds to the receptor in the Host cell, the enzyme ACE-2 (angiotensin-converting enzyme 2). ACE-2 can be found on the oral and nasal mucosa, nasopharynx, lung, stomach, small intestine, large intestine, skin, thymus, bone marrow, spleen, liver, kidney, brain, pulmonary alveolar epithelial cells, small intestine enterocyte cells, arterial endothelial cells, veins, and smooth muscle cells. After successfully entering the next is the translation of gene replication of the viral RNA genome. Furthermore, replication and transcription where the RNA virus synthesis through translation and assembly of the virus replication complex. The next step is the assembly and release of virus.<sup>40</sup>

After transmission, the virus enters into the upper respiratory tract and then replicates in the upper respiratory tract epithelial cells. Then spread throughout the entire breath. In acute infections, the virus decays from the airways and can continue to decay for some time in the gastrointestinal cells after healing. The incubation period for the virus to appear around 3-7 days.<sup>41</sup>

This new type of Coronavirus can transmit from bats to humans which cannot yet be identified. New Coronaviruses produce a variety of new antigens and the population does not have immunity to virus mutant strains that can cause pneumonia. In this case, "super-spreader" cases are found where the virus mutates or adapts in the human body so that it has a very strong and very infectious transmission power.<sup>41</sup>

In SARS-CoV-2 it was found that the target cell was likely to be in the lower airway using ACE-2 as the same receptor as SARS-CoV. Sequences of RBD (Receptor Binding Domain) include RBM (Receptor Binding Motif) on SARS-CoV 2 in direct contact with the ACE2 enzyme. The residual results in SARS-CoV2 RBM (Gln493) interact with ACE2 in humans, consistent with the capacity of SARS-CoV2 for human cell infection.<sup>42</sup>

#### **4. Distribution Of Person, Place and Time (Shown in Table.3)**

#### **5. Chain Of Infection**

##### **COVID-19**

The Chain transmission of COVID-19 (shown in **Fig. 3**) consists of an Exit Portal of this disease that is through the respiratory system/airway, such as coughing or sneezing and is therefore at risk of having the mucosa (mouth and nose) or conjunctiva (eye) exposed to potentially infective respiratory droplets. From the results of phylogenetic analysis, the reservoir of this disease is thought to be a bat. The COVID-19 transmitted through droplets and close contact with people infected with the disease is not believed but can be considered if certain aerosol-producing procedures are carried out at a health facility. The transmission of this virus in the scope of households, from human to human, the statement was strengthened by data from the Guangdong province of China which found as much (78% -85%) COVID-19 occurred in families. This virus entry portal through the respiratory / airway system.<sup>43, 44, 45</sup>

##### **H1N1**

The H1N1 chain of transmission through the Portal Exit of this disease has flu-like symptoms in general that come out of the body through the mouth and nose (shown in **Fig. 4**). Coughing and sneezing become a means of transmission of this disease because the resulting droplet contains the virus. The reservoir of H1N1 or swine flu is swine. In transmission mode, this virus is transmitted indirectly through air or airborne. Portal Entry of this virus that is the entry of the virus into the body through every hole in the body can directly provide access into cells through the eyes, mouth, and nose.<sup>46</sup>

##### **MERS**

MERS Transmission Chains from the Exit Portal through the respiratory system or airway. Reservoirs in this disease are bats and camels. The transmission mode in this disease virus spreads from the respiratory secretions of an infected person, through the sufferer's cough. This virus can also spread from sick people to other people through close contact such as

when treating people infected with the virus, it is very easy for transmission to occur in places such as health facilities. Portal Entry of this disease also through the respiratory system or airway that shown in **Fig. 5**.<sup>47</sup>

### **SARS**

SARS transmission chain (shown in **Fig. 6**) from the Exit Portal Through the respiratory system or airway. Reservoirs in this disease are bats and mongoose. The transmission mode of this deadly virus is thought to be mediated mainly through droplets containing the virus. And also the transmission of this virus through aerosols or small particles and feces and directly or indirectly the virus will enter if there is direct or indirect contact with others, the virus will enter the lungs (as its main pathological target). The portal entry of this virus through the respiratory system or airway.<sup>48, 49</sup>

### **H5N1**

The H5N1 transmission chain starts from the Exit Portal where the virus is released by the host through nasal fluid or feces. Reservoirs in H5N1 are birds and other birds. Mode of transmission in this disease virus through inhalation and direct contact. Most cases of this virus infection in humans are caused by the transmission of the virus from poultry to humans. Apart from direct contact with infected birds, feeding animals such as cats, tigers, and other animals with infected birds, it is proven that these animals can experience lung disorders in the form of pneumonia, severe diffuse alveolar damage, and even death. Transmission of this virus can also occur in children when swimming in contaminated water and if swallowing food or drinks contaminated with avian influenza virus. Exit portal of this virus through the respiratory tract, digestive tract, and conjunctiva that shown in **Fig. 7**.<sup>50, 51</sup>

## **4. CONCLUSION**

H5N1 is a disease caused by influenza A virus that can found in poultry, humans, pigs, horses, and sometimes other mammals, such as mink, seals, and whales. H5N1 became a global pandemic in 1997. 5 zoonotic flu diseases have become a global pandemic namely H5N1, SARS, H1N1,



MERS, and COVID-19. The five diseases have differences ranging from disease agents, clinical symptoms, pathogenesis, distribution of people at the time, and the chain of transmission.

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#### LIST OF FIGURES

**Fig. 1. Agent Of H5N1**

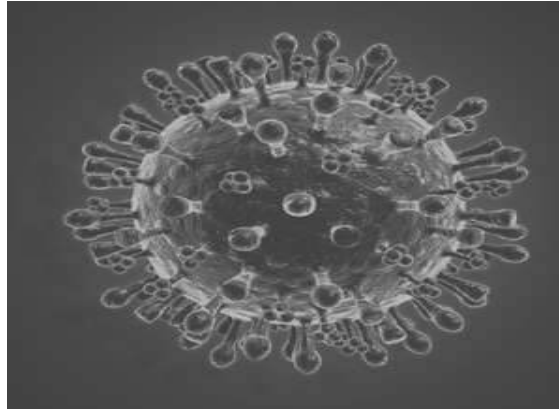


Fig. 1. Agent Of H5N1

**Fig. 2. Distribution Of Time H5N1**

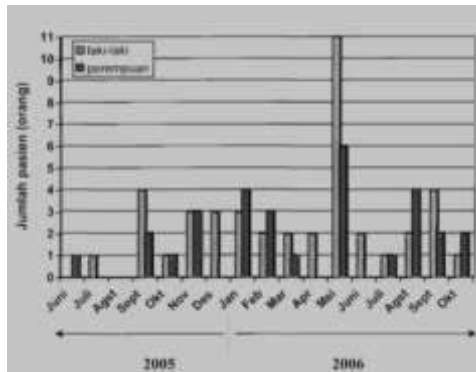


Fig. 2. Distribution Of Time H5N1

**Fig. 3. Chain Of Infection Covid-19**

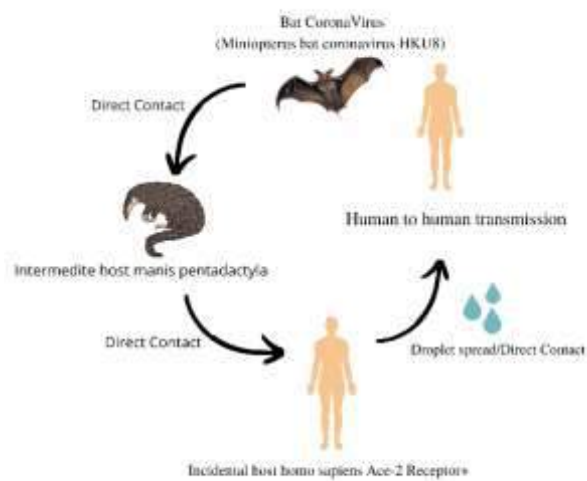


Fig. 3. Chain Of Infection Covid-19

Fig. 4. Chain Of Infection H1N1

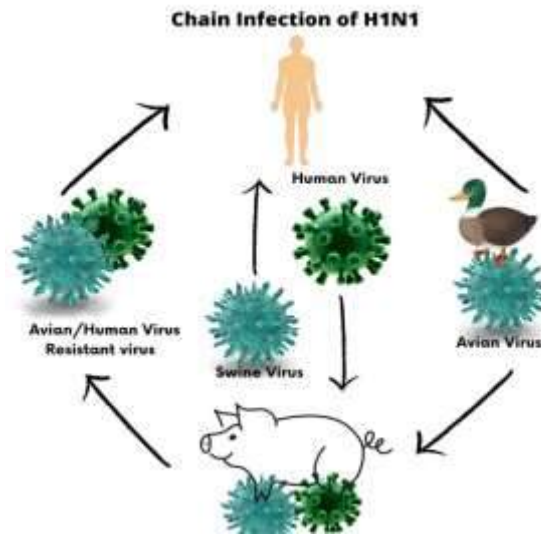


Fig. 4. Chain Of Infection H1N1

Fig. 5. Chain Of Infection MERS

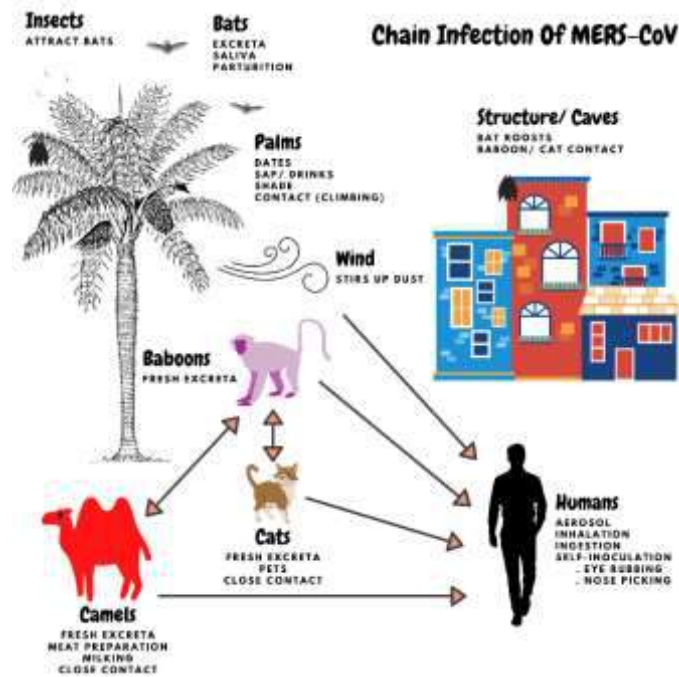


Fig. 5. Chain Of Infection MERS

Fig. 6. Chain Of Infection SARS

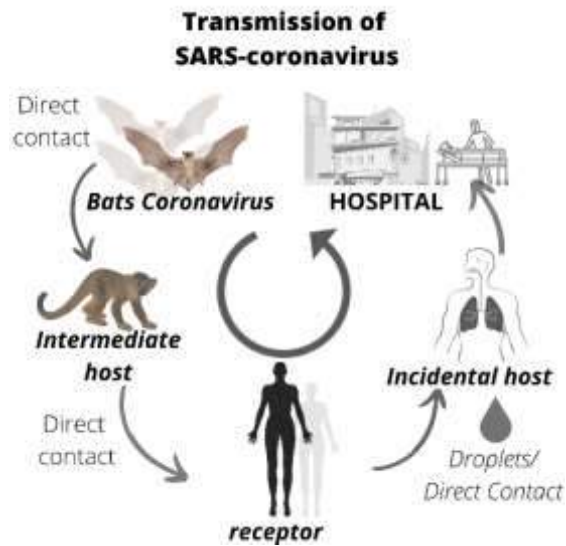


Fig. 6. Chain Of Infection SARS

Fig. 7. Chain Of Infection H5N1

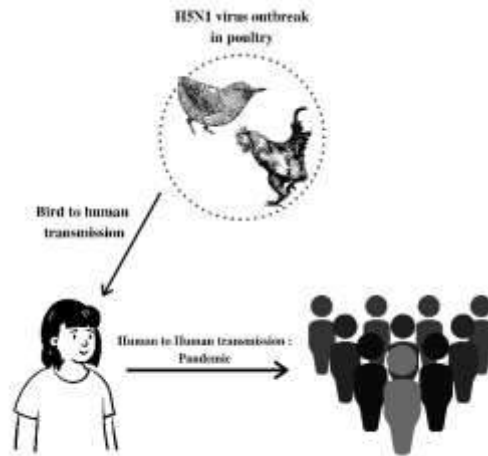


Fig. 7. Chain Of Infection H5N1



## LIST OF TABLES

**Table 1. Differences in Clinical Symptoms of Global Pandemic Zoonosis Flu**

Clinical Symptoms	H5N1	COVID-19	SARS	MERS	H1N1
Fever	100%	87,9%	100%	89%	93%
Cough	86,49%	67,7%	75%	89%	83%
Chest Pain / Muscle Pain / Joint Pain	5,41%	14,8%	45%	44%	36%
Diarrhea	16,22%	3,7%	25%	26%	24%
Shortness of Breath	81,08%	18,6%	40%	56%	54%
Malaise	62,16%	38,1%	45%	33%	40%
Headaches	21,62%	13,6%	20%	11%	31%
Siver	1,8%	11,4%	15%	87%	37%
Nausea / Vomiting	37,84%	5%	35%	21%	29%
Colds / Nasal Congestion	37,84%	4,8%	15%	13%	68,42%

**Table 2. Differences in Agent of Global Pandemic Zoonosis Flu**

	H5N1	COVID-19	SARS	MERS	H1N1
<b>Agent</b>	Influenza A Virus	SARS CoV-2	SARS-CoV	MERS-CoV	Influenza type A Virus

**Table 3. Differences in Distribution Person, Place and Time of Global Pandemic Zoonosis Flu**

Variabel	H5N1	COVID-19	H1N1	MERS	SARS
<b>Person</b>					
Age	<40 years old and <20 years old.	51 years old.	5-45 years old.	49,5 years old dan elderly >60 years old.	Adult : >65 years old. Young : 35-64 years old.
Sex	Male and Female.	Male.	Pregnant Woman.	Male.	Female.
Job/ Health Worker	Breeders.	Laborers, farmers and health workers	Breeders	Traders of animal and fish.	Travelers and health workers.
Immunity	Low immunity and Co-morbid.	Low immunity and Co-morbid.	Low immunity and Co-morbid.	Low immunity.	Low immunity.
<b>Place</b>					
First Detected	Hong Kong.	Wuhan, Hubei Province of China.	The United State Of Amerika.	Saudi Arabia (Jeddah).	Guangdong, China.
<b>Time</b>					
Pandemic Year	1997.	2020.	2009.	2012.	2003.

# FACTORS CAUSING PATIENTS FROM PATIENTS WITH RISK OF VIOLENCE BEHAVIOR IN MENTAL HOSPITALS IN PEKANBARU

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## ABSTRACT

*The risk of violent behavior is the possibility of someone taking action that could hurt other people and the environment due to the inability to control angry constructively (CMHN, 2006). According to Riyadi and Purwanto (2009) the factors that contribute to violent behavior is Recurrence Risk biological factors, psychological factors, and socio-cultural factors. The research goal is to reveal the cause of the patient's risk of recurrence of violent behavior in Kuantan Mental Hospital Room Tampan. Types of research is a quantitative with descriptive design. The population in this study were all patients the risk of violent behavior 48 patients, the number of samples in this study were 30 people, this study using univariate analysis, which is done at each study variable, calculate the percentage of results of research to find out the results of the study. Results of research 19 respondents (63.1%) based on biological factors, 17 respondents (56.7%) based on psychological factors, 16 respondents (53.3%) based on the socio-cultural factors. Based on the results of research conducted by the researchers, it can be concluded who experienced the majority of the risk of violent behavior due to biological factors. From this research, it can be used as a comparison of the incidence of risk of violent behavior in the coming years and also as a benchmark in reducing the incidence of risk of violent behavior.*

**Keywords :** *Violence Risk Behavior, Biological, Psychological and Socio-Cultural Factors*

## 1. INTRODUCTION

The risk of violent behavior is the possibility of someone taking action that can injure others and the environment due to the inability to control anger constructively (CMHN, 2006). The risk of violent or aggressive behavior is behavior that accompanies anger and is an impetus to act in a destructive and controlled manner (Yosep, 2007).

Generally, patients with mental disorders are taken by their families to a mental hospital or other mental health service unit because the family is unable to care for them and is disturbed by the patient's behavior. Some of the symptoms commonly felt by families are the reasons why patients are taken to the Mental Hospital, namely low self-esteem, withdrawal, hallucinations, delusions, and violent behavior. Anger is a client's reaction that often occurs, it is not uncommon for nurses to respond less to this reaction, because they think it is not a problem. Knowing the range and process of anger occurring, the nurse will be able to direct

the client to overcome his anger constructively (Kelliat, 2009). The factors that cause mental disorders are generally biological factors and external factors (Aimanullah, 2009).

Data obtained from the medical records of Tampan Mental Hospital Pekanbaru for the last 3 months of 2012 in the Kuantan room, there were 90 patients. With a percentage of 53.3% of patients at risk of violent behavior, 18.8% of patients with hallucinations, 10% of patients withdrawing, 6.7% of patients with low self-esteem, 10% of delusional patients and 1.2% of patients with logore (talk a lot) with length of treatment averaged 3 weeks to 4 weeks. Based on the data above, the researcher is interested in researching the factors that cause patient recurrence at risk of violent behavior at the Tampan Mental Hospital, Riau Province. The purpose of this study was to describe the factors that cause recurrence of violent behavior at Tampan Riau Mental Hospital.

## 2. METHODS

This type of research used in this research is quantitative with the research design is a descriptive design. The population in this study were all patients at risk of violent behavior in the Kuantan Room, Tampan Mental Hospital, Riau Province, totaling 48 patients and a sample of 30 patients. Researchers used accidental sampling.

## 3. RESULT

General data			
No	Biological	Frequency	Percentage
1	Yes	19	63,3
2	No	11	36,7
	<b>Total</b>	<b>30</b>	<b>100</b>

Table 1 Frequency Distribution Of The Description Of The Factors That Cause Patient Recurrence At Risk Of Violent Behavior Based On Biological Factors In The Kuantan Room Of The Tampan Mental Hospital, Riau Province

Based on table 1, it can be concluded that of the 30 patients with a risk of violent behavior, the majority of 19 people (63.3%) had factors causing patient recurrence based on biological factors.

No	Psychological	Frequency	Percentage
1	Yes	17	56,7
2	No	13	33,3
	<b>Total</b>	<b>30</b>	<b>100</b>

Table 2 Frequency Distribution Of The Description Of The Factors That Cause Patient Recurrence At Risk Of Violent Behavior Based On Psychological Factors In The Kuantan Room Of The Tampan Mental Hospital, Riau Province

Based on table 2, it can be concluded that of the 30 patients with a risk of violent behavior, the majority of 17 people (56.7%) had factors causing patient recurrence based on psychological factors

No	Sociocultural	Frequency	Percentage
1	Yes	16	53,3
2	No	14	46,7
	<b>Total</b>	<b>30</b>	<b>100</b>

Table 3 Frequency Distribution Of The Description Of The Factors That Cause Patient Recurrence At Risk Of Violent Behavior Based On Sociocultural Factors In The Kuantan Room Of The Tampan Mental Hospital, Riau Province

Based on table 1, it can be concluded that of the 30 patients with a risk of violent behavior, the majority of 16 people (53.3%) had factors causing patient recurrence based on socio-cultural factors.

#### 4. DISCUSSION

The results of the research conducted in the Kuantan Room at the Tampan Mental Hospital showed that of the 30 clients with a risk of violent behavior, the majority were 19 people (63.3%) and the clients were at risk of violent behavior based on biological factors and a

minority 16 people (36.7%) were not biological. According to the researchers' assumptions, biological factors are very influential with the risk of violent behavior based on basic human needs, namely the need for social relations and self-actualization. Where someone really needs social relationships to get their life goals. This is in line with Riyadi and Purwanto's (2009) theory that the factors that support the occurrence of risk of violent behavior recurrence are biological factors, namely safety and security needs, love and belonging needs, need for value and self-esteem, and self-actualization.

The results of research conducted in the Kuantan Room at the Tampan Mental Hospital showed that of the 30 clients who experienced the risk of violent behavior in the Kuantan room the majority of 17 people (56.7%) with psychological factors and a minority of 13 people (33.3%) not based on psychological factors. According to the assumption of researchers that someone acting according to behavior is a need, namely a basic human need, if these needs cannot be met through constructive behavior, the individual will fulfill their needs through destructive behavior. This is in line with Riyadi and Purwanto's (2009) theory. According to this theory, violent behavior occurs as a result of accumulated frustration that occurs when an individual's desire to achieve something fails or is hampered. This situation can encourage individuals to behave aggressively.

The results of research conducted in the Kuantan Room at the Tampan Mental Hospital showed that out of 30 clients with a risk of violent behavior, the majority of 16 people (53.3%) were based on psychosocial factors and 14 people (46.7%) were not based on psychosocial factors. According to the assumptions of researchers, violent behavior can be studied directly or through the socialization process. This is in line with the theory of Riyadi and Purwanto (2009) that the factors that support the occurrence of recurrence. The risk of violent behavior is environmental theory, the social environment will affect the individual's attitude in expressing anger. A culture of closed and retaliating silently (passive aggressive) and uncertain social control over violent behavior will create as if violent behavior is accepted.

## **5. CONCLUSION**

Based on research that has been conducted in the Kuantan Room of the Tampan Mental Hospital, Riau Province, it can be concluded that the risk of violent behavior is mostly caused by biological factors, then psychological factors and the least risk of violent behavior is

caused by socio-cultural factors.

From this research, it can be used as a comparison of the incidence of risk of violent behavior in the coming years and also as a benchmark in reducing the incidence of risk of violent behavior.

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# KNOWLEDGE OF ELIGIBLE WOMAN ABOUT NUTRITION SERVICES FOR VULNERABLE GROUP IN THE COVID-19 PANDEMIC PERIOD

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## ABSTRAK

*The Indonesian government in an effort to prevent the spread of Covid-19 has limited health service activities, namely limiting nutrition services for vulnerable groups. The Covid-19 pandemic requires eligible woman to understand nutrition services for themselves and their families. This research describes the knowledge of eligible woman about nutrition services for vulnerable groups (babies and toddlers, teenage girl, pregnant women and breastfeeding mothers) during the Covid-19 pandemic. This type of research is quantitative with a descriptive design. This research was conducted from December 2020 to January 2021 at RW-05 Reksosari, Suruh, Semarang. The sample used was eligible woman with a total sample of 92 people who were taken using a proportional random sample technique. The measuring instrument used was a questionnaire that was made by the researcher. The results showed that the lowest average value of knowledge of eligible woman about nutrition services was the sub-variable of nutrition services for pregnant women. Then followed by the sub-variable nutrition services for children under five and the sub-variable principle for prevention of transmission in nutrition counseling and education services. The biggest average is the sub-variable nutrition service for teenage girl. The conclusion shows that the knowledge level of eligible woman is sufficient.*

**Keywords:** Covid-19 Pandemic, Nutrition Services, Vulnerable Groups, Eligible Woman

## 1. INTRODUCTION

Coronavirus-19 (Covid-19) is an infectious disease caused by a new type of virus. First appearing since December 2019, this virus was detected during an outbreak in Wuhan, China. Coronavirus disease 19 (Covid-19) has been declared a pandemic by the World Health Organization (WHO, 2020). As of November 5, 2020, there were a total of 47,930,397 cases worldwide and 1,221,781 deaths (WHO, 2020). Covid-19 caused at least 14,348 deaths in Indonesia (Satgas Covid-19, 2020). The spread of this virus has hit all provinces in Indonesia so quickly. The President of the Republic of Indonesia declared a state of emergency on March 17, 2020 to prevent the spread of Covid-19 (Kemenkes, 2020).

The government, in preventing the spread of Covid-19, limits health service activities through Article c (1) Government Regulation Number 21 of 2020. Although limiting, it still pays attention to meeting the basic needs of the population, including health needs, food needs and other needs. Through Presidential Regulation Number 11 of 2020 and Government



Regulation Number 21 of 2020 concerning Large Social Restrictions to establish a public health emergency to accelerate the handling of Covid-19.

The Indonesian government is currently working to reduce the number of people who are malnourished and wasting. All health workers provide nutritional services. Activities carried out inside and outside the building include promotion, prevention, treatment and rehabilitation services, and interventions for the target population 1000 days after birth, pregnant women, breastfeeding mothers, infants aged 0-23 months, toddlers and teenage girls (RPJMN, 2019) .

Care groups who are prone to nutritional problems are the target of community nutrition services. The purpose of providing nutrition services to vulnerable groups is to improve the nutritional quality of individuals and communities in vulnerable groups, namely babies and toddlers, teenage girl, pregnant women and breastfeeding mothers (Kemenkes, 2020).

Number of positive cases of Covid-19 on November 9, 2020 in Suruh District was 4 people, the number of confirmed deaths was 1 person, and in Reksosari Village there were 2 people in suspected status (Dinkes Kabupaten Semarang, 2020). From the start of the Covid-19 pandemic until now, the initial findings found in 5th hamlet Reksosari Village were that many peoples had traveled outside the area, so there was a risk of contact transmission. The residents of 5th hamlet are 1,112 eligible woman.

Eligible woman tend to need special health services, one of which is nutritional services provided during the Covid-19 pandemic. According to interviews with Reksosari village midwives, both village midwives and health workers have provided socialization about nutrition services through online media. Some people pay attention, while some don't pay attention, so there are those who understand and some don't. Whereas knowledge about nutrition services is important for the community, especially eligible woman / parents of toddlers. Based on the phenomena that have been described, the authors are interested in conducting research on knowledge about nutrition services for vulnerable groups during the Covid-19 pandemic in eligible woman.

The general objective of this study was to describe the level of knowledge about nutrition services for vulnerable groups (infants and toddlers, teenage girl, and pregnant women)

during the Covid-19 pandemic in eligible woman. The specific objectives are: 1) Describe the characteristics of eligible woman which include 4 components, namely age, latest education, occupation and status of migrants. 2) Knowing the description of the level of knowledge of eligible woman about nutrition services during the Covid-19 pandemic, which includes: the level of knowledge about nutrition services for pregnant women, nutrition for toddler, nutrition for teenage girl, and the principle of prevention of transmission. 3) Knowing the description of the level of knowledge based on the characteristics of eligible woman.

## 2. METHODS

This type of research is quantitative with a descriptive design, and uses a cross-sectional approach. This research was conducted from November 2020 to January 2021 in 5th hamlet, Reksosari Village, Suruh District, Semarang Regency, Indonesia. The number of samples in this study was calculated using the Slovin formula in order to obtain a total sample size of 92 respondents. The sampling technique used was proportional stratified random sampling.

This study used a single variable, namely the variable of knowledge about nutrition services for pregnant women, nutrition for children under five, and nutrition for teenage girl in eligible woman and the principle of prevention of transmission. The measuring instrument used in data collection was a questionnaire that was made by the researcher.

## 3. RESULTS

### 3.1 Respondent Characteristics

**Table 1. Age distribution of respondents**

Characteristics	Mean Median	SD	Min- Max	95% CI
Age	26,75 26,5	4,998	20-35	25,71- 27,79

Based on the results of Table 1 analysis, it was found that the average age of the respondents was 26.75 years (95% CI: 25.71-27.79), the median was 26.5 years with a standard deviation

of 4.998 years. The youngest is 20 years old and the oldest is 35 years old. Based on the results of interval estimation, it can be concluded that 95% of the respondents believe that the mean age of the respondents is between 25.71-27.79 years.

**Table 2. Distribution of respondents according to education, occupation, and status of migrants**

No.	Characteristics	amount	Percentage (%)
1.	Last education		
	Elementary school	17	18,5
	Junior high school	28	30,4
	Senior high school	45	48,9
	College	2	2,2
2.	Job status		
	Work	44	47,8
	Unemployed	48	52,2
3.	Newcomer status		
	Comer	26	28,3
	Not a comer	66	71,7

Based on the results of the analysis of Table 2. the distribution of the education level of the respondents, most of them have senior high school education, namely 45 people (48.9%). the minimum number is tertiary education, namely 2 people (2.2%). Meanwhile, for elementary school and junior high school education, respectively 17 people (18.5%) and 28 people (30.4%). The distribution of respondents based on the largest occupation was unemployed with 48 people (52.2%), while the least occupation was working with 44 people (47.8%). The distribution of respondents based on the status of newcomers found that not a comer respondents were the largest respondents with 66 people (71.7%), while comer respondents were 26 people (28.3%).

3.2 Description of the level of respondent's knowledge about nutrition services for vulnerable groups

The results of the analysis of Graphs 1. can be seen from a scale of 0-100, the lowest average score is the sub variable knowledge about nutrition services for pregnant women with a mean value of 59.42. Then followed by the sub variable knowledge about nutrition services for children under five with a mean value of 70.38. The sub variable knowledge about the principle of prevention of transmission in nutrition counseling and education services with a mean value of 71.43 and the largest score obtained by the sub variable knowledge about

nutrition services for teenage girls with a mean value of 80.07. This shows that the respondents' knowledge about nutrition services for vulnerable groups is classified as sufficient.

**Table 3. Distribution of respondents based on the level of knowledge of respondents about nutrition services for vulnerable groups**

No.	Knowledge level	Frequency	Percentage
1.	Good	25	27,2
2.	Enough	50	54,3
3.	Less	17	18,5
	Total	92	100

Based on Table 3. respondents in this study at most had a sufficient level of knowledge as many as 50 people (54.3%). Respondents with a good level of knowledge were 25 people (27.2%), while at least 17 people had a low level of knowledge (18.5%).

### 3.3 Description of the respondent's level of knowledge based on the characteristics of the respondent

**Table 4. Knowledge based on age, education, occupation, and migrant status of respondents**

	Category	knowledge of respondents about nutrition services for vulnerable groups						Total	
		Good		Enough		Less		N	%
		N	%	N	%	N	%		
Age	20-29	20	31,25	34	53,13	10	15,63	64	100
	30-35	5	17,86	16	57,14	7	25,00	28	100
Last education	Elementary school	3	17,65	11	64,71	3	17,65	17	100
	Junior school high	5	17,86	15	53,57	8	28,57	28	100
	Senior school high	15	33,33	24	53,33	6	13,33	45	100
	College	2	100	0	0	0	0	2	100
Job status	Work	12	27,27	24	54,55	8	18,18	44	100
	Unemployed	13	27,08	26	54,17	9	18,75	48	100
Newcomer status	Comer	8	30,77	14	53,85	4	15,38	26	100
	Not a comer	17	25,76	36	54,55	13	19,7	66	100
	Total	25	27,17	50	54,35	17	18,48	92	100

Based on table 4, it is found that respondents in the 20-29 age group at most have sufficient knowledge, namely as many as 34 people or 53.13%. Meanwhile, respondents in the 30-35 year age group also had sufficient knowledge, namely 16 people or 57.146%. Based on the primary education group, most of them had sufficient knowledge with 11 people or 64.71%. Respondents with the most junior high school education group also had sufficient knowledge with a total of 15 people or 53.57%. The high school education group has sufficient knowledge with a total of 24 people or 53.33 %%. Respondents with the tertiary education group have a good knowledge of 2 people or 100%.

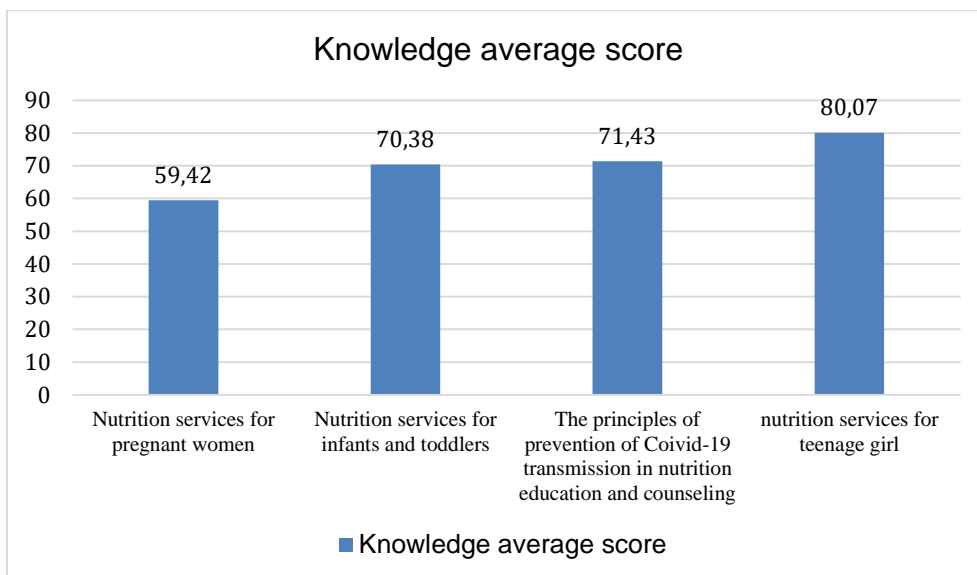
The results of the knowledge analysis based on work status indicated that the working group had at most sufficient knowledge, with 24 people or the equivalent of 54.55%. Meanwhile, the group who did not work at most had sufficient knowledge with a total of 26 people or equivalent to 54.17%. Based on the status of newcomers, it was found that the most immigrant respondents had sufficient knowledge, namely 14 people or 53.85%. Meanwhile, respondents who were not migrants had the most sufficient knowledge, namely 36 people or 54.55%.

## **4. DISCUSSION**

### **4.1 Respondent Characteristics**

Based on the analysis, the lowest respondent's age was 20 years old, while the highest age was 35 years. The order of the number of respondents according to the level of education from the most in the group of respondents with senior high school, junior high school, elementary school education, and the least is college. The highest number of respondents according to work status was not working while the least was the working group. The highest number of respondents based on immigrant status were non-migrants, while the smallest were migrants.

### **Graphs 1. Mean value of respondents' knowledge of the nutrition services of vulnerable groups**



#### 4.2 Description of the level of respondent's knowledge about nutrition services for vulnerable groups

Most of the respondents' knowledge was with sufficient knowledge, while those with the least level of knowledge were lacking. The level of knowledge about nutrition services for vulnerable groups is important to be assessed. Because things that are not understood by respondents can be learned.

The score of knowledge about teenage girl nutrition services was the highest because according to the analysis of early adulthood who had just passed adolescence. Based on public health center data, there are no young girls with malnutrition, and according to information from the village midwife, the school (elementary school, junior high school and senior high school) participates in monitoring the nutritional status of teenage girl. Activities carried out at school include counseling on nutrition, distributing blood-supplemented tablets and measuring body height and weight regularly. This is in accordance with research conducted by Fujiyanti (2019) which shows that health education can increase the knowledge of teenage girl about anemia and buying tablet blood. The provision of blood booster tablets is very important to prevent and control anemia in teenage girl girls.

The score of knowledge about the principles of preventing Covid-19 transmission in nutrition counseling and education services is the second highest. This is due to the incessant information about the principles of preventing Covid-19 from various media and supported by

government policies related to overcoming the Covid-19 outbreak. This is in line with the recommendation of the Kemenkes (2020) to use information technology or other media as needed during a pandemic. Health service facilities during the Covid-19 pandemic played a role in preventing the spread and minimizing community visits for non-emergency or emergency events.

The score of knowledge about toddler nutrition services is quite sufficient, because the information from the village midwife that the delivery of information about toddler nutrition services to the parents of toddlers is currently still lacking, because during the Covid-19 pandemic, the delivery of information about toddler health was more online than offline. Thus, the delivery of messages on toddler nutrition services to parents of toddlers is still not optimal. This is in line with research by Lybaws (2020) which shows that in a pandemic like now, MT programs for young children are still being implemented, but on a limited basis, namely through home visits or visits to medical institutions (agreement between health workers and mothers with malnourished toddlers). between mothers and young children. According to Lybaws (2020), the weakness of the plan is the ineffectiveness of malnourished mothers online, because not all mothers are aware of social media, such as in certain rural areas. Based on research conducted by Fatmawati (2020), structured WhatsApp lectures increase maternal knowledge of toddlers against stunting prevention in toddlers.

The score of knowledge about nutrition services for pregnant women is the lowest because the delivery of information about nutrition services for pregnant women is currently lacking, because during the Covid-19 pandemic, there was more information delivery online than offline. Amelia's research results (2019) show that health services influence the decision of pregnant women to achieve nutrition. Research by Dafiu (2017) shows that there is a relationship between knowledge of pregnancy nutrition and the incidence of chronic energy deficiency in pregnant women. This is because the knowledge of maternal nutrition during pregnancy is one of the factors that causes mothers to experience chronic energy deficiency. The nutritional needs of pregnant women are not only for themselves, but also for the fetus they are carrying. Another study conducted by Retni (2016) explains that pregnant at a young age experiences less weight gain during pregnancy, chronic lack of energy and low intake of energy, protein, folic acid and iron at risk of giving birth to Low birth weight babies.

Knowledge is the reason someone uses health services. This is revealed by Suwarjana's (2016) research which shows that a person's knowledge of something affects his personal behavior. The higher a person's knowledge, the higher his awareness of participating in an activity. Respondents' knowledge is one of the factors that encourage behavior change, especially in the utilization of health services. The findings of Singal (2018) show that knowledge is related to the use of health services.

This is supported by research by Masturoh (2016) which states that eligible woman with good knowledge are proven to take advantage of health services. Conversely, if eligible woman have poor knowledge, their participation in health services will decrease.

#### 4.3 Description of the respondent's level of knowledge based on the characteristics of the respondent

The order of good knowledge scores was based on the age group from the highest, namely the 20-29 year group. Meanwhile, the lowest knowledge score is the 30-35 year age group. This is because the ages of 20-29 are generation Y and Z where this generation has more access to information. This is not in line with Harianti (2016) research which shows that relatively young people have less experience and low knowledge due to age. Likewise, on the other hand, the older a person is, the more experienced and influencing his understanding of certain things will be.

The order of good knowledge scores based on education from the highest is college, high school, junior high school and the lowest is elementary school. This is in line with research conducted by Hartati (2019) which shows that science and education are closely related, and it is hoped that people with higher education will have broader knowledge. However, this does not mean that those with low education are necessarily lowly educated. In formal education it is not absolutely necessary to obtain an increase in knowledge, but absolute knowledge can also be obtained in non-formal education. In addition, this study is in line with the research of Utami *et al.* (2020) show that higher education brings a good level of knowledge.

Research respondents based on occupation groups in this study indicated that the working group had the most good knowledge, while the non-working group had the least knowledge. According to research by Triguno, et al. (2020) found that there was no relationship between



employment status and prevention of Covid-19. In addition, Sihombing (2016) added that working mothers are more meaningful in life than mothers who do not have jobs or housewives.

The category of good knowledge score based on newcomer status was mostly migrants, while the lowest score was non-migrants. Currently there are a lot of health information based online, which makes it easier for newcomers to find information. This is in line with research conducted by Aprianti (2016) which shows that the existence of the internet makes it easier to access information anytime and anywhere, so that it can overcome space and time limitations when disseminating information.

## **5. CONCLUSION**

Eligible woman in RW 05 Reksosari Suruh Semarang Regency have the most characteristics, namely the ages are mostly in the range of 20-29 years. Based on the level of education, the majority are high school graduates. In the occupational status group, the group mostly did not work. Most women of reproductive age based on immigrant status were non-migrants.

Most of the eligible woman in RW 05 Reksosari Suruh Semarang Regency have a sufficient level of knowledge. The variable level of knowledge that is in the category of good knowledge is sorted from the highest value, namely knowledge about nutrition services for teenage girls, the principle of prevention of Covid-19 transmission in nutrition counseling and education services, nutrition services for children under five, and the lowest is nutrition services for pregnant women. Eligible woman RW 05 Reksosari Suruh Semarang Regency have a sufficient level of knowledge based on the characteristics, namely age 20-29 years, last university education, working group, and not migrants.

## **5. SUGGESTION**

The results of this study can be used as the basis for a health promotion strategy regarding nutrition services for vulnerable groups during the Covid-19 pandemic, where health workers can explain about taking additional food by pregnant women from village midwives or nutrition workers, the importance of keeping a daily record of additional food consumption at pregnant women, where to give vitamin A capsules to toddlers, priorities for monitoring toddler growth, and when health care facilities can make home visits during the Covid-19 pandemic.

Further researchers are expected to conduct more in-depth research on the factors that affect the level of knowledge of eligible woman about nutrition services for vulnerable groups during the Covid-19 pandemic. Future researchers are also expected to be able to assess the knowledge of eligible woman and analyze each item of the questions that exist. Eligible woman are expected to pay more attention to health information, especially about nutrition services for vulnerable groups during the Covid-19 pandemic.

## 6. ACKNOWLEDGEMENT

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# ANALYSIS OF QUALITY CONTROL COMPUTERIZED TOMOGRAPHY SCAN (CT SCAN) RESULTS IN INDONESIA BASED ON NATIONAL AND INTERNATIONAL STANDARDS

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## ABSTRACT

*The purpose of this study is to assess the results of the implementation of Quality Control Computerized Tomography Scan (CT Scan) in Indonesia based on national and international standards. The method used is a literature study of quality control CT scan research results from 2012 to 2020 with various types of CT scans in Indonesia. The data obtained from the literature study carried out an in-depth analysis of compliance with national and international standards. The results of the analysis show that the standard implementation of QC CT Scan in Indonesia has a more complex parameter test than the ACR and IAEA standards. Based on the 2018 Bapeten Standard (RS3), the QC CT1 Implementation Rate is above 50%. Whereas in the ACR standard (RS1) there are 2 types of CT that are above 50% and in the IAEA standard (RS3) there are 7 CTs that are above 50%. The result of the parameter test based on RS3 standard, CT1 passed the test, CT2 there were 4 parameters that did not pass the test, namely PT2, PT5, PT14 and PT17. CT3 to CT 8 and CT 10 the QC results passed the test, while CT9 parameter PT9 did not pass the test. However, for CT2 to CT10, many QC parameters were not implemented. Based on the data analysis above, it can be concluded that the level of QC implementation based on national and international standards are very low.*

**Keywords:** *quality control CT scan, CT implementation rate, standard*

## 1. INTRODUCTION

Computerized Tomography Scan (CT Scan) is a tomography imaging technique with a digital process that doctors use in diagnosing a patient's disease. For this reason, the CT Scan tool used must be reliable and reliable in order to produce the right diagnosis in detecting the patient's disease. In addition, the administration of X-ray radiation doses when diagnosing must be in accordance with the dose acceptance standards for the patient's body.

In the medical world, CT scans are included in the radiological equipment group. Dick (2021) states that there is a very large diversity of radiology equipment quality assurance in its implementation. He also explained that based on the American College Radiology (ACR)

standard, the frequently reported Quality Control (QC) parameters were image quality (91.7%) and radiation dose (75%). Factors affecting quality assurance based on International Atomic Energy Agency (IAEA) standards in Izewska (2018) are; dosimetry; quality control; radiation protection; human resources, In Delas Lara (2017) radiation output, image quality, noise, spatial resolution, dosimeters, low contrast resolution, geometric precision, and voxel density values. The quality assurance standards of CT in Iran apply the Parsi-based dose survey method (2018) with CTDIvol 750, 650 and 300 mGy.cm, Sohrabi (2018).

The quality assurance of CT Scan tools in Indonesia is known as the CT Scan Conformity Test. A suitability test is a series of testing activities to ensure the X-ray aircraft is in reliable condition. In the international standard the Conformity Test is also known as the Quality Control Process of the CT Scan Tool. Quality Control CT scans are performed on a daily, weekly, monthly and yearly basis. The implementation of the CT scan quality control tool is carried out by equipment technicians, medical physicists and radiographers. Each of them has a different main task and function in ensuring the reliability of the CT Scan tool.

The implementation of the quality control process of the CT Scan tool in Indonesia refers to the Republic of Indonesia's Nuclear Energy Supervisory Agency (BAPETEN) Regulation Number 2 of 2018 concerning the Conformity Test for Diagnostic and Interventional Radiology X-Ray Aircraft. This regulation is the result of a revision of the 2011 regulation. Currently the Bapeten is drafting the latest regulations regarding the X-ray Aircraft Conformity Test with the issuance of a draft regulation regarding the 2020 Diagnostic and Interventional Radiology X-ray conformance test. Quality control for CT Scan tools is the book of the American College of Radiology (ACR) 2017 and the International Atomic Energy Agency (IAEA) Human Health Series No. 19.

According to BAPETEN No.2 of 2018, the guarantee parameters on this CT Scan tool include the suitability test for the generator and X-ray tube, the estimated skin surface dose, image quality, table position indicators and laser markers. The suitability test of CT scan tools has been carried out on various types and brands of CT scans used in Indonesia, but no one has yet assessed the overall results of the implementation of quality control for CT scan tools that are in accordance with national and international standards. Thus this study aims to assess the level of conformity of the results of the implementation of quality control (QC) of various types of CT Scan tools in Indonesia based on national and international standards. It is

expected that the results of this study can be used as a reference in the future in assessing the level of compliance with the quality assurance (QA) of CT Scan tools by various parties.

## 2. MATERIALS AND METHODS

The equipment used in this study were 11 types of CT Scan, namely Optima CT520, Philips Brilliance 6, Philips, Siemens 8402062, Toshiba CT Scan type Aquilion 128 Slice, Toshiba activation type 16 slice, Hitachi type eclos 16 slice, Siemens type somatom emotion 16 slice. 128 Slice CT Revolution EVO, CT scan of Toshiba Auklet TSX-003A. The reference standards used in analyzing the results of the CT Scan conformity test consist of 2 types, namely the national regulations of Bapeten Regulation Number 2 of 2018 and international regulations consisting of the 2017 ACR standard and the IAEA Series No. 19.

The research method used was a literature study, by collecting various conformity test results from 10 CT scan brands in Indonesia. The results of the quality control analysis were carried out on the conformity test values based on national and international standards. To facilitate analysis, each type of CT scan is given a symbol as in table 1.

Table 1. Types of CT Scan

Author	Symbol	Type of CT Scan
Rizka Novita Suryani, 2018	CT1	Optima CT520
Ivonne Chirsnia 2013	CT2	Philips Brilliance 6
Khairunnisak 2017	CT3	Philips CT Scan 64 Slice
Hasnani & Syamsidar 2017	CT4	Siemens 8402062
Hambali,A.P, 2017	CT5	CT Scan Toshiba tipe Aquilion 128 Slice,
Hambali,A.P, 2017	CT6	Toshiba tipe activision 16 slice
Hambali,A.P, 2017	CT7	Hitachi tipe eclos 16 slice
Hambali,A.P, 2017	CT8	Siemens tipe somatom emotion 16 slice
Linda permana komala sari, 2017	CT9	128 Slice CT Revolution EVO,
Muhammad Ilyas, 2017	CT10	CT scan Toshiba Auklet TSX-003A

### 3. RESULT

The quality control parameters analyzed include the suitability test for generators and X-ray tubes, skin surface dose estimates, image quality, table position indicators and laser markers. Table 2 is the standard reference for Bapeten Regulation No.2 of 2018, ACR 2017 and IAEA Series 19. Based on Bapeten Standards (2018) there are 17 Test Parameters (PU) to be analyzed. Whereas in the ACR standard (2017) there are 6 parameters and 3 parameters for the IAEA standard. To facilitate the mention of the ACR standard, abbreviated as SA1, IAEA with SA2 and BAPETEN with SA3.

Table 2. Standard References

No	Parameters TEST (PT)	Reference		
		ACR 2017 (RS1)	IAEA seri 19 (RS2)	BAPETEN 2018 (RS3)
1	Reproducibility, coefficient of variance (CV) of radiation output	-	-	≤ 0,05
2	linearity, Coefficient of Linearity (CL) Radiation output	-	-	≤ 0,1
3	CTDI 100 air 120 kVp	-	-	≤ 45 mGy/100 mAs
4	X-ray beam quality (HVL) 120 kVp	-	-	3,8 mmAl
5	CT dose index (CTDI) w and (CTDI) v for head (mGy)% deviation CTDI	35 mGy	20%	<20%
6	CT dose index (CTDI) w and (CTDI) v for body (mGy)	-	-	<20%
7	ROI (region of interest) mean centered (CT number air)	± 5 - ± 7 HU	0±5 HU	
8	Uniformity of center and edge, ΔCT: maximum value of difference in average ROI at the center with average ROI around the edges.	± 5 - ± 7 HU	± 10 HU	
9	Uniformity of noise, ΔSD: the difference in standard deviation (SD) Maximum ROI with SD Minimum ROI at 120 kVp, 300 mAs, and slice thickness 8 mm	-	-	ΔSD ≤ 2 CT
10	CT-Number linearity with the object's electron density	-	-	R ≥ 0,99
11	High contrast resolution MTF cut off, at 512 reconstruction matrix	-	-	≥ 1,0/mm



12	High contrast resolution spatial (Res. Spatial), on reconstruction matrix 512, adult	6 lp/cm	-	$\geq 5$ lp/cm
13	High contrast resolution of hole diameters, on 512 reconstruction matrix	-	-	$\leq 0,5$ /mm
14	Suitability of slice thickness with all slice settings, both axial and helical scanners	-	-	$\Delta$ slice $\leq 0,5$ mm
15	Match table position with indicator	-	-	$\Delta z \leq 0,5$ mm
16	Reproducibility of table positions	2 mm	-	$\text{Varz} \leq 1$ mm
17	Matches of the laser marking center to the slice center	$\pm 0,15$	-	$\Delta$ laser $\leq$ tebal slice minimum

Table 3. Analysis results from quality control CT scan

PT	RS1	RS2	RS3	CT1	CT2	CT3	CT 4	CT5	CT6	CT7	CT8	CT9	CT10
PT1	-	-	$\leq 0,05$	-	-	-	-	-	-	-	-	-	-
PT2	-	-	$\leq 0,1$	0,000251	0,72041 65	0,01	-	-	-	-	-	-	-
PT3	-	-	$\leq 45$ mGy/10 0 mAs	-	0,01761	15,05 36	-	-	-	-	-	-	-
PT4	-	-	HVL $\geq 3,8$ mmAl	7,46	8,4	-	-	-	-	-	-	-	-
PT5	35 mGy	20%	$<20\%$	17,29 $\pm$ 40 %	54,89	-	-	-	-	-	-	-	-
PT6	-	-	$<20\%$	8,64 $\pm$ 40 %	-	-	-	-	-	-	-	-	-
PT7	$\pm 5 - \pm 7$ HU	$0 \pm 5$ HU	$-4 \leq \text{CT} \leq 4$	-	-	-	-3,8	-2,5 & 1,5	-0,37 & 0,14	1,6 & 1,5	2,2 & 3,2	-5,18	2,12
PT8	$\pm 5 - \pm 7$ HU	$\pm 10$ HU	$\Delta \text{CT} \leq 2$ CT	1,547 CT	-	-	0,3	0,2 & 2,2	-1 & 0,8	0,2 & 0,1	0,2 & 0,1	0,46	-
PT9	-	-	$\Delta \text{SD} \leq 2$ CT	0,27 CT	-	-	-	-	-	-	-	13.62	3,72
PT10	-	-	$R \geq 0,99$	-0,971 CT	-	-	-	-	-	-	-	-	-
PT11	-	-	$\geq 1,0$ /mm	-	-	-	1,58	-	-	-	-	-	-
PT12	6 lp/cm	-	$\geq 5$ lp/cm	7	-	-	6	-	-	-	-	-	-
PT13	-	-	$\leq$	-	-	-	-	-	-	-	-	-	-

			0,5/mm							
<b>PT14</b>	-	-	$\Delta\text{slice} \leq$ 0,5 mm	0,385	1,5 mm	-	0	-	-	-

Table 3 shows the comparison results of quality control from the standard references and the 10 CT scans analyzed. Based on table 1, quality control CT1 was conducted by Rizka (2018), CT2 by Ivonne (2013), CT3 by Khairunnisak (2017), CT4 by Hasnani (2017), CT5 to CT8 by Hambali (2017), CT9 by Linda (2017), CT10 by M. Ilyas (2017). Of the 17 parameters analyzed, parameters 1, 11, 13, 16 were not subject to quality control at 10 CT.

#### 4. DISCUSSION

Implementation of quality control (QC) CT Scan based on Bapeten 2018 consists of generators and x-ray tubes with Test Parameters (PT) 1 to 4, PT Doses 5 and 6, Citra quality PT 7 to 14, PT table position indicators 15 and 16, laser marker PT17. Whereas in the 2017 ACR standard, testing of generators and X-ray tubes was not carried out. It is seen in Table 2. that the implementation of QC in the ACR standard includes test parameters (PT) 5 for dose, 7, 8, 12 for image quality, 16 for table indicators and 17 for laser markers. IAEA standards carry out QC including PT 5 for radiation dose and 7,8 for image quality control. From the above analysis, the implementation of QC CT Scan in Indonesia has a more complex parameter test than the ACR and IAEA standards. Here it shows that Bapeten is more detailed in determining policies in guaranteeing the quality of CT Scan in Indonesia.

The level of QC implementation of 10 types of CT Scan can be seen in Table 4. When compared with the number of parameters set by Bapeten 2018, it shows that the QC CT Scan implementation data obtained from this literature study is still low where only CT1 is above 50%. Whereas in the ACR standard (RS1) there are 2 types of CT that are above 50% while in the IAEA standard there are 7 CTs that are above 50%. The low level of QC implementation will result in a decreasing in the quality assurance (QA) of the CT Scan too

Table 4. QC CT Scan Implementation Rate (%)

RS	CT1	CT2	CT3	CT4	CT5	CT6	CT7	CT8	CT9	CT10
RS1	66,67	33,33	66,67	16,67	33,33	33,33	33,33	33,33	33,33	33,33

<b>RS2</b>	66,67	33,33	0,00	66,67	66,67	66,67	66,67	66,67	66,67	33,33
<b>RS3</b>	64,71	41,18	23,53	29,41	17,65	11,76	11,76	11,76	17,65	23,53

Furthermore, when viewed from the results of the QC parameter test, all types of CT analyzed based on the Bapeten 2018 CT1 standard passed the test, there were 4 CT2 parameters that did not pass the test, namely PT2, PT5, PT14 and PT17. CT3 to CT 8 and CT 10 the QC results passed the test, while CT9 parameter PT9 did not pass the test. However, for CT2 to CT10, many QC parameters were not implemented. So that, in the assessment study of the conformity of QC parameters with national and international standards only CT1 met the criteria for passing the test.

## 6. CONCLUSIONS

Based on the data analysis above, it can be concluded that the level of QC implementation based on national and international standards is still low. As input for the next researcher to carry out QC of all parameters that have been set, at least all the parameters on RS1 and RS2.

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# EXCLUSIVE BREASTFEEDING FAILURE FACTORS DURING PANDEMY TO WORKER MOTHERS IN PUSAT DAMAI VILLAGE, SANGGAU DISTRICT, WEST KALIMANTAN

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## ABSTRACT

*The unsuccessful exclusive breastfeeding must be avoided during a pandemic, because breast-milk can increase immunity for both mother and baby. The Pusat Damai public health center data shows that there is a decrease in the exclusive breastfeeding trend in 5 villages, namely in the Damai Center village by 69.2%, Gunam village by 80.0%, Dosan village by 87.0%, Marita village 87.0%, and Suka Gerundi village 88.9%. This study aims to determine the failure factors of exclusive breastfeeding in working mothers (a study of the Pusat Damai village, Sanggau district, West Kalimantan). This study used a case control design. The population in the study was 94 respondents. The research sample was 46 respondents (23 cases and 23 controls) who were taken by purposive sampling technique, using the chi square test with a confidence level of 95%. The results showed that there was a significant relationship between husband's support and the failure of exclusive breastfeeding to working mothers (p value = 0.003), distance traveled (p-value = 0,000), travel time (p-value = 0,000), availability of place / breastfeeding facilities (p-value = 0.015), family trust (p-value = 0.030), mother's perceptions about formula milk (p-value = 0.002). Therefore, recommendation for health workers in the work area of the Pusat Damai public health center e.i. increasing information through counseling, educating about the importance of exclusive breastfeeding for babies, approaching families / husbands to support mothers in exclusive breastfeeding, advising mothers to provide stocks of breastmilk before mother left for work.*

*Keywords : Unsuccessful exclusive breastfeeding, Worker mother, formula milk*

## 1. INTRODUCTION

Indicators of success in health development can be seen from the increase or decrease in health status. One of the main indicators of the degree of public health is the Infant Mortality Rate (IMR). The Infant Mortality Rate (IMR) in 2017 is still high, namely 24 per 1,000 live births (SDKI, 2017). The Infant Mortality Rate (IMR) is related to several other factors, such as the success rate of the Maternal and Child Health (KIA) program and the achievement of community nutrition improvement, one of which is the provision of exclusive breast milk

According to the 2017 Indonesian Demographic and Health Survey (IDHS), one of the causes of infant mortality in Indonesia is because one in three babies under six months of age does

not receive the benefits of exclusive breastfeeding related to nutrition and protection against disease. The United Nation Children Fund (UNICEF) and the World Health

Organization (WHO) recommend that children are only breastfed (ASI) for at least six months without complementary food and drinks, which are given from birth to 6 months of age. Exclusive breastfeeding is one of the government programs to reduce morbidity and mortality in infants. Although exclusive breastfeeding is the obligation of breastfeeding mothers, there are still many mothers who do not provide breastfeeding exclusively (World Health Organization & Unicef, 2019).

One of the factors that causes mothers not to give breast milk exclusively is a working mother, which hinders the mother from giving breast milk. There are many obstacles experienced by breastfeeding mothers, such as working time, distance from work, support from leaders, husbands and families. On the other hand, most companies or workplaces have not provided a place for breastfeeding or provide a break for nursing mothers to express breast milk or breastfeed the baby. This becomes an obstacle and a hindrance for working mothers in giving exclusive breastfeeding to babies (Abdullah & Ayubi, 2012).

The impact that occurs if a baby is not breastfed is that the baby does not receive immune substances and does not receive high nutritional and quality food, so that the baby is prone to illness which results in stunted growth and intelligence development. 94 times greater than babies who are exclusively breastfed (Kementrian Kesehatan RI, 2018). Globally, infants who are exclusively breastfed are still low. Based on World Health Organization (WHO) data, 41% of babies who get breast milk (ASI) exclusively for 0-6 months (World Health Organization & Unicef, 2019).

The percentage of babies who received exclusive breastfeeding in 2016 in West Kalimantan Province was 62.3%, decreased in 2017 by 48.2%, and experienced an insignificant increase in 2018 as much as 62.83% (Dinkes Provinsi Kalimantan Barat, 2018). Based on Per-Regency data in West Kalimantan, the number of babies who were given exclusive breastfeeding in 2018 was Sambas district (65.9%), Bengkayang (22.7%), Landak (37.8%), Mempawah (60.6%), Sanggau (73.0%), Ketapang (49.2%), Sintang (51.9%), Kapuas Hulu (48.7%), Sekadau (59.1%), Melawi (74.9%), Kayong North (37.5%), Kubu Raya (17.3%), Pontianak (61.5%) and Singkawang (64.8%) (Dinkes Provinsi Kalimantan Barat, 2018).

Based on data from the Sanggau District Health Office, 5 puskesmas work areas have the lowest exclusive breastfeeding coverage in 2018, namely in the work area of the Central Damai puskesmas (65.2%), Sanggau puskesmas (69.0%), Belangin III puskesmas (69.4%), Entikong health centers (69.9%), and Tanjung Sekayam health centers by 70.4%) (Dinkes Kabupaten Sanggau, 2018).

Based on data obtained from the Puskesmas Pusat Damai, it shows that there is a decline in the trend of exclusive breastfeeding, in 2016 the coverage of exclusive breastfeeding was 89.5%, in 2017 it was 83.3%, and in 2018 it continued to decline by 65.2%. The lowest exclusive breastfeeding coverage was found in 5 villages in the working area of the Central Damai Health Center, namely in the Damai Center village at 69.2%, Gunam village at 80.0%, Dosan village at 87.0%, Marita village at 87.0%, and Suka Gerundi village at 88.9%. So it can be concluded that based on the Profile of the Puskesmas Damai Center, the lowest coverage of exclusive breastfeeding is in the Central Damai Village of 69.2%. (Profil Puskesmas Pusat Damai, 2018).

## **2. METHODS**

This research was conducted in the Central Damai Village, the working area of the Central Damai Community Health Center, Parindu District, Sanggau Regency from July to August 2020. This research method used a Case Control design. 12 months who did not provide exclusive breastfeeding or exclusive breastfeeding as many as 94 people. This study uses purposive sampling technique with the results of the sample calculation obtained as many as 23 samples with a comparison of case samples and control samples 1: 1 or 23: 23 so that the total sample in this study was 46 people. Data analysis techniques using Chi square statistical test.

## **3. RESULT**



Tabel 1. Respondents characteristic distribution

characteristic	Pemberian ASI Eksklusif			
	Case		control	
	N	%	n	%
Age				
26-31	11	8	11	47,8
32-40	12	52,2	12	52,2
Total	23	100	23	100
Education				
Senior High School	3,5	17,4	5	13,0
Diploma	13,5	65,2	13,5	52,2
Bachelor/master	6	17,4	6	34,8
Total	23	100	23	100
Occupation				
Private	18,5	82,6	18,5	78,3
Government	4,5	17,4	4,5	21,7
Total	23	100	23	100

Amount of child				
1	5,5	26,1	5,5	21,7
2	14,0	56,5	14,0	65,2
3	3,5	17,4	3,5	13,0
Total	23	100	23	100
Age of child				
6 month	9	56,5	9	21,7
7 month	5	17,4	5	26,1
8 month	3,5	8,7	3,5	21,7
9 month	4	13,0	4	21,7
10 month	1,5	4,3	1,5	8,7
Total	23	100	23	100

Tabel 2. Factors Associated with Failure to Give Exclusive Breastfeeding to Working Mothers

Failure Factors for Exclusive Breastfeeding	Exclusive Breastfeeding					
	case		Control		Total	P Value
	n	%	n	%	N	%

Leadership Support

Does not support	16	69,6	14	60,9	30	65,2	
							0,757
support	7	30,4	9	39,1	16	34,8	
<hr/>							
total	23	100	23	100	46	100	

Husband Support

Does not support	19	82,6	8	34,8	27	58,7	
							0,003
support	4	17,4	15	65,2	19	41,3	
<hr/>							
Total	23	100	23	100	46	100	

Mileage

Far	22	95,7	6	26,1	28	60,9	0,000
Near	1	4,3	17	73,9	18	39,1	
<hr/>							
Total	23	100	23	100	46	100	

Traveling time

Long	22	95,7	4	17,4	26	56,5	0,000
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Fast	1	4,3	19	82,6	20	43,5
<hr/>						
Total	23	100	23	100	46	100
<hr/>						

space availability

Not available	19	82,6	10	43,5	29	63,0	
							0,015
Available	4	17,4	13	56,5	17	37,0	
<hr/>							
Total	23	100	23	100	46	100	
<hr/>							

family trust

Negative	19	82,6	11	47,8	30	65,2	
							0,030
Positive	4	17,4	12	52,2	16	34,8	
<hr/>							
Jumlah	23	100	23	100	46	100	
<hr/>							

Mother's Perception  
About Formula Milk

poorly	21	91,3	10	43,5	31	67,4	
							0,002
Good	2	8,7	13	56,5	15	32,6	
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Total	23	100	23	100	46	100
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Based on table 1, it is found that 52.2% of respondents are in the 32-40 year age group, 52.2% have a D3 education background, 78.3% have private employment status, 65.2% have 2 children, and 26.1% of respondents have children in the 7 month age group. Table 2 also explains that there are 5 variables related to the failure of exclusive breastfeeding to working mothers, namely husband's support with p-value (0.003), distance traveled (0,000), travel time (0,000), availability of place / facilities for breastfeeding at work ( 0.015), family trust (0.030), and mother's perception of formula milk (0.002).

Leadership support in exclusive breastfeeding plays a very important role in the success of working mothers in exclusive breastfeeding, but leadership support does not necessarily encourage mothers to provide exclusive breastfeeding. This is influenced by internal and external factors. Internal factors come from within the mother herself such as intention, commitment, knowledge and attitudes of mothers in exclusive breastfeeding, while external factors come from outside the mother such as support from husband and family, support from leaders, support from colleagues, support from health workers and promotion of milk formula. Good support will give a positive response to mothers in providing exclusive breastfeeding, the better support for mothers in providing exclusive breastfeeding, the higher the success rate of exclusive breastfeeding. Good support is not always able to encourage mothers to provide exclusive breastfeeding, because good support without the intention and commitment of the mother herself in giving exclusive breastfeeding will not encourage mothers to be able to provide exclusive breastfeeding for their babies.

This research is in accordance with what Abdullah did, who stated that there was no significant relationship between leadership support and exclusive breastfeeding (p-value = 0.173) (Abdullah & Ayubi, 2012). This study is not in line with the research conducted by Kristiyanti and Chabibah, showing the results of the analysis with the chi square test obtained a p-value of 0.008 ( $> 0.05$ ), this shows that there is a significant relationship between company support / leadership and the performance of breastfeeding mothers. (Kristiyanti & Chabibah, 2020). Based on the description above, the researcher draws the conclusion that leadership support in exclusive breastfeeding plays an important role in the success of

working mothers in exclusive breastfeeding. Good support will give a positive response to mothers in providing exclusive breastfeeding, the better support for mothers in providing exclusive breastfeeding, the higher the success rate of exclusive breastfeeding.

Researchers found a discrepancy between theory and research results. The results showed that there was no relationship between leadership support and failure to provide exclusive breastfeeding to working mothers. Researchers analyzed that the results of this study were not in line with the theory which explains that good leadership support will give a positive response to mothers in providing exclusive breastfeeding. However, on the contrary, good superiors' support will not necessarily make mothers successful in giving exclusive breastfeeding because there are stronger factors, namely how the mother's commitment or intention is, but the support and policies of agencies that do not support breastfeeding can certainly be a greater number of working mothers who do not succeed. provide breast milk (Septiani et al., 2017).

Husband's support in exclusive breastfeeding will have an impact on increasing self-confidence or motivation of mothers in the success of exclusive breastfeeding. Husband's support in exclusive breastfeeding can be in the form of emotional support by being caring and empathetic in order to convince breastfeeding mothers that they are cared for, motivating mothers to provide exclusive breastfeeding, changing the role of mothers in doing homework, helping mothers in expressing breastmilk, bathing babies, and seeking information through print / electronic media, health workers such as midwives and doctors about the benefits of exclusive breastfeeding (Anggorowati & Nuzulia, 2011).

This research is in accordance with that conducted by Vitasari, namely there is a relationship between husband's support and exclusive breastfeeding at the Umbulharjo I Health Center in Yogyakarta City. (Vitasari, 2017). Likewise, this study agrees with the results of research conducted by Trisnawati, showing that there is a significant relationship between husband's support and exclusive breastfeeding, this is because the higher the support, the more motivated, enthusiastic and confident the mother will be during breastfeeding. (Trisnawati, 2012).

Based on the description above, the researcher draws the conclusion that the support of the husband is very influential on the success of the mother in giving exclusive breastfeeding.

Husband's support will have an impact on increasing mother's confidence in the success of exclusive breastfeeding. As long as the mother is breastfeeding her husband can be empathetic in order to convince the mother that he is cared for. Therefore, the support of husband and family is needed to encourage mothers to continue to provide exclusive breastfeeding to their babies because exclusive breastfeeding is very good for the growth and development of the baby.

Distance is the human ability to organize observations. Workplace distance is the range from home to work place (office or company). Distance is one of the factors why mothers do not give exclusive breastfeeding to their babies because of the long distances so that mothers cannot go home with a short break. (Paramita, 2016). This is consistent with what is stated by Lawrence Green in Notoatmodjo (2005), that physical environmental factors / geographic location affect the behavior of a person / society towards health (Notoatmodjo, 2005).

The results of this study agree with Utari's stating that there is a significant relationship between the distance from the mother's residence to the workplace and the failure of exclusive breastfeeding. (Utari, 2015). This study also agrees with the results of research conducted by Septianingrum et al. The results of the chi square test show a p-value  $<0.05$ , this indicates that there is a relationship between work place distance and exclusive breastfeeding for working mothers. (Setianingrum et al., 2018).

Based on the description above, the researcher draws the conclusion that long distances tend to prevent mothers from giving exclusive breastfeeding to babies. The long distance made the mother unable to go home with a short break. This needs to be a consideration for working mothers to be able to continue to provide exclusive breastfeeding to their babies even though they work by finding other ways such as expressing breast milk before leaving for work so that breast milk is available when the mother goes to work.

Travel time is the time a person has to travel from home to work. (Afrizal et al., 2018). Travel time is the average time a vehicle takes to travel a road segment with a certain length (Anindyawati et al., 2008). Long travel time will have an impact on workers when going to the office for a long time, someone will be late to the office, if someone is late they will be at risk for their work. If a working mother has a baby who is still breastfeeding, the mother will find it difficult to give ASI, because it takes a relatively long time to go home (Violet, 2010).

This study is in accordance with that conducted by Sari et al. On mothers of the working group who have babies aged 6-12 months, that there is a significant relationship between travel time and the failure of exclusive breastfeeding (P value = 0.000) (Sari, et.al., 2015). Based on the description above, the researcher draws the conclusion that a long travel time can affect the mother in giving exclusive breastfeeding. The long time for the mother to go home makes the mother not give exclusive breastfeeding to the baby. Time travel for someone to work can affect in exclusive breastfeeding, someone will find it difficult to be able to go home during recess hours to be able to breastfeed the baby because the time it takes is relatively long. This needs to be a consideration for working mothers to be able to continue to provide exclusive breastfeeding to their babies even though they work by finding other ways such as expressing breast milk before leaving for work so that breast milk is available when the mother goes to work. The availability of lactation facilities is a facility / space provided in the workplace to support exclusive breastfeeding, especially for breastfeeding mothers.

This study is in accordance with that conducted by Saputri and Efriska, namely that there is a significant relationship between the availability of breastfeeding facilities in the workplace and the failure of exclusive breastfeeding. (Saputri & Efriska, 2017). This study also agrees with the results of research conducted by Sutrisno, namely that there is an effect of the availability of a breastfeeding room on exclusive breastfeeding. (Sutrisno, 2015).

Based on the description above, the researcher draws the conclusion that the availability of a place to breastfeed in the workplace is very important in supporting exclusive breastfeeding for working mothers, with a special room in the workplace, it will make it easier for mothers to express breast milk and breastfeed babies.

There is a need for a workplace policy in accordance with government policies on government / non-government offices regarding the provision of breastfeeding facilities at work which have been regulated by the Minister of Health Regulation number 15 of 2013 and Government Regulation number 33 of 2012 in order to protect, support and promote giving Exclusive breastfeeding needs to be made efforts to increase support from the government, local governments, health care facilities and health workers, breastfeeding facilities in public places and workplaces, communities and families so that mothers can provide exclusive breastfeeding for babies.



The beliefs and traditions that exist in the family and society accompany the people's mindset on the actions that will be taken to uncover something. The belief that exists in society is very important in shaping a person's behavior. This happens because people do not know the real facts behind this belief.

Beliefs in family and society often assume that giving other fluids besides breast milk such as honey or sweet water when the baby is born can make the baby stronger, providing complementary food to the baby because only breastfeeding the baby does not feel full. Basically, the digestive system of a newborn is still not strong, so it is feared that the baby will not be able to digest other foods besides breast milk. This belief can easily weaken the implementation of exclusive breastfeeding, which is supposed to breastfeed the baby with breast milk only from birth until the baby is 6 months old.

This research is in accordance with what Setyaningsih and Farapti did, namely the existence of a relationship between belief and tradition in the family and the failure to provide exclusive breastfeeding in RW XI, Sidotopo, Semampir, East Java,  $p\text{-value} = 0.045 < 0.05$ . (Setyaningsih & Farapti, 2018). This study also agrees with that conducted by Anggrani et al, namely that there is a significant relationship between trust and exclusive breastfeeding  $p\text{-value} = 0.000 < 0.05$  (Anggraeni et al., 2014).

Based on the description above, the researcher draws the conclusion that trust in the family and society is very influential in exclusive breastfeeding. Beliefs that have existed for generations in the family and society are difficult to change. This of course becomes an obstacle in exclusive breastfeeding. Therefore, it is necessary to conduct outreach or counseling that involves several parties and across sectors such as health centers, health offices and village officials with the aim of changing family and community perceptions about beliefs and traditions related to exclusive breastfeeding. In addition, there is a need for intervention studies related to information media or approaches and service programs that have been provided related to exclusive breastfeeding.

According to Jalaludin (in Kurniawan et al., 2009) perception is the experience of objects, events or relationships obtained by summarizing information and interpreting messages. The results of this study are in accordance with research conducted by Kurniawan et al, namely the existence of a relationship between maternal perceptions of formula milk and the behavior of giving formula milk to infants aged 0-6 months. (Kurniawan et al., 2014).

This research is also supported by research conducted by Nuraini et al which states that the mother will have 3.67 times the risk of giving non-exclusive breastfeeding to the baby after receiving a sample promotion of formula milk. (Nuraini et al., 2013). Based on the description above, the researcher draws the conclusion that the perception of mothers about formula milk is very influential in exclusive breastfeeding, especially for working mothers. A good mother's perception of formula milk will have an impact on the failure of exclusive breastfeeding, especially to working mothers. There needs to be support from various related parties such as health workers in promoting health education related to the importance of exclusive breastfeeding for babies, support from husbands or families to always motivate mothers to only give breast milk without formula milk, leadership support at the place where mothers work by providing special lactation rooms for mothers can express breastfeeding and breastfeeding, and the attitudes and intentions of the mother herself in exclusive breastfeeding.

#### **4. CONCLUSION**

Factors related to the failure of exclusive breastfeeding to working mothers are husband's support, distance traveled, travel time, availability of places / facilities for breastfeeding at work, trust in the family and mother's perception of formula milk. Meanwhile, leadership support was not statistically significant. Breastfeeding mothers who work should express breast milk or stock up on breastmilk before leaving for work so that when the mother goes to work, the baby is given exclusive breastfeeding. Husbands / families should always support mothers in exclusive breastfeeding by providing information about the benefits of the importance of exclusive breastfeeding for babies. For health workers to improve the performance of the exclusive breastfeeding program by approaching the community, promoting and educating about the importance of exclusive breastfeeding for babies 0-6 months, and not promoting formula milk to breastfeeding mothers. There is a need for education to community leaders such as village heads, hamlet heads, and local customary leaders to coordinate regarding community and family beliefs about exclusive breastfeeding by promoting and educating on the importance of exclusive breastfeeding for breastfeeding mothers and babies. It is hoped that other researchers will conduct a more in-depth study both quantitatively and qualitatively regarding the Failure Factors of Exclusive Breastfeeding in Working Mothers by including other variables which are factors of failure in exclusive breastfeeding.

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# KNOWLEDGE INFLUENCES WOMEN IN RESPONDING THE CLIMACTERIC SYNDROME

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## ABSTRACT

*Menopause is a natural thing that will be experienced for every woman, good knowledge will certainly be able to help self-accept that, the climacteric is one of the normal phases of life that all women will go through. The purpose of this study was to determine the correlation between knowledge and attitudes of women aged 45-60 years in facing climacteric syndrome in Pamengkang village, Kramatwatu sub-district, Serang, Banten, which was conducted in July 2018. This study is a type of quantitative research. The population in this study were all women aged 45-60 years in Pamengkang village, Kramatwatu sub-district, Serang Banten, samples in this study were 71 respondents. Sampling technique was used simple random sampling. This study used a cross-sectional design with bivariate data analysis. Analysis of result was done using chi square. Based on the results showed there was correlation between knowledge and attitudes of women in dealing with climacteric syndrome with a value of  $p = 0.000$  ( $p < 0.05$ ). Good knowledge about menopause will help a women to prepare herself and be positive so that she can self-accept and reduce anxiety. Knowledge is very influential on the attitude of women in facing of the climacteric period.*

*Keywords: Attitudes, climacteric syndrome, knowledge*

## 1. INTRODUCTION

Climacteric is an intermediate period between the reproductive period and the senium period. The period before menopause is called pre-menopause and the period after menopause is called post-menopause. It is difficult to determine the beginning of climacteric, but based on endocrine state (the decreased level of estrogen hormone and the increased level of gonadotropin hormone) and it is usually followed by clinical symptoms, it can be said that the climacteric in began about six years before menopause. Climacteric ends about 6-7 years after menopause. The level of the estrogen hormone will have been low in senium period (Arafat & Widaryati, 2014; Pinem, 2009).

Climacteric is part of pre-menopause, which is before the onset of menopause, when the menstrual cycle tends to be irregular and during that time women may experience climacteric symptoms of hot flushes (redness that feels hot) on the scalp, chest, face and neck. After the menopause phase, it moves to the post-menopause phase which is termed an end point that is not well defined until the symptoms disappear or after the cessation of menstruation (Varney et al., 2008).

The most important sign of middle age in women aged 40 to 60 is menopause. Menopause is characterized by the cessation of menstruation. Before women experience the menopause,

there are several stages that must be passed. They are the pre-menopause, menopause and post-menopause. This period is more accurately called the climacteric period (Llewellyn & Jones, 2006; Pinem, 2009).

In endocrinology term, the climacteric period is marked by a decreasing in estrogen levels and an increasing in gonadotropin secretion (Prawirohardjo, 2014). This deficiency of the hormone estrogen causes a decrease in various de- generative or endocrinology functions of the ovaries which causes anxiety in most women. The complaints at this time are caused by climacteric syndrome. This syndrome is experienced by all people in the world. Recorded in European countries around 70-80%, America around 60%, Malaysia around 57%, China 18% and in Japan and Indonesia around 10% (Boschitsch et al., 2017; Wigati & Kulsum, 2017)

Most of women will through menopause at the age of 49-52 years. According to the results of the population census, the life expectancy of Indonesian women increases to an average of 71 years (Central Statistics Agency, 2016). So, about 20-30 years or a third of the length of her life, a woman is in menopause (Kasdu, 2007). Most of the research results show that the knowledge of mothers about the climacteric period and menopause is still low so that it will increase anxiety and anxiety in mothers during menopause (Ardianti G & Sarita, 2018; Ermawati, 2011; Sipahutar & Nengah, 2016).

Menopause is a natural thing and naturally that will be experienced by every woman. What is felt by menopause women also varies, this is due to the socio-economic conditions, culture , knowledge and acceptance of women . Symptoms that may occur during menopause such as face felt hot and redness, vaginal dryness and mood swings. Most of women, these symptoms are barely visible, while in others, these symptoms can feel heavy and troublesome (Indriani, 2007).

All of these things really depend on the concept of self-acceptance of the woman. Self-acceptance is not easy, therefore the process of self-acceptance of the current condition needs to be based on a deep knowledge of oneself. A person before receiving something usually tries to find out things related to something he wants to receive. After knowing then someone will accept it. The higher or better a woman's knowledge is, she can face the climacteric period she is experiencing with full acceptance (not anxious), so that the climacteric period she experiences is full of happiness. A good knowledge of course for a woman will be able to understand that the climax is one of the normal phases of life that all women will go through. (Arafat & Widaryati, 2014; Ardianti G & Sarita, 2018; Aziza, 2017).

Based on the results of a previous study conducted on 10 women of climacteric age in Pamengkang village, Kramatwatu sub-district, Serang, Banten, it was found that women who had good knowledge tended to be more prepared to face menopause and could accept the changes that occurred. Seeing this phenomenon, it is necessary to explore the extent of knowledge and attitudes of women aged 45-60 years in facing the climacteric syndrome.

## **2. MATERIALS AND METHODS**

This study is an analytic study with a cross sectional approach to determine the correlation between knowledge and attitudes of women aged 45-60 years in facing the climacteric

syndrome. The research was conducted in July 2017 in the village of Pamengkang, Kramatwatu Sub-district, Serang, Banten . The population in this study were all women aged 45–60 years in Pamengkang village, Kramatwatu subdistrict, Serang Banten, total 244 people. The sample in this study was a half of the population that met the inclusion criteria, the sample size was calculated using the Slovin formula as many as 71 people. The sampling technique in this study by simple random sampling.

The data in this study are primary data obtained through interviews using an instrument in the form of a questionnaire to assess knowledge and attitudes about the climacteric of the syndrome. The using of questionnaire is made by the researcher and have tested the validity and reliability of the 25 respondents, each of the questions have value product moment Pearson  $> 0.3$  ( $\geq 0.3$ ) and reliability test values obtained Cronbach's Alpha 0, 835 ( $> 0, 7$ ), so that the instrument is suitable for use . Data analysis in this study was carried out unvaried way using frequency distribution to determine the description of each independent and static variable, while bivariate analysis aims to analyze. Attitude based on knowledge. Bivariate analysis used the chi square test with a significance level of 95%.

#### 4. RESULTS

The results of the study are described in table below;

##### 1. Characteristics

Table 1 Characteristic Frequency Distribution

Variable	Frequency	Persentase
Age		
40-50 year	47	66,2
50-60 year	24	33,8
Pendidikan		
No school	6	8,4
Elementary school-junior high school	46	64,8
Senior high school	19	26,8
Diploma-post graduate	0	0



Occupation		
Housewife	41	57,7
Farm workers	27	38,1
Civil Servant	3	4,2
Private employee	0	0
<hr/>		
Total	71	100

Based on table 1, it can be seen from 71 respondents that most of the respondents were 40-50 years old (66.2%), as many as 46 respondents (64.8%) had low education (elementary school-junior high school), and most of the respondents' jobs were housewives as much as 41 respondents (57.7%).

## 2. Knowledge

Table 2 Distribution of Knowledge Frequency of Mother Age 45-60 years About Climacteric Syndrome

Knowledge	Frequency	Percentage
Good	23	32,4
Poor	48	67,6
<hr/>		
Total	71	100

According to the table 2 can be seen from 71 respondents most respondents had knowledge of the less well on the climacteric syndrome, 48 respondents (67.6%).

## 4. Attitude

Table 3 Distribution of Frequency of Attitude of Mother Age 45-60 years About Climacteric Syndrome

Attitude	Frequency	Percentage
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Positive	25	35,2
Negative	46	64,8
Total	71	100

According to table 3 can be seen from 71 respondents most respondents have a negative attitude about the climacteric syndrome as many as 46 respondents (64,8 %).

#### 4. Knowledge Relationship with Attitude

Table 4 Distribution of Attitude Frequency of Women Age 45-60 years in the face of the Climacteric Syndrome Based on Knowledge

Knowledge	Sikap				Total	P value
	Positive		Negative			
	F	%	f	%		
Good	16	69,6	7	30,4	23	0,000
Poor	9	18,8	39	81,2	48	

Based on table 4, it can be seen from 48 respondents who have poor knowledge of the climacteric of the syndrome, most of the respondents have negative attitudes as many as 39 respondents (81,2%) . Based on the results of the Chi-Square test, the P value was 0,000. When compared with the significant level  $\alpha = 0.05$  the P value (0.000)  $< \alpha$  (0.05), it means that there is a significant relationship between attitudes and knowledge of the mother's climacteric syndrome.

## 5.DISCUSSION

Climacteric is characterized by a decrease in the hormone estrogen and an increase in the hormone gonadotropin which causes a decrease in the function of the reproductive organs (Ermawati, 2011; Hermawati, 2011; Mulyani, 2013). This deficiency of the estrogen hormone

causes a decrease in various degenerative or endocrinology functions of the ovaries which causes anxiety in most women. Complaints during this period are caused by climacteric syndrome (Boschitsch et al., 2017; Wigati & Kulsum, 2017). Based on the results of the study, it is known that from 71 respondents, 66.2% were aged 40-50 years. These results indicate that most of the women in Pamengkang village are in the early climacteric period where several complaints have appeared from climacteric syndrome. Along with the increasing age of a person the ability in his memory also be decreased, and this will lead to difficult late in remembering and receive information that ever obtained before. Information is very important because it is a means to increase one's knowledge (Notoatmodjo, 2010). Most of the 64,8 % education respondents low (elementary school-junior high school), where education is one important factor in improving the knowledge and insight. Education is a process of delivering information material to someone which is useful for achieving changes in behavior or goals (Notoatmodjo, 2012). The higher one's education then it will be easier or receive, select and adapt to all the information and something in gain.

Most of women in the village Pamengkang, Kramatwatu sub-district are housewives 57.7%, so that access to information is not as easy as the working women, someone who works will socialize with many people that allows to more easily obtain information that can increase the knowledge about climacteric syndrome. Economic factors in the family also greatly influence a person's level of knowledge, because the higher or better the socioeconomic status, the availability of facilities or information means will allow a person to get information that can increase his/her knowledge. (Notoatmodjo, 2012). The involvement of women in activities in the village, one of which is a health agents helps a lot in obtaining the information about climacteric syndrome that is obtained from health workers.

The knowledge of respondents about the syndrome climacteric was mostly 67.6% poor, as well as most of respondents also had negative attitudes as much as 64.8%, of the 48 respondents who had poor knowledge, it turned out that 39 respondents had negative attitudes or acceptance related to the climacteric syndrome as 39 respondents. (81.2%) with p value = 0.000 (<0.05). This study shows that knowledge has very great influence the women's attitude in facing the climacteric period. Most of the climacteric women do not know that the changes that occur at the climacteric period are a natural process. In line with Hermawati's (2011) research that knowledge is influenced by several factors including age, occupation, and

education. They also feel worried and confused about these symptoms so that being active in finding help is needed to be able to identify and get treatment (Hermawati, 2011) .

There is misunderstanding about menopause period and the changes that occur in it makes some middle-aged women react with anxiety. (Ardianti G & Sarita, 2018; Indriani, 2007; Sipahutar & Nengah, 2016). Good knowledge about menopause will help a woman to prepare herself and be positive. A positive attitude indicates that a woman is ready to face the climactic period, whereas a negative attitude indicates that she is not ready to face the climax period. Readiness and self-acceptance in facing the climacteric period will greatly assist women in living this period better (Bloch, 2002; Widiastuti & Rohani, 2020). A good knowledge and acceptance of positive affect a woman's self-concept, so that will help a woman to prepare themselves in undergo menopause better and can reduce anxiety.

Menopause is a natural process of life cycle of a woman who cannot be rejected by every woman who through the age of middle age. Various complaints both physical and psychological that occur are the result of decreased reproductive function. Considering that the life expectancy of women in Indonesia is quite high, middle - aged women must have their quality of life preserved. According to the results of the population census, the life expectancy of Indonesian women increases to an average of 71 years (Central Bureau of Statistics, 2016). Increasing age life expectancy also increased the proportion of middle-aged women. Therefore their quality of life must be improved by good knowledge.

Most of women do not know the impact of menopause and how to how to react to it, women who entered menopause tend to surrender without any attempt to find information in order to improve their quality of life. Women themselves have diverse perceptions about menopause, some argue menopause is the beginning of the decline of the overall reproductive function, menopause even assume that there is a "disaster" in old age. (Bloch, 2002; Indriani, 2007). Increasing age cannot be avoided, menopause will certainly be experienced by all women. Therefore, it is necessary to have self-acceptance in the process of going through this period. The concept acceptance themselves and how to transfer the complaint to the climacteric require sufficient knowledge to be able to change the view if climacteric is something natural and not scary so it does not need to be sad or anxious are excessive when to deal with it .

Suppose that every woman will face old age, it needs to be implanted in order to not have to worry in case of menopause. In addition, to prevent diseases during climacteric times such as osteoporosis and heart disease, you must be diligent doing the exercise and consuming milk or

foods that contain lots of calcium, it is hoped that women will not only be oriented towards physical problems but can also keep themselves busy by participating in religious activities or social activities of other (Hermawati, 2011). A person who cannot accept changes in the climacteric period and cannot be realistic about these changes will tend to feel afraid, worried and even more anxious with the arrival of old age (Ismiyati, 2010; Mangoenprasodjo, 2004). A woman who experiences anxiety, will experience a climacteric period with discomfort over the changes that her body.. Knowing the various kinds of menopause symptoms can certainly make a woman anxious, ranging from the threat of discomfort in sex to various health problems such as the threat of heart disease, and osteoporosis. No wonder this can make women afraid and even anxious in the face of menopause. (Aqila, 2010; Indriani, 2007; Sipahutar & Nengah, 2016).

## **6. CONCLUSION**

Respondents who had a poor knowledge proved to have a negative attitude or acceptance that related with the climacteric syndrome, a total of 39 respondents (81 , 2 %) with a value of  $p = 0.000 (<0.05)$ . This research shows that knowledge affects the attitude of women in facing the climacteric period. It is hoped that women at the climacteric age can be proactive in finding the information about changes and problems that occur during the climacteric period so that it can help reduce anxiety and complaints that are felt.

## **7. ACKNOWLEDGMENT**

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# RELATIONSHIP BETWEEN PERSONAL CHARACTERISTIC AND TRAINING WITH FIRE EXTINGUISHER'S KNOWLEDGE

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## ABSTRACT

*Every building needs to apply building safety requirements in an effort to prevent and control fires by providing a Fire Extinguisher as fire protection. The availability of Fire Extinguisher needs to be supported by good knowledge from inhabitants. This study is aimed to determine the relationship between education, age, gender, work period and training to Fire Extinguisher knowledge. The research design is quantitative with a cross sectional approach. The research was conducted at Faletehan University Serang-Banten in April-July 2020 with the study population of all employees with a sample of 62 respondents taken by a simple random sampling method. Primary data collection using questionnaires with interview techniques. Data analysis was performed by univariate and bivariate using chi-square tests. The results of the analysis showed that 58,1% respondents were good knowledge about Fire Extinguisher, 88,7% respondents were highly educated, 69,4% respondents were aged  $\leq 40$  years, 61,3% respondents were female, 66,1% respondents had work period  $> 5$  years, and 69,4% respondents had never attended training. The results of the analysis showed that there is a relationship between education ( $p$  value=0,018) and training ( $p$  value=0,049) with Fire Extinguisher knowledge. Faletehan University needs to hold regular Fire extinguisher training that must be attended by all employees.*

**Keywords:** *Fire Extinguisher, knowledge, education, training*

## 1. INTRODUCTION

The development of technology in the era of globalization is very influential on various aspects of human life. In addition to providing a positive impact, technological developments also have a negative impact, namely the emergence of potential hazards that if not accompanied by proper control can threaten the safety and security of workers (Tarwaka, 2017). Government Regulation No. 50 of 2012 explains that Occupational Safety and Health (OSH) aim to prevent work accidents and occupational diseases, including preventing fire hazards.

Every building needs to apply building safety requirements in an effort to prevent and control fire hazards by providing fire protection facilities (UU No. 28 Tahun 2002). The lecture building as an asset or property must guarantee security and safety against fire hazards for its occupants during their activities by providing fire protection facilities in the form of a light fire extinguisher (APAR). Husen and Lestari (2016) explain that there are many discrepancies about APAR, both in how to use, place, check and maintain APAR due to employee ignorance. The availability of APAR in Higher Education needs to be supported by good



knowledge from its residents. According to Insani, et al. (2017) correct knowledge of fire extinguishers is one of the factors that affect the effectiveness of using fire extinguishers to minimize failure of the fire-fighting process in the early stages of fire.

The Department of Fire in the United States reports that as many as 1,318,500 fires occurred in 2018 that left 3,655 civilians dead, 15,200 injured in fires for an estimated \$ 25.6 billion dollars in losses (Evarts, 2019). Based on Disaster Data from the National Disaster Management Agency (BNPB) in 2014 there were 896 cases of fire, of which 587 (65.51%) cases of fire were caused by electrical short circuits (Ayu et al., 2018). According to data from the Regional Disaster Management Agency (BPBD) of Serang Regency in January - August 2018, there were 38 cases of fires triggered by electric short circuit stoves that forgot to extinguish and cigarette butts that were thrown away carelessly (Rozak, 2018). Meanwhile, in January - October 2019 there were 80 fire incidents in the Serang Regency BPBD data, where fire cases were dominated by land fires due to human negligence and housing fires caused by electrical short circuits (Hasanudin, 2019).

One of the factors that affect a person's knowledge of the light fire extinguisher (APAR) is education. A person with high education has 2 times the chance to have good knowledge of APAR than someone with low education (Sari et al., 2019). According to Notoatmodjo (2012) the older a person is, the more his maturity will be and the more information he gets. Someone aged > 40 years has four times the chance of having a good level of knowledge about APAR compared to those aged  $\leq$  40 years (Sari et al., 2019).

According to Zar (2012) there is a significant relationship between gender and knowledge of APAR with p value = 0.003 at PT. Pertamina Geothermal Energy Area Kamojang. A male person has a better knowledge of APAR than women. This is because extinguishing fire is considered a male profession so that it is more important for men to get knowledge about APAR than women (Sari et al.,

2019). Someone who has worked for a long time will have broader insight and better experience (Anderson theory, 1975 in Fitriana et al., 2017). Research Sari, et al. (2016) explained that someone who has a working period of > 5 years has 4 times the chance to have good knowledge of APAR compared to someone with a working period of  $\leq$  5 years. Sinaga and Handayani's research (2017) explains that there are differences in workforce scores before and after training in the use of a Light Fire Extinguisher (APAR). A person who has never attended training has a 2 times greater risk of not knowing how to use APAR than respondents who have attended fire training (Husen and Lestari, 2016).

Universitas Faletehan Serang – Banten is a university that has the potential for class A fire hazards which are sourced from solid materials in the form of wood. One of the fires that occurred at the University of Faletehan Serang - Banten, was the burning of a tree near the TPS in 2019 which was caused by cigarette butts that were thrown away carelessly. Based on the preliminary survey, it was found that APARs at the University of Faletehan were not placed with signs. In addition, there are empty APAR storage boxes in building D and Building H. There is an APAR storage box in building G that is locked. As one of the residents at the University of Faletehan, employees need to have a good knowledge of APAR, but based on the results of a preliminary study of 10 employees, it was found that 60% of employees had poor knowledge of APAR.

This study aims to determine the relationship between individual characteristics and training on knowledge of light fire extinguishers (APAR) for employees at the Universitas Faletehan Serang – Banten in 2020.

## **2.MATERIALS AND METHODS**

The research design was quantitative with a cross sectional approach. The research location was conducted at the Universitas Faletehan Serang – Banten in April - July 2020. The population in this study were all employees at the Universitas Faletehan Serang – Banten as

many as 139 employees. The sample of this study was 62 respondents who were taken by means of probability sampling using simple random sampling technique.

This study uses inclusion criteria where the respondents are employees listed in the active employment data who work at the Kampus Universitas Faletahan on Jl. Raya Cilegon Km. 06 Pelamunan Kramatwatu Serang - Banten. Respondents aged 23 - 66 years with a work period of 0 - 40 years and are willing to become research respondents voluntarily. Primary data obtained by interview using a questionnaire sheet. Data analysis performed in this study is univariate analysis presented in the form of frequency distribution of each variable and bivariate analysis using the chi-square test

### 3.RESULTS.

Table. 1 Research Variables' Frequency Distribution

Variable	Frequency	Percentage
Knowledge about APAR		
Poor	26	41,9
Good	36	58,1
Education Level		
Low	7	11,3
High	55	88,7
Age		
≤ 40 year	43	69,4
> 40 year	19	30,6

Sex		
Female	38	61,3
Male	24	38,7
Work Period		
≤ 5 year	21	33,9
> 5 year	41	66,1
Training		
Never	43	69,4
Ever	19	30,6
TOTAL	62	100

Based on Table 1, 58.1% of the respondents had good Knowledge about APAR, 88.7% of the respondents had high education level, 30.6 % of the respondents are on age >40 years, 38.7% of the respondents are male, 66.1% of the respondents had > 5 years work period, 30.6% of the respondents had ever training.

**Table. 2 Analysis of Knowledge about APAR in Employees**

Variable	Knowledge About APAR				Total	P Value	OR
	Poor		Good				
	f	%	f	%			
Education Level							
Low	6	85.7	1	14.3	7	0.018	10.5

High	20	36.4	35	63.6	55		
Total	26	41.9	36	58.1	62		
<hr/>							
Age							
≤40 year	20	46.5	23	53.5	43	0.413	-
>40 year	6	31.6	13	68.4	19		
Total	26	41.9	36	58.1	62		
<hr/>							
Sex							
Female	12	31.6	26	68.4	38	0.069	-
Male	14	58.3	10	41.7	24		
Total	26	41.9	36	58.1	62		
<hr/>							
Work Period							
≤ 5 year	8	38.1	13	61.9	21	0.868	-
> 5 year	18	43.9	23	56.1	41		
Total	26	41.9	36	58.1	62		
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Training						0.049	0.282
Never	14	32.6	29	67.4	43		
Ever	12	63.2	7	36.8	19		
Total	26	41.9	36	58.1	62		
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Based on Table 2, there were no significant relationships of age, sex, and work period and there were significant relationships of knowledge and training with knowledge about APAR.

#### 4.DISCUSSION

##### Education

Based on table 2, it is obtained from 7 respondents with low education, there are 6 respondents (85.7%) who have poor knowledge of APAR and 1 respondent (14.3%) have good knowledge of APAR. Meanwhile, of the 55 respondents with high education, there were 20 respondents (36.4%) who had poor knowledge of APAR and 35 respondents (63.6%) had good knowledge of APAR. The results of the chi-square test with a confidence level of 95% obtained Pvalue = 0.018, it can be concluded that there is a significant relationship between education and knowledge of APAR for employees at the Universitas Faletehan Serang – Banten in 2020. From the analysis results also obtained the OR = 10.5 This means that respondents with high education have a 10.5 times risk of having good knowledge of APAR compared to respondents with low education. The results of this study are in line with the research of Sari et al. (2016) where there is a relationship between education and the knowledge level of employees of the hemodialysis unit related to APAR as a means of active fire protection.

Notoatmodjo (2012) explains that knowledge is closely related to education where it is hoped that someone with higher education will have a wider knowledge. According to Wied (1996) a person's education is a factor that determines whether or not a person can easily absorb and understand the knowledge they acquire, so that the higher a person's educational background, the better the knowledge they have (Rinawati et al., 2016).

The results of the analysis show that respondents with higher education are more likely to have good knowledge about APAR because the education of respondents affects the learning process and information retention so that it has an impact on their insight and knowledge. In theory, a person's knowledge can be obtained through the sense of sight, for example observing APAR so that curiosity arises and respondents try to dig up information from various sources, such as discussions with other people or seeking additional information through reading books or the internet so that understanding regarding APAR is increasingly developing. The higher the educational background of the respondents, the easier it is to receive information so that their knowledge will be better, including knowledge of APAR

## **Knowledge**

Based on table 2, it was obtained from 43 respondents aged  $\leq 40$  years, as many as 20 respondents (46.5%) had poor knowledge about APAR and 23 respondents (53.5%) had good knowledge about APAR. Meanwhile, of the 19 respondents aged  $> 40$  years, there were 6 respondents (31.6%) who had poor knowledge of APAR and 13 respondents (68.4%) had good knowledge of APAR. The results of bivariate analysis using the chi-square test with a confidence level of 95% obtained Pvalue = 0.413, it can be concluded that there is no significant relationship between age and knowledge of APAR in employees at the Universitas Faletehan Serang – Banten in 2020. The results are not in line with Sari's research. , et al. (2016) where there is a significant relationship between age and the knowledge level of employees of the hemodialysis unit regarding APAR as a means of active fire protection (Pvalue = 0.024) at RSUPN Dr. Cipto Mangunkusumo. Sanifah (2018) explains that age affects a person's perceptive power and thought patterns, the more people get older, the more their perceptive power and thinking patterns develop. Increasing a person's age can affect the

increase in knowledge he / she gets, but at a certain age or before old age the ability to accept or remember a knowledge will decrease (Rinawati et al., 2016).

The results of the analysis showed that respondents aged  $\leq 40$  years had more good knowledge about APAR. This is because respondents who are  $\leq 40$  years old generally do not have a relatively long working period, so that respondents have a high curiosity about their work and work environment, so that their insight and knowledge will increase, including knowledge about APAR. Respondents aged  $> 40$  years do not necessarily have better knowledge than respondents aged  $\leq 40$  years. This is because increasing age has an impact on changes in various systems in the body that tend to decline, including the ability to remember certain information. If a person is not given continuous information, the knowledge about APAR tends to be less good.

Based on the result, it is obtained from 38 respondents who are female, as many as 12 respondents (31.6%) have poor knowledge about APAR and 26 respondents (68.4%) have good knowledge about APAR. Meanwhile, of the 24 male respondents, there were 14 respondents (58.3%) who had poor knowledge about APAR and 10 respondents (41.7%) had good knowledge about APAR. The results of bivariate analysis using the chi-square test with a confidence level of 95% obtained p value = 0.069, it can be concluded that there is no significant relationship between gender and knowledge of APAR among employees at the Universitas Faletahan Serang – Banten in 2020. The results are not in line with the research. Sari, et al. (2016) where there is a significant relationship between gender and the knowledge level of employees of the hemodialysis unit related to APAR as a means of active fire protection (p value = 0.034) in Dr. Cipto Mangunkusumo. Gibson's theory, Ivnerich and Donnelly (1997) in Sari, et al. (2016) argued that men and women have the same abilities in knowledge such as learning abilities, memory, reasoning abilities and intelligence. So that there is no difference in knowledge between women and men.

The results of the analysis showed that female employees had good knowledge of APAR. Meanwhile, more male respondents had less knowledge of APAR. This is because women are able to remember information in more detail than men who tend to forget easily. However, gender differences are not a factor affecting knowledge of APAR, because the provision of information and training does not consider gender. Every employee has the right to receive new knowledge regarding APAR and is entitled to participate in training related to APAR.

### **Work period**

The results of bivariate analysis using the chi-square test with a confidence level of 95% obtained p value = 0.868, it can be concluded that there is no significant relationship between tenure and knowledge of APAR among employees at the Universitas Faletahan Serang – Banten in 2020. This is not in line with the research. Sari, et al. (2016) where there is a significant relationship between tenure and the knowledge level of employees of the hemodialysis unit related to APAR as a means of active fire protection (p value = 0.037) at RSUPN Dr. Cipto Mangunkusumo.

Anderson's theory (1975) states that someone who has worked for a long time has a broader insight and better experience (Fitriana et al., 2017). However, according to Apriluana (2016) someone who has a longer working period sometimes decreases his productivity due to boredom.

The results of the analysis showed that respondents who had a service period of  $> 5$  years had more good knowledge of APAR than respondents with a service life of  $\leq 5$  years. The working period of a person is related to work experience, so the longer a person works, the more skilled and knowledgeable he is. Although more respondents with a working period of  $> 5$  years had good knowledge of APAR, more respondents with a service period of  $> 5$  years had less good knowledge of APAR than respondents with a service life of  $\leq 5$  years. This is because respondents with a service period of  $> 5$  years feel bored looking for new information related to work and their environment. Regardless of how long a person's working period is, if the respondent is not given information about APAR continuously, the respondent will have poor knowledge about APAR.

### **Training**

Based on the research result it is obtained from 43 respondents who have never attended training, as many as 14 respondents (32.6%) have poor knowledge about APAR and 29 respondents (67.4%) have good knowledge about APAR. Meanwhile, of the 19 respondents who had attended the training, there were 12 respondents (63.2%) who had poor knowledge about APAR and 7 respondents (36.8%) had good knowledge about APAR. The results of bivariate analysis using the chi-square test with a confidence level of 95% obtained  $p$  value = 0.049, it can be concluded that there is a significant relationship between training and knowledge of APAR for employees at the Universitas Faletehan Serang – Banten in 2020. The results of this study are in line with Husen's research and Lestari (2016) where there is a significant relationship between training and knowledge of the use of APAR for employees at the Grand Kamala Lagoon Bekasi Keet Project in 2016 ( $p$  value = 0.037).

Training is important because almost every building has fire protection equipment. If these tools are installed, all employees must be given training so that employees have a good knowledge of APAR and know how to use it properly (Sulaksmono, 1997 in Fitriana et al., 2017).

Based on the results of the analysis in the field, it was found that respondents who had never attended training but had good knowledge about APAR because respondents could get information about APAR through the internet, social media or read literature available in the library. With the specialization in Occupational Safety and Health (K3) at the University of Faletehan, respondents can gather information through discussions with educators (lecturers), other employees and students.

In addition, there are weaknesses in the technical data collection online using google form, where there is a possibility that the respondent will fill out the questionnaire with the help of other employees or the respondent can find and read the material first before filling out the



questionnaire, so that the respondent's knowledge regarding APAR is in the good category even though it has never been attend training. Meanwhile, respondents who have participated in training, however, are more knowledgeable about APAR because the training is not carried out routinely so that the memory of respondents has decreased because information about APAR is not given continuously

## 5.CONCLUSION

Based on the research results, it was found that 58.1% of respondents had good knowledge about APAR. There is a significant relationship between education (p value = 0.018) and training (p value = 0.049) with knowledge of APAR. There was no significant relationship between age (p value = 0.413), gender (p value = 0.069), and period of work (p value = 0.868) with knowledge of APAR.

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# THE EFFECTIVENESS OF HYPNOTHERAPY AND BACK EXERCISE ON THE SMOOTH OF BREAST MILK PRODUCTION IN POSTPARTUM WOMEN

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## ABSTRACT

*The success of exclusive breastfeeding in Indonesia is very low, namely 35%, so that it requires an active role from all levels of society. One of the cause of decreased breastfeeding is the lack of production of the hormones oxytocin and prolactin. Hypnotherapy and back exercise can increase the production of the hormones oxytocin and prolactin. The purpose of this study was to determine the effectiveness of hypnotherapy and back exercise to smooth breastfeeding. The research method was carried out using observational method. This study uses a quasi-experiment (Quasi-Experiment) with pre and post test with Non Control Design, a research design that aims to examine the causal relationship. By comparing the two evaluation results, namely the pretest and post test. The population in this study were postpartum mothers at the hospital Pekanbaru Medical Center. The result showed the effectiveness of the implementation of hypnotherapy and back exercise on the smooth production of ASI at Post Partum at PMC Hospital. And based on the T test Independent T-test obtained pvalue = 0.04 < 0.05 with a mean value in the experimental group of 8.44. With this research, it is hoped that health workers will be able to provide breast care to every postpartum mother at PMC Hospital.*

**Keyword:** *hypnotherapy; back exercise, breastmilk production; postpartum*

## 1. INTRODUCTION

According to UNICEF (United Nation Children Fund) perinatal mortality worldwide is around 10 million live births with a record that about 98- 99% occur in developing countries, where the perinatal mortality rate is one hundred times greater than in developed countries. One of the causes of death is the lack of access to health care for neonates. The number of events included LBW (42%), clinical sepsis (17%), preterm birth (9.8%), severe asphyxia (4.6%), hypothermia (17%), and breastfeeding problems (16%) ( (Bahriyah, Putri, & Jaelani, 2017))

Data from the WHO (World Health Organization) shows that there are 170 million children who are malnourished worldwide. As many as 3 million of them die every year due to malnutrition. The high infant mortality rate in the world can actually be avoided by giving breast milk (ASI) ((Putri, Putri, & Rahayu, 2017)). Breastmilk (ASI) is the best natural

nutrition for babies because it contains the energy and substance needs needed for the first six months of a baby's life. A mother often experiences problems in exclusive breastfeeding, one of the main obstacles is the production of breast milk that is not smooth. This will be a factor in the low coverage of exclusive breastfeeding for newborns (Wulandari and Handayani, 2011).

Breast milk production is strongly influenced by psychological factors ((Prasetyono, 2009). Postpartum stress is experienced by 80% of women after childbirth. Feelings of sadness or irritability that hit the mother arise within two days to two weeks after delivery ((Purwani, 2013) The condition of mothers who are easily anxious and stressed can interfere with lactation so that it can affect milk production. This is because stress can inhibit breastfeeding (Kodrat, 2010). The higher the level of emotional disturbance, the less stimulation of the hormone prolactin is given to produce breast milk. (Prasetyono, 2009)

Hypnotherapy is an intervention technique that utilizes the empowerment of the subconscious mind (Herawati & Putri, 2018) suggesting that hypnotherapy can relieve psychological symptoms. It is stated by (Lynn, Rhue, & Kirsch, 2010) that an individual who is hypnotized is not in a real sleep state. The client or person being hypnotized remains in a conscious state, and is able to observe their behavior during the hypnotic state. He realizes that everything he orders and can reject anything that is contrary to the norms or values internalized in him. With the provision of hypnotherapy, it will reduce the stress level felt by postpartum mothers, as is the case with research conducted by (Desriva & Utari, 2020) in increasing the motivation for the performance of educators. The results showed that hypnotherapy technique can change the behavior of educators for the better by minimizing emotional levels and stress. Hypnotherapy techniques can relieve stress in postpartum mothers so that it can increase oxytocin production which supports the smooth production of breast milk.

According to (Umbarsari, 2017) in his research, through stimulation of the spine (back exercise), neurotransmitters will stimulate the medulla oblongata directly to send messages to the hypothalamus in the posterior hypofise to release oxytocin, causing the breasts to secrete milk. With this spinal massage, it will also relax tension and relieve stress and so the hormone oxytocin comes out so that it will help the release of breast milk, assisted by suction of the baby on the nipples immediately after the baby is born with a normal baby. Based on the

above background, the researcher is interested in further researching the Effectiveness of Hypnotherapy and Back Exercise on the Smoothness of Breast Milk Production.

## 2. Material and Methods

This study uses a Quasi-Experiment (Quasi-Experiment) with a Pre and Post Test with Non Control Design, a research design that aims to examine the causal relationship. By comparing the two evaluation results, namely the pretest and posttest. The population in this study were primiparous postpartum mothers who were in the hospital. Pekanbaru Medical Center. Sampling using purposive sampling technique with 50 respondents post partum mothers with babies who are term. and using the independent t test data analysis. In this study, the paired sample t-test hypothesis was used to determine the effectiveness of hypnotherapy and back exercise on the smooth running of postpartum mother's milk. Then to test the difference in effect between the pre-test and post-test groups used the Independent Sample T-Test.

## 3. RESULT AND DISCUSSION

### Univariate Analysis

Respondents in this study were primipara post partum mothers who were in the Pekanbaru Medical Center Hospital, namely in the Jasmine Care Room. This study was conducted for 4 months. This research was conducted using a Quasi-experimental method with a pre and post test design with control design. The samples obtained were 50 patients. For the intervention group as many as 25 people and 25 people for the control group. The intervention group was willing to be given hypnotherapy and back exercise, while the control group was not given hypnotherapy and back exercise.

### Age Characteristics of Respondents

Table 5.1 Distribution of Frequency Characteristics of Respondents by Age

Age	Intervention Group		Control Group		Total
	F	%	f	%	
< 20	1	4	2	8	2
20-35	23	92	21	84	45

>35	1	4	2	8	3
Amount	25	100	25	100	50

Based on Table 5.1 above, most of the respondents in the intervention group were 20-35 years old, while those in the control group were 20-35 years old.

### Characteristics of Respondents' Last Education

Table 5.2 Frequency Distribution of Respondent Characteristics  
by Latest Education

Latest Education	Intervention Group		Control Group		Total
	F	%	f	%	
Middle School	3	12	4	16	7
Senior High School	13	52	12	48	25
Academy/PT	9	36	9	36	18
Amount	25	100	25	100	50

Based on Table 5.2 above, most of the respondents had high school education in the intervention group and the control group had the last high school education.

### Job Characteristics of Respondents

Table 5.3 Frequency Distribution of Respondent Characteristics Based  
on Occupation

Job	Intervention Group		Control Group		Total
	F	%	f	%	
IRT	14	56	11	44	25

PNS	7	28	3	12	10
Private	4	16	10	40	14
Entrepreneur	0	0	1	4	1
Amount	25	100	25	100	50

Based on Table 5.3 above, most of the respondents had jobs as IRTs in the intervention group and the control group had jobs as IRTs.

### Characteristics of Respondents Performing Breast Care

Table 5.4 Frequency Distribution of Respondent Characteristics  
Based on Breast Care

Breast Care	Intervention Group		Control Group		Total
	F	%	f	%	
Yes	2	8	7	28	9
No	23	92	18	72	41
Amount	25	100	25	100	50

Based on Table 5.4 above, most respondents did not perform breast care in the intervention group and the control group did not do breast care.

### Characteristics of Respondents Consuming Smoothed Breast Milk

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Table 5.5 Characteristics of Respondents Frequency Distribution  
Based on Breast milk smoothing

Breast Care	Intervention Group		Control Group		Total
	F	%	f	%	
Yes	8	32	9	36	17



No	17	68	16	64	33
Amount	25	100	25	100	50

Based on Table 5.5 above, most of the respondents did not consume breastmilk in the intervention group and the control group did not consume breast milk fluids.

### **Smooth production of breast milk in the Control group (Pre Test)**

Table 5.6 Distribution of the frequency of smooth milk production in the control group (pre test)

Smoothness of Breastmilk Production	F	%
Less Fluent	13	52
Fairly Smooth	9	36
Current	3	12
Amount	25	100

Based on Table 5.6 above, the smooth flow of breast milk production in the control group (pre test), as much as 52% of respondents thought that the smooth production of ASI was not smooth, and 3% had smooth milk production

### **Smooth production of breast milk in the intervention group before being given hypnotherapy and back exercise**

Table 5.7 Distribution of Frequency of Smooth Milk Production at Intervention Group (Pre Test)

Smoothness of breastmilk production	F	%
Less Fluent	8	32

Fairly Smooth	12	48
Current	5	20
Amount	25	100

Based on Table 5.7 above, the smoothness of breast milk production in the intervention group (pre test), as many as 48% of respondents thought that breast milk production was smooth, and 5% had smooth milk production.

### **Smooth Production of Asi in the Control group (Post Test)**

Table 5.8 Distribution of the frequency of smooth milk production in the Control group (Post Test)

Smoothness of Breastmilk Production	f	%
Less Fluent	9	36
Fairly Smooth	10	40
Current	6	24
Amount	25	100

Based on Table 5.8 above, the smooth flow of breast milk production in the control group (post test), as many as 40% of respondents thought that breast milk production was smooth, and 24% had smooth milk production.

### **Smooth Production of Asi in the Intervention Group (Post Test)**

Table 5.9 Distribution of the frequency of smooth milk production in the intervention group (Post Test)

Smoothness of Breastmilk Production	f	%
Less Fluent	1	4
Fairly Smooth	4	16
Current	20	80
Amount	25	100

Based on Table 5.9 above, the smooth flow of breastmilk production in the intervention group (post test), as many as 80% of respondents thought that milk production was smooth, and 1% had smooth milk production.

### **Bivariate Analysis**

The research has been carried out for 4 months starting from April to July 2020. After doing the research, the number of samples obtained was 50 respondents at PMC Hospital in Pekanbaru City. Where this study consisted of two groups, namely a control group who was not given hypnotherapy and back exercise. The second group was the intervention group that was given hypnosis and back exercise

Hypnotherapy is an intervention technique that utilizes the empowerment of the subconscious mind (Clinical Hypnotherapy, 2010). (Irfan, 2010) suggests that hypnotherapy can relieve psychological symptoms. Mentioned by (Barseli, Ifdil, & Nikmarijal, 2017) that an individual who is hypnotized is not in a real sleep state. The client or person being hypnotized remains in a conscious state, and is able to observe their behavior during the hypnotic state. He realizes that everything he orders and can reject anything that is against the norms or values internalized in him. By giving hypnotherapy and back exercise, it will reduce stress levels and cause a feeling of relaxation which has an impact on the smooth production of breast milk.

The implementation of hypnotherapy and back exercise for respondents which was held for 3 days showed an increase in the smoothness of breast milk production. Based on the effect test using Paired sample T-test in the experimental group, the results showed p value = 0.000 <0.05 and in the control group p = 0.032 <0.05. This shows the effectiveness of the implementation of hypnotherapy and back exercise on the smooth production of ASI at Post Partum at PMC Hospital. And based on the T test Independent T-test obtained p value = 0.040

<0.05 with a mean value in the experimental group of 8.44. milk production. Based on the effect test using Paired sample T-test in the experimental group, the results showed p value = 0.000 <0.05 and in the control group p = 0.032 <0.05. This shows the effectiveness of the implementation of hypnotherapy and back exercise on the smooth production of ASI at Post Partum at PMC Hospital. And based on the T test Independent T-test obtained p value = 0.040 <0.05 with a mean value in the experimental group of 8.44

#### **4. CONCLUSION**

The conclusion in this study is that hypnotherapy and back exercise are effective in the smooth production of breast milk. The results showed that of the 25 respondents who were given hypnotherapy intervention and back exercise, 20 respondents (80%) experienced smooth milk production compared to the control group of 25 respondents, only 10 respondents (40%) were in the fairly fluent ASI category. Based on the effect test using the Paired Sample T-test in the intervention group, it shows the results of p value = 0.000 <0.05, this indicates the effectiveness of the implementation of hypnotherapy and back exercise on the smoothness of breast milk production in Post Partum at PMC Hospital. With this research, it is hoped that health workers will be able to provide breast care to every postpartum mother so that it can help mothers to be able to provide breast milk to their babies and the government program for exclusive breastfeeding runs successfully.

#### **5.ACKNOWLEDGEMENT**

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# CONQUERING THE MYTH OF MORINGA OLEIFERA TREES OF INDONESIAN PEOPLE

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## **ABSTRACT**

*The mythical influence that the Moringa oleifera can expel the spirits has penetrated so deeply into the minds of the Indonesian people. This study aims to conquer the myths of Moringa oleifera by providing health benefits of this tree. A scoping review of peer-reviewed was conducted to explore the health benefit of Moringa oleifera as part of nutrition promotion interventions. Electronic databases were searched for studies published between 1 December 2020 and 14 February 2021. Out of 359 articles retrieved and 31 peer-reviewed sources met inclusion criteria. Findings from 12 papers were organised into 6 categories of the health benefit from root, leave, stem bark, gum, flower, and seed based on Moringa oleifera's plant part. This review has identified health benefits that hold potential for tackling the myth of Moringa oleifera. Various parts of this plant have been proven to have health benefits such as anti-inflammatory, anti-hypertensive, cholesterol lowering, antioxidant, antidiabetic, antibacterial and antifungal activities. Findings from this study suggest that health benefit of Moringa oleifera's tree should be widely promoted to increase the health status and wellness of Indonesian people.*

*Keywords: health benefit, kelor, food plant.*

## **1. INTRODUCTION**

*Moringa oleifera* is locally known in Indonesia as 'kelor' that can grow up to 10 m under the tropical insular climate or hot dry lands (Karim et al., 2016). *Moringa oleifera* is native to India but it is widely grown tree in tropical areas such as Florida, Sudan Caribbean, Pacific Islands, Ethiopia, Philippines, South Africa, Asia, and Latin America (Gopal, Nagendra, & Manthey, 2015). *Moringa oleifera* has variety names in different regions, for instance drumstick tree or horseradish tree in India and "Shiferaw" in Ethiopia (Bhattacharya, Tiwari, Sahu, & Kumar, 2018). Xianjuan et al. (2018) study has reported 33 species of *Moringaceae* family. *Moringa oleifera* is one of the *moringaceae* families. Among those, best known of the thirteen species namely: *M. arborea*, *M. borziana*, *M. concanensis*, *M. drouhardi*, *M. hildebrandtii*, *M. longituba*, *M. oleifera*, *M. ovalifolia*, *M. peregrina*, *M. pygmaea*, *M. rivae*, *M. ruspoliana*, *M. stenopetala* are well known and found worldwide. Numerous studies have

reported its multipurpose use like medicinal and nutritional benefits (Bhattacharya et al., 2018; Razis, Ibrahim, & Kntayya, 2014).

However, *Moringa oleifera* is unpopular food for Indonesians because the magic myth and supernatural power has penetrated so deeply to Indonesian people. Most of Indonesian people believe that if someone is sick in long period but not died yet, then that person is suspected to have certain supernatural powers that should be removed from his body. To eliminate the unknown supernatural power, the person is usually bathed with *Moringa oleifera* leaves until the sick person can die peacefully (Unknown, 2016). When his body was bathed, the person also washed again with *Moringa oleifera* leaves to remove all mystical creatures and objects that are still attached to his body (Unknown, 2016). The myth of *Moringa oleifera* are also believed to reject the appearance of spirits. Hence, in the main entrance of some houses in Indonesia has been placed a bundle of *Moringa oleifera* as some repellent reinforcements (Unknown, 2016). Those magic myth has caused Indonesian people prefer not to consume *Moringa oleifera* as their daily food.

Apart from the myth, *Moringa oleifera* has globally known as the natural nutritious food commodity of the tropics. *Moringa oleifera* has been identified a plant with many health benefits including nutritional and medicinal benefits (Paikra, Dhongade, & Gidwani, 2017). The *Moringa oleifera* is a multi-purpose herbal plant used as human food and an alternative for medicinal purposes in Hawaii, Philippines, India, Pakistan, and other African countries. In South India, the *Moringa oleifera* is consumed into varieties of curry by mixing with coconut, poppy seeds and mustard (S Balamurugan, Vijayakumar, Prabhu, & Yabesh, 2017). In Philippines, the *Moringa oleifera* can just be boiled, until the leaves are semi-soft and consumed directly without any extra processing or cooking (Pasaporte, Rabaya, Toleco, & Flores, 2014). In Pakistan, the *Moringa oleifera* is cooked in sambars, kormas, curries, dals, and cutlets, etc (Shah, Razaq, Ali, Han, & Chen, 2017). In West Africa, tender *Moringa oleifera* leaves, finely chopped, make an excellent garnish for any vegetable dishes, dals, sambars, salads, etc (Fernandes et al., 2021).

Therefore, this study aims to conquer the myths of *Moringa oleifera* by providing health benefits of this tree. A scoping review of peer-reviewed was conducted to explore the health benefit of *Moringa oleifera* as part of nutrition promotion interventions

## **2.MATERIALS AND METHODS**

This study has conducted a scoping review to identify numerous studies that addressed the health benefit of *Moringa oleifera* as part of nutrition promotion interventions. A comprehensive literature search has been done in some international electronic databases, namely: Science Direct ProQuest, PubMed, Scopus, and Embase. Those electronic databases were searched for studies published between 1 December 2020 and 14 February 2021.

The selection criteria was performed using the keywords: *Moringa oleifera*, drumstick tree, horseradish tree, shiferaw, root, leaf, stem bark, gum, flower, or seed. Inclusion criteria were: articles published in English or Bahasa that contained the keywords in their title, abstract or keywords, and their full-text was available. This study analyzes all articles that addressed the health benefit of *Moringa oleifera* trees. Those articles without reporting the health benefit of *Moringa oleifera* was excluded.

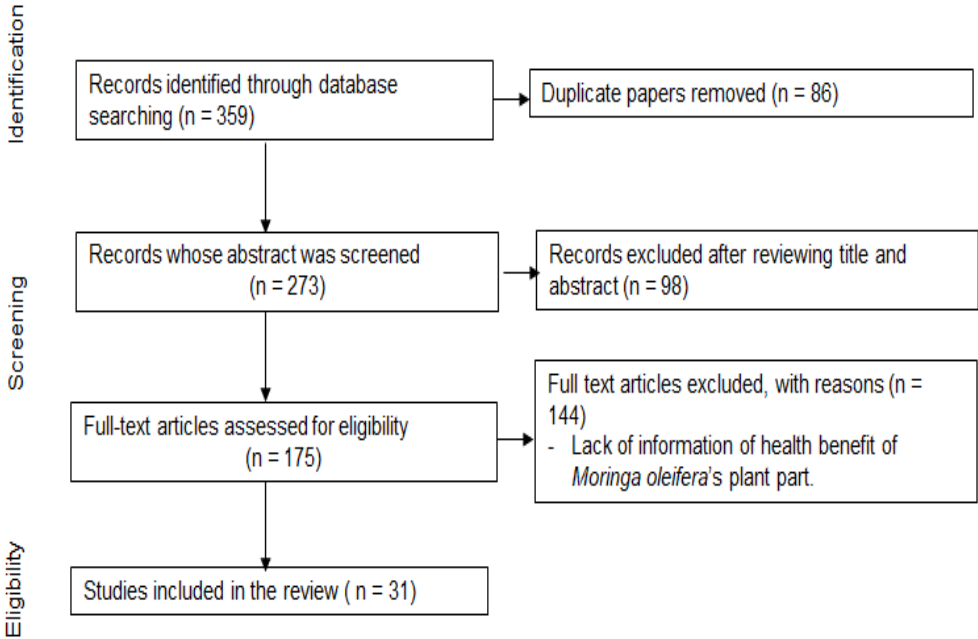


Figure 1. The Study’s Selection Process

The selection process of the studies is represented in Fig. 1. The initial database screening of the titles and abstracts were accomplished by the author. Afterwards, the author classified those selected literature as: relevant and irrelevant. After all relevant articles were analysed, the author studied full texts of all identified literature and extracted the data based on 6 categories of the health benefit from root, leaf, stem bark, gum, flower, and seed based on *Moringa oleifera*’s plant part. Out of 359 articles retrieved and 31 peer-reviewed sources met inclusion criteria.



### 3.RESULTS

As revealed from Figure 1., about 359 studies were found through database searching. However, this study found 86 similar studies that were excluded from this study. This study reviews 273 abstracts but excluded 98 abstracts because irrelevant with the health benefits of *Moringa oleifera*'s plant part. A total of 175 full articles were reviewed and 144 full papers were excluded because of a lack of information on the health benefits of *Moringa oleifera*'s plant part. As the result, 31 full papers were finally included in the analyses.

Table 1. Health benefits of *Moringa oleifera*'s plant part

No	Part of <i>Moringa oleifera</i>	Main benefit(s)
1	Flower	Antioxidant dietary fibre (Madane et al., 2019); decrease lipid profile of liver (Kalaiselvi, Mathammal, Vijayakumar, & Vaseeharan, 2018); 261 proteins were annotated as carbohydrate-active enzymes, 16 protease, 22 proteins (Shi et al., 2018); anti-tumor (Patriota et al., 2020); antimicrobial (Bindhu, Umadevi, Esmail, Al-Dhabi, & Arasu, 2020); antibacterial (Anand et al., 2016); lower the serum cholesterol (Hussain, Malik, & Mahmood, 2014).
2	Root	Anti-inflammation (Cui et al., 2019); antiurolithiatic activity (Karadi, Gadge, Alagawadi, & Savadi, 2006); antiulcer, antisecretory, and cytoprotective activity (Choudhary, Bodakhe, & Gupta, 2013); treating rheumatism, inflammations, articular pains, lower back or kidney pain and constipation (Anwar, Latif, Ashraf, & Gilani, 2007)
3	Leave	Antimicrobial (Bagheri et al., 2020); anticancer (Mansour et al., 2019); gynaecological disorder treatment (S Balamurugan et al., 2017); eye health (Pasaporte et al., 2014); anti-tumour cells growth (Fernandes et al., 2021).
4	Stem bark	Urinary tract infections (UTI)'s treatment (Maurya & Singh, 2014); antioxidant and anti-cancer (Atawodi et al., 2010); cure eye (Anwar et al., 2007); the juice from the root bark is put into ears to relieve earaches and also placed in a tooth cavity as a pain killer, and has anti-tubercular activity (Anwar et al., 2007).
5	Gum	Used for dental caries, and is astringent (Gupta, Kachhwaha, Kothari, Bohra, & Jain, 2020); Gum, mixed with sesame oil, is used to relieve headaches, fevers, intestinal complaints, dysentery, asthma and sometimes used as an abortifacient, and to treat syphilis and Rheumatism (Anwar et al., 2007).
6	Seed	Seed extract exerts its protective effect by decreasing liver lipid peroxides (Padla, Solis, Levida, Shen, & Ragasa, 2012), antihypertensive compounds thiocarbamate and isothiocyanate glycosids have been isolated from the acetate phase of the ethanolic extract of <i>Moringa</i> pods (Anwar et al., 2007)

After several studies have been selected, table 1 showed all information was obtained from each included study: characteristics of the study including author's name, date of publication,

the objective of the study, and the details on the possibility of the health benefits of *Moringa oleifera*'s plant part.

#### 4. DISCUSSION

It was also found that each different part of *Moringa oleifera*, i.e. the flowers, fruits, seeds, leaves, bark and roots, all resulted in the discovery of at least one, or in most studies, a number of beneficial nutrients. *Moringa oleifera* has been found as an important food commodity. *Moringa oleifera* leaves has been reported to be a rich source of  $\beta$ -carotene, protein, vitamin C, calcium and potassium (Bagheri, Martorell, Ramírez-Alarcón, Salehi, & Sharifi-Rad, 2020). *Moringa oleifera* is distributed throughout the world across dry tropical areas, and it is a very promising plant from which to produce oil for human consumption and for non-food uses. Information about available commercial varieties, and their agronomic performance of *Moringa oleifera* is scarce.

Given the nutritional composition of the seeds and oil, *Moringa oleifera*, could respectively provide a cheap source of protein and a good source of monounsaturated fatty acids of high nutritions, sterols and tocopherols (Shah et al., 2017). Moreover, the consumption of *Moringa oleifera* products has an effect on the nutritional status, body composition, status of growth and the risk of diseases in populations of developing countries (Bhattacharya et al., 2018; Kou et al., 2018; Razis et al., 2014). A study of Stohs and Hartman (2015) found that a single dose study with six type 2 diabetic subjects, the feeding of 50 g of a *M. oleifera* leaf powder with a standard meal on a one-time basis decreased blood glucose levels by 21 percent. Folk medicine utilized raw or crushed *Moringa oleifera* as a treating stomach pain, ulcers, poor vision, joint pain and for aiding digestion (Leone et al., 2016).

The *Moringa oleifera* has been found to possess good antimicrobial activity against numerous bacterial and fungal species (Cui et al., 2019; Leone et al., 2016; Maurya & Singh, 2014). Many of the phytochemical compounds isolated from the seeds are able to inhibit the growth of certain pathogenic microorganisms responsible for human infections (Leone et al., 2016). The *Moringa oleifera*'s antimicrobial activity is also related to the presence of a short cationic protein (Shi, Wang, & Huang, 2018) . This protein, known as the *M. oleifera* cationic protein, causes bacterial cell damage through rapid flocculation and the fusion of cell inner and outer membranes (Leone et al., 2016). Because of their antimicrobial activity, *Moringa oleifera*'s

are used as nature-based solutions for the problem of water purification in developing countries, using them as an alternative to Western methods (Leone et al., 2016).

## **5. CONCLUSION**

The results from published research studies to date with *Moringa oleifera* are very promising. It is rare for a single plant to contain many essential nutrients in high quantities. Nevertheless, further studies are required to address various points of unidentified health benefits of *Moringa oleifera*'s part plant.

## **6. ACKNOWLEDGMENT**

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## **7. CONFLICTS OF INTEREST**

The authors declare no conflict of interest.

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# EVALUATION OF SUPPLEMENTARY FOOD (PMT) FOR TODDLERS WITH MALNUTRITION IN PENDEMY COVID 19

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## **ABSTRACT**

*Inadequate nutrition in the first five years of life results in irreversible physical and mental growth and developmental disorders. According to the results of Basic Health Research or Riskesdas (2018) mention that Malnutrition are 17.7% in Indonesia consist of 3.9% toddlers with malnutrition 13.8% high malnutrition. To reduce the number is with PMT. The purpose of this study is to get a detailed picture of the implementation of the PMT nutrition program. Research methods, research design tative. The research phase begins with data collection, data reduction, data presentation, and drawing conclusions and verification. The number of informants involves 13 people. The methods used were FGD and interview. The results of the research, showing the process of preparation, implementation, monitoring and recording during the pandemic remain implemented in accordance with the specified program. Suggestions, increase the role of cadres and community leaders in succeeding PMT programs, especially during the pandemic*

**Keywords:** *PMT evaluation, Toddler, Malnutrition*

## **1. INTRODUCTION**

Nutrition in children under five is influenced by socioeconomic factors and socio-cultural backgrounds related to diet and nutrition. Inadequate nutrition in the first five years of life results in irreversible disturbances in growth and physical, mental and brain development. The measure of success in fulfilling nutrition is nutritional status. The nutritional status of children under five reflects the level of development and welfare of society in a country and is related to the health status of children in the future.

Undernutrition is a health problem due to a deficiency or imbalance of nutrients needed for growth, thinking activities and all things related to life. Adaptive nutrient deficiencies are mild to severe. Malnutrition mostly occurs in children aged less than five years. Malnutrition is a condition of malnutrition to a severe level and is caused by low consumption of energy and protein from daily food and occurs for a long time.

Provision of Supplementary Food (PMT) is an activity of providing food to children under five which contains nutritional values in accordance with target needs. PMT is given once a day for 90 consecutive days or 3 months in the form of biscuits that contain 10 vitamins and 7

minerals. Biscuits are only for children aged 12-24 months through the procurement of the Department of Community Nutrition, the Indonesian Ministry of Health, with nutritional values: 180 kcal of total energy, 6 grams of fat, 3 grams of protein.

According to the results of Basic Health Research or Riskesdas (2018) 17.7% of under and poor nutrition in Indonesia, there are 3.9% of children under five with malnutrition, 13.8% of malnutrition. The prevalence of malnutrition in children under five in Indonesia according to the results of Monitoring Nutritional Status (PSG) 2014 which was implemented by the Indonesian Ministry of Health, in 2014 was 4.7%, then in 2015 the number of malnutrition fell to 3.8%, and again decreased in 2016 to be as much as 3.4%. The prevalence of malnutrition in Central Java is 4.1% and has succeeded below the national target of 5.7%. In 2016 in Bogor Regency, namely in the southern Bogor region, the number of malnutrition cases was 532 cases. In Parung Panjang Puskesmas there are 52 cases of malnutrition under five, all children under five are given PMT biscuits every visit to the posyandu or puskesmas.

The specific purpose of this research is to evaluate and provide information on factors that are related to and evaluate the consumption patterns of PMT in malnourished children under five. To achieve this goal, a comprehensive research through the cohort method is necessary. In the early stages of malnourished children, their weight was identified, then for 90 days they were given PMT. In the next stage, the measurement of body weight was carried out again, as well as collecting other qualitative data regarding the pattern of PMT consumption. In the final stage, an analysis of the effect of PMT and consumption patterns will be carried out.

This research is very important because it can be used as one of the routine evaluation methods of the Indonesian Ministry of Health's program through the Health Office regarding the provision of PMT to malnourished toddlers. The information that will be presented is comprehensive, therefore it can also be used as a reference for developing child health-based policies.

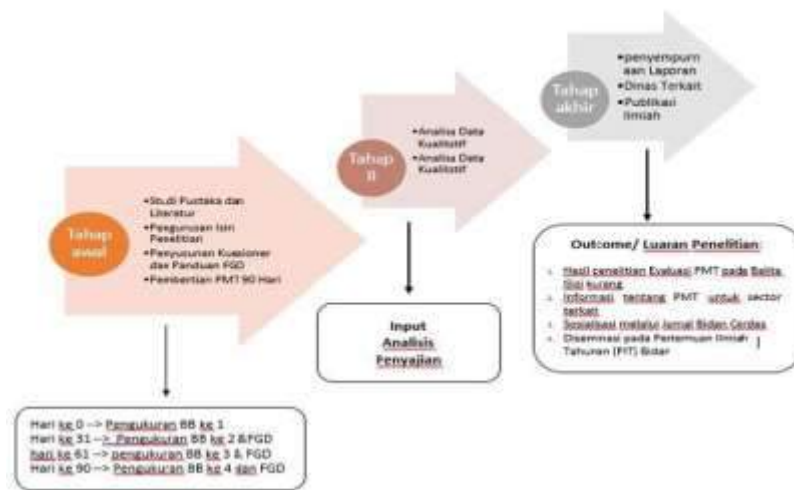
## **2.METHOD**

In line with the objectives to be achieved in this study, namely an overview of the evaluation of the Supplementary Feeding Program (PMT) for underweight children with weight gain, this study used the cohort method with qualitative analysis approach. This method was chosen to obtain comprehensive and appropriate data so that it can be utilized by the related sector.



Qualitative data collection was carried out on the 31st, 61st and 90th day of the PMT program through the Focus Group Discussion (FGD) method, the FGD was conducted with small groups consisting of 4-5 mothers or caregivers of toddlers who accompany PMT consumption. This data collection was carried out to determine the pattern of PMT consumption.

Overall research activities will be completed in two stages (one year), with details of the activities at each stage as follows:



Picture 1: Research Flow

### 3.RESULT AND DISCUSSION

Table 1. Difference in Body Weight for Malnourished Toddlers at Puskesmas in Bogor

Respondent	Weight (Kg)		Differentiation (Kg)	Respondent	Weight (Kg)		Differentiation (Kg)
	Start	Finish			Start	Finish	
1	5,60	6,38	0,78	13	6,06	6,52	0,46
2	6,35	6,77	0,42	14	7,87	8,24	0,37
3	7,10	7,93	0,83	15	6,81	6,86	0,05
4	4,75	5,40	0,65	16	9,90	10,46	0,56
5	9,67	10,10	0,43	17	4,70	7,30	2,60

6	8,85	9,03	0,18	18	7,30	7,42	0,12
7	5,03	6,04	1,01	19	7,20	7,75	0,55
8	6,45	8,02	1,57	20	5,80	5,99	0,19
9	6,70	8,24	1,54	21	6,18	6,57	0,39
10	5,00	5,68	0,68	22	8,00	8,62	0,62
11	6,90	8,70	1,80	23	5,13	5,22	0,09
12	7,70	7,98	0,28	24	5,68	5,97	0,29

The aim of this study was to obtain a detailed description of the implementation of the PMT malnutrition program at the Bogor Regional Health Center. The stages of the study began with data collection, data reduction, data presentation, and drawing conclusions and verification.

The research data collection stage involved informants consisting of 2 people, namely one officer of the Bogor Regional Health Center nutrition program and one mother with malnourished toddlers. Information about the PMT program is categorized into preparation, implementation, monitoring and recording and reporting. Based on the results of interviews with nutrition officers, it was found that the PMT program for malnourished infants continued to run in accordance with applicable policies. In the preparation stage, the logistics of PMT products are in good status from the health office to the Puskesmas. After that, coordination from the sub-district / puskesmas, village, to RW / posyandu levels was also carried out well. Officers screen babies with malnutrition in synergy with village midwives or cadres from posyandu activity reports. During this pandemic, the implementation of posyandu activities was limited since April 2020. Officers used the latest weighing report, namely March 2020. The results of this study are not the same as similar studies, where the preparation stage has not been carried out properly, only at the posyandu level.

At the implementation stage, PMT is given by asking patients to come to the puskesmas, if they do not come, it involves the role of cadres or village midwives to be visited. The type of PMT given during this pandemic is manufactured food in the form of biscuits, milk or baby porridge. This type of PMT manufactured is felt to be more suitable than the type of PMT for local food, considering that the distribution is more affordable for officers with the patient's mother coming to the health center or through cadres, compared to cooking together which of course has the

potential to reduce social distancing during a pandemic. PMT is given for 30 days / month, then monitoring is carried out for the follow-up of the provision of the next PMT for up to 3 months of the program. In the program principle, PMT is given for 90 consecutive days, the provision of PMT per month is done by considering the effectiveness of periodic monitoring of the program, so that it is easy to follow up every month rather than immediately given it for 3 months. He also explained the frequency of consuming PMT, namely 3 times a day with the type of PMT biscuits and baby porridge, 2 times a day with the PMT type of milk while still paying attention to the adequacy of balanced nutrition in the main food every day. This condition exceeds the guidelines, where PMT is given 1 time a day in the morning between breakfast and lunch (around 10.00-11.00), or between lunch and dinner. The frequency of giving PMT more than 2 times is said to be following the guidelines from the health office.

At the reporting and recording stage, the officer monitors weekly the acceptance of additional food that has been disabled beforehand every day by the baby's mother. Growth monitoring is also carried out during visits to the puskesmas every month, if the patient does not come, the officer visits the home directly to monitor the growth and development in the form of measuring the weight and height of the baby. Then the officer recapitulates the puskesmas report every month to be reported to the health department level. This is in accordance with the PMT recording and reporting guidelines.

Apart from the officers, other informants were mothers with malnourished babies. The mother of baby A said that her baby had a poor nutritional status since the age of 6 months and the baby's weight at that time was 4.2 kg. Every day baby A consumes PMT 3 times a day, at 07.00, 11.00 and 14.00. baby A gets a type of PMT in the form of biscuits. In addition to PMT, baby A consumes rice porridge that is made by the mother herself, rice porridge that is made consists of rice, vegetables, tofu or chicken. Baby A doesn't like fruit. It was also told that sometimes baby A ate a small portion of rice porridge. This could be due to the frequency of PMT which is close to the main feeding, such as at 07.00 and 11.00 hours. So it is better if PMT is given only once in every day.

Mother recorded the form given by the puskesmas officer regarding PMT consumption. everyday. The officer asks the mother every week about the recording which is done via a short message what up. Every month the mother routinely brings her baby to the community health center to weigh body weight and height. After participating in the PMT program for 2

months, the baby's weight now at the age of 7 months has reached 5.8 kg. There is weight gain, if seen on the KMS chart, the baby's weight has a red line, but is still on the line in yellow, which means it is still not in accordance with the weight at his age. A review is needed on aspects other than the PMT program that are implemented that can affect infant growth. Improving nutritional status with the PMT program by giving F-100 during this pandemic has an effect on the nutritional status of children under five.

#### **4.CONCLUSION**

There are differences in the PMT distribution mechanism during a pandemic. Implementation of Supplementary Feeding (PMT) has been going well, while the implementation is done door to door

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# IMPROVING CLEAN AND HEALTHY LIFE BEHAVIOR (PHBS) IN HOUSEHOLD AND FAMILY ROLES OF NUTRITION THROUGH HEALTH EDUCATION

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## ABSTRACT

*Family empowerment is an important way to manage nutritional problems. Health education is needed to change behavior that can lead to improving the nutritional health of mothers and their children. The study aimed to determine the influence of health education on Clean and Healthy Life Behavior (PHBS) In Household and Family Roles of Nutrition. This was a quasi experiment with pretest-posttest non equivalent control group design. This study recruited the respondents using a purposive sampling method. Sample size was 50 mothers who had under five year children with stunting in Jakarta. 50 mothers were divided into intervention and control group. The data were analyzed using wilcoxon and chi square. The wilcoxon test results showed that there were significant difference between Clean and Healthy Life Behavior (PHBS) In Household ( $p = 0,003$ ) and Family Roles of Nutrition ( $p = 0,001$ ) before and after intervention. Thus health education may improve behavior of clean and healthy life in household and family roles of nutrition.*

**Keywords:** family role, health education, PHBS

## 1. INTRODUCTION

Malnutrition, including stunting during childhood, is the result of several factors, most of which are related to food intake or severe and recurrent infections or a combination of both. The causes of changes in nutritional status that are most often found include poor quality macro and micronutrient intake due to insufficient diversity consumed as well as poor energy and nutritional density, inappropriate frequency, consistency and quantity of food, poor food safety, poor PHBS application, poor food storage, as well as poverty and poor parental education (Asfaw, et al 2007, Stewart et al. 2013). This condition causes inadequate energy and nutritional intake in children.

Although inadequate nutritional intake is a major factor, stunting is also caused by poor hygiene and lack of food hygiene. Poor hygiene and poor sanitation usually cause environmental enteropathy which can increase the permeability of the small intestine to pathogens and reduce the application of nutrients and even cause diarrhea (HumphrEy, 2009; Lulu'ul, 2017). Research has shown that interventions that focus on changing sanitation and hygiene habits can reduce stunting. Studies have found that sanitation and hygiene

interventions that reach 99% of the population can reduce diarrhea symptoms by 30%, thereby reducing the prevalence of stunting by 2-4% (Brutta et al. 2008).

Most of the incidence of infectious diseases worldwide is due to the person-to-person transmission of pathogens within the household. This transmission can occur through direct transfer from hand to mouth, through food prepared at home by an infected person or through transmission of aerosol particles due to sneezing, vomiting or diarrhea (House et al. 2012, Rabie & Curtis, 2006; Robert et al. 2016). This infection can be prevented by good practice of clean and healthy life behavior (PHBS) (Curtis et al., 2000). Therefore hygiene is important as the first line of defense to reduce the spread of pathogens in the everyday human environment (Curtis et al., 2000, Larson & Duarte 2009; Robert et al. 2016).

The incidence of stunting in the world in 2018 was 149 million (21.9%). In 2018, more than half of stunting children in the world came from Asia (55%) with the proportion of stunting in Southeast Asia was 25% (Unicef, WHO, & World Bank Group, 2019). The prevalence of severe stunting and stunting children aged 0-59 months in Indonesia in 2013 was 18% and 19.2%. The incidence of severe stunting children has decreased in 2018 to 11.5%, but the prevalence of stunting has increased to 19.3% (Risikesdas, 2018).

Parents act as agents of socialization in mobilizing health, role models, and educators in the lives of their children (Case & Paxson, 2006, Maccoby, 2016). Thus it is necessary to provide nutrition health education to parents in the hope that they can apply knowledge in fulfilling nutritional intake for their children. There have been many research studies related to health education. Among them are the research conducted by Makoka (2013) and Headey et al. (2015) which examined the relationship between knowledge of nutrition and maternal education in producing children's health, some researchers found a strong relationship between education and child nutrition. More researchers show that there is no significant relationship between parental education (low level of education) and children's nutritional status (Ruel et al. 1992; Alderman 2017). Research shows that community-based education on maternal nutrition knowledge for young women and school dropouts can compensate for low levels of parental education in producing better nourished children (Block, 2007 and Broeck, 2007). In the results of the research, Fadera et al (2019) recommends out-of-school health education (Informal) to help parents without formal education to get health or nutrition knowledge. In this study will examine more deeply the effect of health education on the role

of the family in maintaining nutritional intake of children under five and the PHBS application of household.

## **2. MATERIALS AND METHODS**

This was a quasi experiment with pretest-posttest non equivalent control group design. This study recruited the respondents using a purposive sampling method. Sample size was 50 mothers who had under five year children with stunting in Jakarta. 50 mothers were divided into intervention and control group. The research instrument was questionnaire that using a modified questionnaire by Mirayanti which refers to Green and Engel's theory (Mirayanti, 2012; Engle, 1997). Clean and Healthy Life Behavior (PHBS) In Household and Family Roles of Nutrition were measured twice, before intervention (pre-test) and after intervention (post-test). Intervention activities were carried out in 2 meetings. Each meeting consist of two sessions, namely the first session of lectures and discussions then followed by the second session of demonstrations.

Clean and Healthy Life Behavior (PHBS) In Household and Family Roles of Nutrition remeasured on the 7<sup>th</sup> day. Data analysis was conducted using wilxcoxon and chi square. Values of  $p < 0.05$  were considered significant. The study was explained to the patients, and permissions from participants were sought by informed consent, while confidentiality and anonymity were assured. Participants had the right to withdraw from the study at any time. The study has been approved to be established by Ethics Commission of Health Research and Development Sint Carolus School of Health Science

## **3. RESULT**

Table 1 shows that majority of mothers are in the young adult age range, the control group at 72% and the intervention group at 76%. Based on the level of education, table 1 shows that most mothers in the control group had a primary education level of 60%, while in the intervention group most mothers had a secondary education level of 60%. The status of respondents who do not work is 88% in the control group and 92% in the intervention group. Majority of mothers have children aged 24-35 months, namely 52% in the control group and 48% in the intervention group. Based on gender, the majority of children in the intervention group were female, namely 56%, while in the control group, the majority of children were male (52%). Based on nutritional status (height / age), the majority were severe stunting, namely in the control group at 64% and the intervention group at 72%.



Tabel 2 shows that behavior of clean and healthy life in household in experimental group improve in a positive way. Behavior of clean and healthy life in household in the intervention group had a significant difference before and after intervention with the p value 0,003 ( $p < 0,05$ ) Whereas, nutrition Parenting within the control group does not show significant difference with p value 0,782. However the result of the chi square (tabel 3) showed that there was no significance difference of the behavior of clean and healthy life in household between Experimental and control group with the p value 0,327 ( $p \text{ value} > 0,005$ )

Tabel 4 shows that family roles of nutrition in experimental group have a significant difference before and after intervention with the p value 0,001 ( $p < 0,05$ ) Whereas, family roles of nutrition within the control group does not show any significant difference with p value 0,072. Table 5 reflects analysis difference family roles of nutrition between two groups. It is found there is no significance difference of nutrition family roles between Experimental and control group with the p value 0,134 ( $p \text{ value} > 0,005$ )

#### **4.DISCUSSION**

Stunting and the fulfillment of nutrition for children under five are still major concerns in Indonesia, especially in DKI Jakarta. Factors that contribute to stunted growth and development include poor maternal health and nutrition, inadequate infant and young child feeding practices, and infection (WHO, 2014). Infection, resulting from exposure to contaminated environments and poor hygiene are associated with stunting, owing to nutrient malabsorption and reduce ability of the gut as a barrier against disease causing organism. Prevention of infections requires household practices such as hand-washing with soap.

The results showed that there were significant differences in the behavior of clean and healthy life in household before and after health education, namely in the form of increased behavior of clean and healthy life. Result in this study similar with Saleh and Kunoli (2018) that conclude there is an influence of counseling and training through media Leaflets on the knowledge of PHBS. Another study conducted by Mulyadi et al (2018) explained that there is a significant effect before and after being given health education with video media on the level of knowledge about the healthy behavior. Previous study showed that the effective PHBS influenced the incidence of stunting (Langi, Louisa Ariantje, 2020).

Inadequate nutrition is one of the many causes of stunting. Women play important roles in promoting and protecting the food intake and nutritional status of their family members through the food they produce and process, and the care- and health-promoting behaviors they practice (Kurz & Welch, 2001). Based on the results of this study indicate that family roles of nutrition in experimental group have a significant difference before and after health education. Result in this study similar with Karimawati, Widodo & Listyorini (2013) that conclude there is influence of health education to the knowledge and mother attitudes about nutrient intake on toddler age. Another study conducted by Novikasari and Fitriana (2021) explained that there is influence nutrition education to infant feeding practices of maternal stunting. Previous study showed that family participation in a preschool nutrition education program can increase the effectiveness of nutrition education (Aktac et al., 2019). Education is part of health education that are needed as an effort to increase knowledge and awareness in addition to knowledge of attitudes and actions (Maulana, 2007).

## **5.CONCLUSION**

It can be concluded that health education may improve behavior of clean and healthy life in household and family roles of nutrition. Thus health education could be used as an alternative intervention to improve health behavior in preventing stunting.

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# DETERMINATION OF STUNTING IN TODDLERS IN DEMAK REGENCY

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## **ABSTRACT**

*To see the factors that cause stunting in toddlers and warnings, as well as interventions that must be done to curb the stunting rate according to the needs and conditions of the Demak Regency community. This research uses a quantitative quantitative approach. The study population was the parents of children under five who were stunted in Demak Regency. Research data are in tabular form. The current national prevalence of stunting is 30.8%, in Central Java it is 31.22%, while in Demak it is 26.1%. According to WHO, the maximum limit for stunting patients is 20% of the total number of children under five. The direct causes of stunting are nutritional intake and infectious diseases. Indirect causes, namely victims of food at the household level, behavior or care for mothers and children, and health and environmental services. Environmental factors are the most important factor in the process of stunting compared to ethnic or genetic factors. Low public knowledge, poor hygiene, slum neighborhoods, lots of infectious diseases, contaminated or insufficient food, all in a poor environment. Maternal education and knowledge of maternal nutrition are factors related to the incidence of stunting in children under five. The factors causing stunting in Demak Regency are maternal education, family income, maternal knowledge about nutrition, offering exclusive breastfeeding, and fulfilling nutrition.*

**Keywords:** *Nutrition, Behavior, Stunting*

## **1. INTRODUCTION**

The problem of malnutrition and over nutrition in children under five is still a challenge in improving public health in Indonesia. The current priority problem of malnutrition is chronic malnutrition in children under five, which is represented by anthropometric status of TB / U that is below normal, namely children with short and very short categories, which is called stunting (Budhathoki et al., 2019). Stunting is an ongoing journey that can be built from the conditions of pregnancy of pregnant women with parenting styles (Tanjung et al., 2020). Parenting patterns for babies up to 1,000 days of birth are very influential on the incidence of stunting. At 270 days the fetal growth period that grows at 730 days after birth to 2 years is the compilation of tissue mass and organ maturation which is the basis. Stunting can be caused by a lack of nutritious food intake and recurrent infections, such as diarrhea and respiratory infections (Habimana and Biracyaza, 2019).

Stunting can be devastating in the short and long term. In the short term, stunting can have an impact on growth failure, barriers to cognitive and motor development so that it affects brain

development. Meanwhile, the long-term impact of stunting is a permanent decrease in intellectual capacity, impaired structure and function of nerves and brain cells. The impact of stunting is permanent and difficult to return to its potential growth path. Children who are already short (stunted) will decrease their physical potential, thus hindering the potential for other abilities and skills that are very important for the development of the next quality of life. The stunted child presented a decrease in intelligence. As a result, in the next period, they will have low cognitive abilities and lead to uncompetitive quality of work, thus affecting low economic productivity (Yadika ADN et al., 2015).

According to the World Health Organization (WHO), the maximum limit for stunting patients is 20% of the total number of children under five. Based on the results of basic health research (Risikesdas), the percentage of children under five with stunting in 2018 was 30.8%. In Indonesia, 9.8% of children under five have very short nutritional status and 19.8% of children under five have a short nutritional status. The percentage of stunting (very short and short) in the under-five group (29.6%) was higher than in the baduta group (20.1%) (Ministry of Health RI, 2018). In Central Java, the prevalence of stunting according to PSG data shows an increasing development from 2014 to 2017, namely 22.6% -24, 8% -23.9% and 28.5% in 2017. The high prevalence of stunting in Indonesia and in Central Java, which is spread across all districts / cities, is feared that there will be a "lost generation" in the future. Nutritional status monitoring data (PSG) in 2017 shows the prevalence of stunting in Central Java is 28.5% spread across all districts / cities with a prevalence range, the lowest is 21.0% in Semarang City, and the highest is 37.6% in Grobogan Regency. Based on the data, all districts / cities in Central Java are still facing the problem of chronic stunting malnutrition. Thus, in all districts / cities in Central Java, comprehensive efforts are needed to reduce the prevalence of stunting (Dinkes Central Java, 2019).

Based on the data obtained, it is necessary to conduct research to determine the factors causing the high incidence of stunting in children under five in Demak Regency. Thus, we can find out the efforts and interventions that must be made to reduce the high rate of stunting in accordance with the needs and characteristics of the people of Demak Regency.

## **2. METHODS**

This research is a cross sectional study using a quantitative descriptive approach. The sampling technique used was purposive sampling by taking 50 parents of toddlers who were stunted in Demak Regency. The dependent variable is the incidence of stunting in children under five, while the independent variable is exclusive breastfeeding, energy intake, maternal education, maternal occupation, and economic status. The research data are presented in tabular form.

## **3. RESULT**

The research results are presented in the form of a table attached at the end. Based on the research, it is found that stunting is influenced by many factors. These factors are interrelated

with one another. The causes of stunting are exclusive breastfeeding, energy intake, maternal education, maternal occupation, and economic status. Toddler stunting is caused by a history of non-exclusive breastfeeding, low energy intake, low level of maternal education, mothers who do not work, and low family economic levels.

#### **4. DISCUSSION**

The growth and development of children under five is influenced by several factors. These results are in line with the research of Soetjningsih (2014), where there are two factors that influence children's development, namely genetic factors and environmental factors.

Environmental factors can affect the development of a child after birth. Postnatal environmental factors can be classified into biological environment, physical factors, psychosocial factors, family factors, and customs. Family factors, such as mother's education level, mother's employment status, and family income.

##### **Exclusive Breastfeeding.**

Based on the research results, most of the research subjects did not exclusively breastfeed. Toddlers who are stunted, more than 50% do not have a history of exclusive breastfeeding. This is in line with research conducted by Dewi AP et al. (2019) and Komalasari et al. (2020) that breastfeeding babies contributes to the nutritional status and health of the baby. All substances a baby needs in the first six months of life can be met from breast milk. Breast milk can meet half of the nutritional needs of infants aged 7-12 months. In the second year of a baby's life, breast milk provides one-third of the nutrients needed. Breast milk contains immune substances that protect babies from infectious diseases. In addition, breastfeeding is also associated with the growth of the child's body length. The duration of breastfeeding has a positive relationship with long growth, the longer the children are breastfed, the faster they grow both in the second and third years of life (Mugianti S et al, 2018). Another study added that colostrum provides a protective effect on newborns so that babies who do not receive colostrum have a higher incidence, duration and severity of diseases, such as diarrhea that contributes to malnutrition (Supariasa IDN and Purwaningsih H, 2019).

Giving complementary foods too early (less than 6 months) can cause toddlers to be prone to infectious diseases because the baby's digestive tract is not ready to digest food. Infectious diseases that often affect children under five are diarrhea and ISPA. Toddlers who suffer from infectious diseases can interfere with their growth process because the process of absorbing nutrients from the food consumed is lost due to viruses in their digestive system (Aini EN et al., 2018; Rahmawati LA et al, 2020). Research by Sari DN and Medhyna V (2019) states that toddlers who are given formula milk are more prone to contracting diseases because the nutritional content in formula milk is not as good as in breast milk.

##### **Energy intake**

Based on the results of the study, most of the stunting toddlers received sufficient and even low energy intake. Low energy intake is the highest cause of stunting because total energy is directly related to physical growth deficits in children. This is in line with research conducted

by Nurgina et al. (2019) that toddlers who receive low energy intake are stunted 2.7 times higher than toddlers who receive sufficient energy intake. Low energy intake is influenced by the mother's ignorance about stunting so that the mother does not have any efforts to increase energy intake for children. As an alternative, mothers can make creative foods that can make children more interested in eating them. In addition, infectious diseases can also result in decreased appetite in children (Mugianti S et al., 2018).

Parents' parenting plays an important role in regulating the nutrition and quality of food consumed by children. If the quality of food consumed by toddlers is good, it will meet the nutritional needs of toddlers properly. Thus, it can avoid the incidence of malnutrition in children (Rahmawati LA et al., 2020).

Balanced nutritional intake plays an important role in the child's growth process. The results of research by Mentari S and Hermansyah A. (2018) state that stunting is mostly found in children whose diet is not good. This is because mothers pay less attention to feeding their children. The average child eats less than 3 main meals. Children prefer to play so they often forget about the time to eat. In addition, children like to eat snacks and do not eat fruit every day (Mentari S and Hermansyah A, 2018). Providing balanced nutrition is not only related to the balance of nutritional composition and body needs of toddlers, such as carbohydrates, protein, fat, vitamins and minerals, and water, but also balance with a clean lifestyle to prevent food contamination and infection (Maywita E, 2018).

#### Mother's Education

Based on the results of the study, most of the mothers of stunting children had moderate or even low education. Education indirectly affects the knowledge of mothers in caring for toddlers (Dewi AP et al, 2019). Individuals who have a higher education level are more likely to know better about healthy lifestyles and how to keep the body in shape, which is reflected in the implementation of a healthy lifestyle, such as eating nutritious foods. Individuals with higher education levels tend to avoid bad habits, such as smoking and alcohol, so they have better health status. The level of education also affects the level of knowledge. A good level of knowledge helps in choosing food properly and handling health problems well (Setiawan E et al., 2018; Komalasari et al., 2020). In addition, research conducted by Yanti ND et al. (2020) states that maternal education is indirectly related to stunting because it plays a role in making decisions related to health care

#### Mother's work

Based on the research, it was found that most of the stunting mothers were not working. According to Dewi AP et al. (2019) mothers who do not work cannot help the family economy so that the purchasing power of nutritious food for toddlers is still lacking. Adequate family income will support the child's growth and development because parents can provide all the basic needs of the child. Children in families with low economic status tend to consume food in terms of less quantity, quality and variety. High economic status makes a person choose and buy nutritious and varied food (Setiawan E et al., 2018; Amin NA and Julia M, 2014). In addition, families with good economic status can get better public services



such as education, health services, and road access so that they can affect the nutritional status of children (Aini EN et al., 2018; Titaley et al., 2019).

#### Economic Status

Based on the research results, it was found that most of the research subjects had low and middle economic status. This is in line with previous research that the low household income factor was identified as a significant predictor of stunting in children under five by 2.1 times (Apriluana G and Fikawati S, 2018). One of the causes of impaired infant growth and nutritional problems is the economy. Most of the children under five who experience growth disorders have a low economic status (Aridiyah FO et al., 2015). Economic status can indirectly affect the nutritional status of children. For example, families with good economic status can get better public services, namely education, health services and so on (Mugianti S et al., 2018).

MAccording to Sari DN and Medhyna V (2019) the economic status of the family affects the diet and growth of children. Low income will affect the food given to children under five. Income is a factor that most determines the quality and quantity of food. Income and nutrition are closely related in fulfilling food as a necessity for family life. The higher the purchasing power of the family, the more food is consumed and the better the quality of the food consumed. Meanwhile, families with low economic status have low purchasing power for foods that have good nutrition, so they risk macro and micro nutrient deficiencies. Nutritional deficiencies in pregnant women and toddlers can increase the risk of stunting in children (Yanti ND et al., 2020).

## 5. CONCLUSIONS AND RECOMMENDATIONS

1. The factors causing stunting of children under five in Demak Regency are a history of non-exclusive breastfeeding, low energy intake, low level of maternal education, mothers who do not work, and low family economic levels.
2. Efforts and interventions to reduce stunting are needed through:
  - a. Integrated pillars include: 1) socialization with a focus on understanding, behavior change, political commitment and accountability; 2) convergence, coordination and consolidation between local governments, village governments, communities and other stakeholders; 3) encouraging food and nutrition awareness policies; and 4) monitoring and evaluation.
  - b. Increased knowledge and understanding of posyandu cadres regarding early detection of stunting in children under five. Cadres as the closest guard in handling stunting in the regions.

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# SLEEP QUALITY INDEX COMPARISON BETWEEN URBAN AND RURAL POPULATION IN NORTH SUMATERA

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## ABSTRACT

*An estimated 150 million people worldwide and at least 17% of the population of developing countries experience sleep problems. The purpose of this study was to see an overview of sleep quality in urban and rural areas, Pantai Labu District. This study is a quantitative study with a retrospective cohort design. The population of this research is people aged > 18 years who live in Pantai Labu District, Deli Serdang Regency, North Sumatra Province. The comparison of exposure (rural) and non-exposure (urban) samples in this study was 1: 1 by taking a minimum sample of 91 people for each group, so that the total sample was 182 people. The instrument used was the Pittsburgh Sleep Quality Index questionnaire. The proportion of poor sleep quality is high in rural areas. The results of statistical tests found a significant difference in sleep quality between rural and urban population areas (P. value 0.01; alpha 5%). Rural residents are 1.5 times more likely to have poor sleep quality (RR 95% CI 1.14 - 1.98) than urban residents. A significant difference in sleep quality index scores is found in the disturbance indicator at the sleep stage where the villagers have an average score of 12 (moderate disturbance), compared to urban residents who have an average score of 9 (mild disturbance). Based on the topographical area, the proportion of people with poor sleep quality is quite high in rural areas which is probably due to several things, including community activities at night. Suggestions in the form of providing education to the public are important to do so that people care more about their sleep patterns by health center officers or other health workers. The community also needs to change behaviors that risk causing poor sleep quality.*

*Keywords : Pittsburgh Sleep Quality Index, Sleep Quality, Urban and Rural Population.*

## 1. INTRODUCTION

It is estimated that 150 million people worldwide and at least 17% of the population of developing countries experience sleep problems (Berhanu, et al, 2018). Sleep problems will cause poor sleep quality which has an impact on physical health in the long term, such as a significantly increased risk of heart disease which can lead to death (Augner, 2011). In addition, sleep patterns and sleep quality were also associated with obesity severity and weight-related behavior (Hayes, et al, 2018).

The factors that affect a person's sleep quality vary widely. In the urban community in Tehran, it was found that women, adults, widows and separated partners were the most important risk factors for sleep disturbances. Sleep disturbances can include snoring, sudden stop breathing, or waking up in the middle of the night (Asghari, et al, 2012). The prevalence

of poor sleep quality is more common in women than in men. This difference can be due to differences in sex in which each person will produce different hormones (Asghari, et al, 2012). Pregnancy is one of the factors that makes a difference to sleep quality in women. The average pregnant woman had a Pittsburgh Sleep Quality Index score of 6.07 (95% CI 5.30 - 6.85) (D. Sedov, et al, 2018).

Age significantly affects sleep quality. Based on research describing the quality of sleep for people aged 43 to 71 years with a total of 2,114 respondents, it was found that PSQI scores increased in the older group. This increase illustrates that age is related to sleep quality (OR: 1.05; 95% CI 1.03-1.06) (Madrid-Valero, et al, 2017).

One of the things that distinguishes between urban and rural areas is work. This is evidenced by research conducted on female shift workers at PT. Sandratex in 2016. The results show that most female working women have a prevalence of poor sleep quality of 88.9% (Nuryanti, 2016).

In a study in urban areas using 411 respondents, it was found that the prevalence of poor sleep quality in urban communities was 42.58%. Meanwhile, in rural communities with a total of 443 respondents, the prevalence of people with poor sleep quality was 35.89%. The difference in the prevalence of people with poor sleep quality is 6.69% (Mondal, et al, 2018).

The high prevalence rate of poor sleep quality and the impact of this made researchers choose Sleep Quality. Then, the difference in the prevalence of poor sleep quality in urban and rural areas became the reason for the researchers to choose Pantai Labu Subdistrict to be the place of research which consisted of urban and rural areas. In addition, the work of fishermen, which requires working at night, puts the people of Pantai Labu Subdistrict at risk of having poor sleep quality.

## **2. METHODS**

### **2.1. Types of Research**

This study is a quantitative study with a retrospective cohort design, which is a study starting from dividing the group into rural and urban areas then assessing the outcome of each group's sleep index.

### **2.2. Reserach Sites**

The research was conducted in Pantai Labu District, Deli Serdang Regency, North Sumatra Province.

The urban areas are Kelambir sub-district / village, Kubah Sentang, Denai Bird's Nest, Paluh Sibaji, Labu Pekan Beach, Pematang Monara, and Rantau Panjang.

The rural areas are Sei Tuan, Tengah, Durian, Ramunia Plantation, Ramunia I, Ramunia II, Denai Lama, Binjai Bakung, Denai Kuala, Pantai Labu Baru, Rugemuk and Bagan Serdang

### 2.3. Population and Research Sample

The population of this research is people aged > 18 years who live in Pantai Labu District, Deli Serdang Regency, North Sumatra Province. The comparison of sample exposure and non exposure in this study is 1: 1 by taking a minimum sample of each group is 91 people, so the total sample is 182 people.

The inclusion factor is people aged > 18 years who live in Pantai Labu District. Meanwhile, the exclusion factors were the community, immigrants, and non-permanent residents of Pantai Labu District.

### 2.3. Data Collection

Data was collected by interview, measurement of BMI (height, weight) as measured by microtoise and weight scales. The instrument used was a questionnaire regarding sleep quality and demographic data of respondents. Sleep quality was measured using the translated Pittsburgh Sleep Quality Index (PSQI) questionnaire.

### 2.4. Data Analysis

This study used a descriptive analysis in the form of frequency and central distribution analysis. Meanwhile, to find the level of significance of the differences in the sleep quality index of urban and rural communities using the T-test statistic. Then to analyze the factors that affect the quality quality index using the Chi Square statistical test with a large risk using relative risk.

## 3.RESULT

The sample in this study consisted of urban and rural groups with 91 samples each.

**Table.1 Distribution of Sample Characteristics**

Variable		N	Mean	Median	SD	95% CI Of Mean
IMT (kg/m <sup>2</sup> )	Rural	91	25.40	24.62	4.66	24.43 – 26.47
	Urban	91	25.36	25.73	5.30	24.25 – 26.46
Age (Years)	Rural	91	43.92	42.00	14.31	40.94 – 46.90
	Urban	91	45.12	46.00	13.51	42.31 – 47.94
Income (Rupiah)	Rural	91	1.539.560	1.500.000	1.275.211	1.273.984 – 1.805.139
	Urban	91	1.570.692	1.400.000	1.252.384	1.309.870 – 1.831.614

Based on Table 1, it is known that, in the Rural group, the average age of the sample is 43.92 years (SD 14.31, 95% CI 40.94 – 46.90), with an average score IMT 25.40 (SD 4.66, 95% CI 24.43 – 26.47) as well as average income 1.539.560 (SD 1.275.211, 95% CI 1.273.984 – 1.805.139). Meanwhile, in the urban group, the average age of the sample is 45.12 years (SD 13.51, 95% CI 42.31 – 47.94), with an average score IMT 25.36 (SD 5.30, 95% CI 24.25 – 26.46) as well as average income 1.570.692 (SD 1.252.384, 95% CI 1.309.870– 1.831.614).

**Table.2 Comparison os Sleep Quality Index for Rural and Urbam Population**

Variable		N	Mean	Median	SD	CI Of Mean	P
Sleep Quality Score	Rural	91	6.93	7.00	2.29	6.46 – 7.41	0.41
	Urban	91	6.62	7.00	2.91	6.01 – 7.22	
Sleep Quality Index Component 1 (Subjective Sleep Quality)	Rural	91	1.16	1.00	0.83	0.99 – 1.26	0.58
	Urban	91	1.10	1.00	0.79	0.93 – 1.26	
Sleep Quality Index Component 2 (Sleep Latency)	Rural	91	2.68	3.00	1.58	2.35 – 3.01	0.23
	Urban	91	2.37	2.00	1.87	1.99 – 2.76	
Sleep Quality Index Component 3 (Sleep Duration)	Rural	91	6.89	6.92	1.48	6.58 – 7.20	0.12
	Urban	91	6.54	6.83	1.61	6.20 – 6.87	
Sleep Quality Index Component 4 (Habitual Sleep Efficiency)	Rural	91	92.73	94.44	7.15	91.24 – 94.22	0.48
	Urban	91	91.78	95.83	10.50	89.59 – 93.97	
Sleep Quality Index Component 5 (Step Disturbances)	Rural	91	12.12	12.00	4.11	11.26 – 12.98	0.00
	Urban	91	9.78	10.00	4.49	8.84 – 10.72	
Sleep Quality Index Component 6 (Use of Sleeping Medication)	Rural	91	0.01	0.00	0.01	-0.01 – 0.03	1.00
	Urban	91	0.01	0.00	0.10	-0.01 – 0.03	
Sleep Quality Index Component 7 (Daytime Dysfunction)	Rural	91	1.26	1.00	1.00	1.06 – 1.47	0.85
	Urban	91	1.30	1.00	1.12	1.06 – 1.53	

Based on Table 2, it is known that in the rural group, the average sleep quality score for the sample is 6,93 (SD 2.29, 95% CI 6,49-7.41), with the index average Subjective Sleep Quality 1.16 (SD 0.83, 95% CI 0,99-1.26), index average sleep latency 2.68 (SD 1.58, 95% CI 2.35-3.01), index average sleep duration 6.89 (SD 1.48, 95% CI 6.58-7.20), habitual index average



sleep disturbances 92.73 (SD 7.15, 95% CI 91.24-94.22), index average step disturbances 12.12 (SD 4.11, 95% CI 11.26-12.98), index average use of sleeping medication 0.01 (SD 0.01, 95% CI -0.01-0.03), and index average daytime dysfunction 1.26 (SD 1.00, 95% CI 1.06-1.47). In the urban group the average sleep quality score for the sample is 6.62 (SD 2.91, 95% CI 6.01-7.22), with the index average Subjective Sleep Quality 1.10 (SD 0.79, 95% CI 0.93-1.26), index average sleep latency 2.37 (SD 1.87, 95% CI 1.99-2.76), index average sleep duration 6.54 (SD 1.61, 95% CI 6.20-6.87), index average habitual sleep disturbances 91.78 (SD 10.50, 95% CI 89.59-93.97), index average step disturbances 9.78 (SD 4.49, 95% CI 8.84-10.72), index average use of sleeping medication 0.01 (SD 0.10, 95% CI -0.01-0.03), and index average daytime dysfunction 1.30 (SD 1.12, 95% CI 1.06-1.53).

Based on the results of the T-Test in Table 2, it is known that there is no significant difference between sleep quality in urban and rural communities on the variable (subjective sleep quality) (P value = 0.58), (use of sleeping pills) (P value = 1.00), and (daytime dysfunction) (P value = 0.85). There is a significant difference between sleep quality in urban and rural communities on the variable (sleep latency) (P value = 0.23), (sleep duration) (P value = 0.12), (usual sleep efficiency) (P value = 0.48), and (sleep disorders) (P value = 0.00).

**Table.3 Analysis of factors that affect sleep quality**

Variable	Sleep Quality						P	RR (CI 95%)
	Bad		Good		Total			
	n	%	n	%	n	%		
<b>Territory</b>								
Rural	71	78%	20	21%	91	100%	0.01	1.50
Urban	54	59%	37	40%	91	100%		(1.14 – 1.98)
<b>Gender</b>								
Man	22	78%	6	21%	28	100%	0.32	1.09
Women	103	66%	51	33%	154	100%		(0.96 – 1.23)
<b>Smoking Behavior</b>								
Active smoker	13	61%	8	38%	21	100%	0.52	
Passive smoker	60	66%	30	33%	90	100%		
Not a smoker	52	73%	19	27%	71	100%		
<b>Marital Status</b>								
Single	7	70%	3	30%	10	100%	0.84	-
Married	101	67%	48	32%	149	100%		
Divorced	17	73%	6	26%	23	100%		
<b>Education</b>								
No School	26	74%	9	26%	35	100%	0.74	-
Primary School	47	70%	20	30%	67	100%		
Junior High School	26	63%	15	36%	41	100%		
Senior High School	22	66%	11	33%	33	100%		

Variable	Sleep Quality						P	RR (CI 95%)
	Bad		Good		Total			
	n	%	n	%	n	%		
College	4	66%	2	33%	6	100%		
<b>Body Mass Index</b>								
Obesity	70	72%	26	28%	96	100%	0.21	-
Normal	48	64%	26	35%	73	100%		
Less	7	58%	5	41%	12	100%		
<b>Age</b>								
Adult	98	66%	50	33%	148	100%	0.19	0.57
Elderly	27	79%	7	20%	34	100%		(0.26 – 1.23)

Based on Table 3, several factors that influence sleep quality include regional factors, as many as 71 people (78%) of residents in rural areas experience poor sleep quality and as many as 54 people (59%) of residents in urban areas experience poor sleep quality. Based on these results, residents in rural areas experience a greater poor quality of sleep than urban communities and this has a significant correlation value, namely 0.01  $P < 0.05$ . Then in the community, men experience more poor quality sleep than women, 78% of the male population experiences poor quality experience and 66% experienced by the female population. However, it does not have a significant correlation with a correlation value of 0.32  $P < 0.05$ . Smoking behavior in this study did not affect sleep quality, the non-smoking respondents actually experienced the most bad sleep quality, namely 73% with a P value on smoking behavior with sleep quality of 0.52  $P < 0.05$ . Respondents with divorced marital status experienced the most poor sleep quality, amounting to 73%, but with a P value of 0.84  $P < 0.05$ , it means that there is no relationship between marital status and sleep quality. In the education variable, it was found that 26 people (74%) who did not attend school experienced poor sleep quality. A total of 70 people (72%) who were obese also experienced poor sleep quality but body mass index had no correlation with sleep quality with a P value of 0.21  $P < 0.05$ . And finally, the elderly have a poor sleep quality of 79%, but there is no correlation between age and sleep quality of the population with a P value of 0.19  $P < 0.05$ .

## 4.DISCUSSION

### 4.1. Sleep Quality and Topography

Based on the topographical area, the proportion of people with poor sleep quality in rural areas is (78%), and in urban areas is (59%). This study is in line with previous research conducted by Asghari et al (2012) on urban communities in Tehran. Based on this study, it is known that 37% of people have poor sleep quality.

#### 4.2. Sleep Quality and Gender

Based on the results of this study, the proportion of poor sleep quality was male (78%) in both urban and rural areas. This study is not in line with research conducted in urban and rural areas in North 24 Parganas. Based on this research, it is known that the proportion of people with poor sleep quality, both in urban and rural areas, are women (Mondal, 2019). This is because gender differences will cause each person to produce different hormones that affect sleep quality (Asghari, 2012).

#### 4.3. Sleep Quality and Age

Based on the results of this study, the quality of sleep is poor in rural communities in the 40-46 year age group. Whereas in urban communities, the quality of sleep is mostly in the age group of 42 - 48 years. Different results were obtained in research conducted in urban and rural areas in North 24 Parganas, which found that the highest proportion of poor sleep quality was in urban and rural communities in the 61-70 year age group.

#### 4.4. Quality of Sleep and Last Education

Based on the results of this study, the proportion of urban and rural people with the highest quality of poor sleep is people who have no education (74%). The same results were obtained from research conducted at Adam Malik Hospital, Medan, which found that poor sleep quality was greatest in the higher education group, amounting to 57.1% (Mariani, 2019).

#### 4.5. Sleep Quality and Marital Status

Based on this study, the frequency of urban and rural people with poor sleep quality was mostly those who were divorced. This is in line with research conducted in urban and rural areas in North 24 Parganas. It is known that the proportion of people with poor sleep quality, both in urban and rural areas, is divorced.

#### 4.6. Sleep Quality and Income

Based on the results of this study, the proportion of urban people who have the greatest poor sleep quality is the group with an income of Rp. 5,600,001 - Rp. 6,400,000. Meanwhile, in rural communities, the proportion of the highest quality of sleep is in people with an income of Rp. 4,800,001 - Rp. 5,600,000. In another study conducted at Adam Malik Hospital, Medan, it was found that poor sleep quality was mostly found in the low income group, with a

proportion of 54.5% (Mariani, 2019). Likewise, research conducted by Ningli (2019) states that low family economic status is associated with poor sleep quality.

#### 4.7. Sleep Quality and Cigarette Consumption

The results of this study indicate that the proportion of poor sleep quality in urban and rural communities is found in the nonsmokers group. Conversely, according to research conducted in China, it is known that sleep disorders are more common in smokers than non-smokers (Lioa, 2019). Firdaus's research (2018) also found the same thing that the higher the smoking behavior, the higher the tendency for insomnia, which then determines the quality of one's sleep.

#### 4.8. Sleep Quality and BMI

The results of this study indicate that the urban and rural communities who have the greatest proportion of poor sleep quality are obese people. This result is different from research conducted at Adam Malik Hospital, Medan, which found that the group with the largest proportion of poor sleep quality was found in people with normal Body Mass Index, namely 41.2% (Mariani, 2019). The same results were found in a study conducted by Hayes (2018) that sleep patterns and sleep quality were also associated with the severity of obesity and behavior related to body weight.

### **Conclusion**

Based on the topography area, the proportion of people with poor sleep quality was higher in the Rural group (RR = 1.50) and male (RR = 1.09).

### **Suggestion**

Providing education by health center officers and other health workers to the community is important so that people care more and pay attention to their sleep patterns. The community also needs to make preventive efforts to overcome poor sleep quality so it is recommended that people be able to maintain the Body Mass Index so they do not experience obesity by not eating before going to bed at night, reducing the burden on the mind by doing worship before going to sleep, cleaning themselves and the bed to feel comfortable while sleeping, and reduce activities that can disrupt sleep patterns such as consuming coffee and cigarette

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# **FAST FOODS CONSUMPTION AMONG PUBLIC HEALTH STUDENTS IN DKI JAKARTA PROVINCE DURING COVID-19 PANDEMIC**

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## **ABSTRACT**

*Since WHO declared COVID-19 as a pandemic, there have been many changes in people's lives. Food delivery services makes it easier for people to consume fast food. The high consumption of fast food can lead to obesity, which in several studies is known to have a relationship with the incidence of COVID-19, its severity, and death from COVID-19 even among young people. This study aims to determine the fast foods consumption among Public Health students in DKI Jakarta during COVID-19 pandemic. It used a cross-sectional study design, involved 413 students from 14 institutions in DKI Jakarta. Data collection in November-December 2020 through filling out an online questionnaire. Food with the highest percentage were instant noodles (90.6%), fried chicken (90.6%), fritters (85.2%), chips and ice cream (82.3%), also chicken noodle and meatballs (81.8%). Based on the frequency of eating >3 times a week, the highest were chips (21.3%), instant noodles (19.9%) and fritters (19.4%). Based on the frequency of eating 1-3 times a week, fried chicken (75.8%), instant noodles (70.7%), and meatballs (69%) were the highest. Those foods are high calories, sodium and fat. Education and socialization regarding balanced diet need to be improved to prevent obesity problems during COVID-19 pandemic.*

**Keywords:** *Fast food, COVID-19 Pandemic, Student*

## **1.INTRODUCTION**

WHO (World Health Organization) officially declared COVID-19 Pandemic in March 2020 (WHO, 2020). Since then, there have been many changes in various areas of human life such as economy, education, the food industry which have forced to change their strategies online. These changes certainly lead to changes in human behaviour. Online delivery food service is now a business strategy during a pandemic, which causes changes in people's consumption behaviour. In Europe, online shopping food has increased by

45%, and home delivery by 41% (EIT-Food, 2020). Various foods can be easily accessed with food delivery services, including fast food.

People's diets are now changing from traditional foods to modern foods where they tend to consume processed foods that are high in saturated fat, sugar and sodium and low in essential nutrients and fibre. This pattern increases overweight and obesity as well as degenerative diseases such as type 2 diabetes mellitus and coronary heart disease (UNICEF, 2019). Based on the results of National Health Research (Riskesmas) in 2018, the prevalence of obesity in adults in Indonesia increased from 14.8% in 2013 to 21.8%. The prevalence of overweight and obesity in Indonesia in the age group > 18 years is 27% (Balitbangkes Kemenkes RI, 2018a).

A study who respondents aged >18 years in Jeddah reported 86.5% of respondents have a habit of eating fast food (Mandoura *et al.*, 2017). In Indonesia, fast food is the main food for urban people (Sari and *et al.*, 2008). Priwahyuni's research (2016) found that 59.5% of health students at an institution have the habit of eating fast food (Priwahyuni, 2016). In 2019, Hidayati *et al.*'s research found that the proportion of fast-food eating habits in high school adolescents was above 80% (Hidayati *et al.*, 2019). These studies show that consumption of fast food is now a lifestyle inherent in the younger age group.

Based on study in Bangladesh, students who consume fast food  $\geq 2$  days per week have a 2.2 times risk of being obese (Goon, 2014). In Iran, a study of 300 students from two major universities in Qom, the central city of Iran, showed a high prevalence of fast-food consumption and obesity among Iranian students. Female students, unmarried and studying at non-government universities are associated with up to three times the consumption of fast food (Mohammadbeigi *et al.*, 2018).

In DKI Jakarta Province, the prevalence of obesity in people aged > 18 years is 29.8%. This figure exceeds the national figure. Based on their diet, as many as 60.27% of the population aged  $\geq 3$  years in DKI Jakarta consume instant food 1-6 times per week and 6.32% consume  $\geq 1$  time per day, 39.41% consume fatty foods  $\geq 1$  time per day, 36.43% consume sweet foods  $\geq 1$  time per day and 25.49% consume salty foods (Balitbangkes Kemenkes RI, 2018b).

In several studies, obesity is known to have a relationship with the incidence of COVID-19, its severity, and death due to COVID-19 even among young people (Wang, Sato and Sakuraba, 2021). The fast foods can lead to chronic activation of the intrinsic immune system and an inhibition of the adaptive immune system (Bohlouli *et al.*, 2021). Public Health students as potential



health promoters should learn to apply healthy behaviours during a pandemic, one of which is eating behaviour. The purpose of this study was to describe the consumption of fast food among public health students in DKI Jakarta during the COVID-19 pandemic.

## 2. Material and Methods

This study used a cross-sectional study design, involved 413 students from 14 institutions in DKI Jakarta. Data collection in November-December 2020 through filling out an online questionnaire (google form). Samples were taken proportionally and were selected incidentally. There were 18 types of fast food that were asked in the questionnaire. The data were analysed univariately to obtain an overview of fast-food consumption during the last 1 month during the pandemic.

## 3. RESULT

Table 1. Respondent Characteristics Frequency Distribution

Variable	N	%
Gender		
Male	83	20,1
Female	330	79,9
Age		
≥ 20	324	78,5
< 20	89	21,5
Total	413	100,0

According to table 1, most of the respondents in this study were women (79.9%) and aged ≥ 20 years (78.5%).

Table 2. Fast Food Consumption among Public Health Students in Jakarta during Pandemic COVID-19

Fast Foods	Consume (%)	Frequency (%)
------------	-------------	---------------

	Yes	No	1-3 times/ week	>3 times/ week
Fried Chicken	90,6	9,4	75,8	14,8
Hamburger	52,8	47,2	44,1	8,7
Fritter	85,2	14,8	65,9	19,4
Chocolate	67,6	32,4	54,5	13,1
Pizza	53,5	46,5	43,8	9,7
Spaghetti	54,5	45,5	44,8	9,7
Sausage	77,7	22,3	60,0	17,7
Chicken Nugget	77,5	22,5	61,3	16,2
French Fries	78,2	21,8	61,5	16,7
Chicken Noodle	81,8	18,2	68,3	13,6
Meatball	81,8	18,2	69	12,8
Instant porridge	41,6	58,4	33,9	7,7
Instant noodle	90,6	9,4	70,7	19,9
Ice Cream	82,3	17,7	67,1	15,3
Siomay/Batagor	75,8	24,2	66,8	9
Chips	82,3	17,1	61	21,3
Otak-otak	62,2	37,8	51,3	10,9
Salty snacks	71,9	28,1	54,5	17,4

According to table 2, of the 18 types of fast food contained in the questionnaire, it is known that all types of food have been consumed by the respondent in the last 1 month. Food with the highest percentage were instant noodles (90.6%), fried chicken (90.6%), fritters (85.2%), chips and ice cream (82.3%), also chicken noodle and meatballs (81.8%). Based on the frequency of eating >3 times a week, the highest were chips (21.3%), instant noodles (19.9%) and fritters (19.4%). Based on the frequency of eating 1-3 times a week, fried chicken (75.8%), instant noodles (70.7%), and meatballs (69%) were the highest.

Furthermore, among respondents who consumed instant noodles, 70.7% consumed them 1-3 times a week, and 19.9% consumed them > 3 times a week. Among respondents who consumed fried chicken, 75.8% consumed it 1-3 times a week, and 14.8% consumed it > 3 times a week. Respondents who consume fried foods, 65.9% consume it 1-3 times a week, and 19.4% consume it > 3 times a week. Respondents who consumed ice cream, 67.1% consumed it 1-3 times a week, and 15.3% consumed it > 3 times a week. Respondents who consume chips, 61% consume 1-3 times a week, and 21.3% consume > 3 times a week. Respondents who consume chicken noodles, 68.3% consume 1-3 times a week, and 13.6% consume it > 3 times a week. Respondents who consume meatballs, 69% consume it 1-3 times a week, and 12.8% consume it > 3 times a week

#### **4.DISCUSSION**

In this study, fast food is food that is served quickly, has high calorie, sugar, salt and fat content, and is low in fibre, including street food. Based on table 2, all types of fast food in the questionnaire have been consumed by respondents in the last 1 month. This study found that fast food consumption during COVID-19 Pandemic were still high. The food with the highest percentage were instant noodles, fried chicken, fritters, chips, ice cream, chicken noodle and meatballs. An Italian study concluded that people (52.9%) were eating more during the lockdown, the study also stated that there had been an increase in comfort food consumption, including chocolate, ice-cream, desserts, and salty snacks (Scarmozzino and Visioli, 2020). Study in Kuwait also said that compare to before COVID-19 pandemic, people were much more likely have a late-night snack or meal (Husain and Ashkanani, 2020). Moreover, a study found that adolescents increased intake of fried food, sweets, and legumes during COVID-19 (Ruíz-Roso *et al.*, 2020). Snack consumption increased most likely because people were working from home more (Chenarides *et al.*, 2021). An enhanced appetite and after dinner hunger were both associated with an increased risk of junk food intake (OR=4.044,  $p<0.001$ ) (Di Renzo *et al.*, 2020). For Adolescent who were in favour of fast-food consumption, they said

that fast foods provide them with a favourable feeling, because they are delicious, quick to prepare, convenient to access, and easy to digest. Another reasons are the variety of tastes, smells, and colours of fast foods (Majabadi *et al.*, 2016).

Furthermore, as we know, fast foods have high calories, fat, sugar, and salt. Binary logistic regression analysis showed that an higher BMI, were associated to an increase of junk food consumption (packaged sweets and baked products, sweet beverages, savoury snacks and dressing sauces) (Di Renzo *et al.*, 2020). Based on research in Bangladesh, students who consume fast food  $\geq 2$  days per week have a 2.2 times risk of being obese (Goon, 2014). In Iran, research on 300 students from two major universities in Qom, the centre of Iran, showed a high prevalence of fast-food consumption and obesity among Iranian students (Mohammadbeigi *et al.*, 2018).

In several studies, obesity is known to have a relationship with the severity and death from COVID-19 even among young people (Wang, Sato and Sakuraba, 2021). The fast foods can lead to chronic activation of the intrinsic immune system and an inhibition of the adaptive immune system (Bohlouli *et al.*, 2021). Therefore, high intake of fast foods practically impairs adaptive resistance whereas shifting into chronic inflammation and severely weaken host protection against viral morbidity (Bohlouli *et al.*, 2021).

Some studies stated that during pandemic, people ate healthier. Study in Italy said that during the COVID-19 pandemic, 37.4% and 35.8% of people declares to eat more or less healthy food (fruit, vegetables, nuts and legumes). People who decrease the junk food consumption (29.8%) were significantly more representative than those who increase it (25.6%) (Di Renzo *et al.*, 2020). In Kuwait, there was a drastic decrease in the frequency of fast-food consumption during COVID-19, up to 82% reported not consuming fast food (Husain and Ashkanani, 2020). A recent review underlines that a balanced nutrition, which can help in maintaining immunity, is essential for prevention and management of viral infections (Di Renzo *et al.*, 2020).

Ministry of Health already had a balanced diet guide book during COVID-19 pandemic. The book explains the guidelines for good dietary intake in maintaining immunity during the COVID-19 epidemic as one of the prevention efforts. A good intake must be balanced consisting of staple foods, side dishes, vegetables, fruit and limiting intake of sugar, salt and fat. It is advisable to increase the consumption of vegetables and fruits which are rich in vitamin, minerals and fibre. These nutrients function as antioxidants for the body that can fight free radicals and maintain and increase immunity (Ministry of Health, 2020). These guidelines apply well to everyday life during a pandemic. For this

reason, it is necessary to socialize not only in educational institutions but in community by the COVID Task Force in each region (RT / RW).

## **5.CONCLUSION**

Fast foods consumption during Public Health students in DKI Jakarta were still high. Socialization regarding balanced diet need to be improved to prevent obesity problems during pandemic COVID-19. It is necessary to campaign effect of fast-food consumption not only in educational institutions but in community by the COVID Task Force in each region.

## **6.ACKNOWLEDGEMENT**

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# KNOWLEDGE OF REPRODUCTIVE HEALTH WITH EARLY MARRIAGE ON CHILDBEARING AGE (PUS)

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## **ABSTRACT**

*The problems of reproductive health knowledge with the incidence of early marriage in Indonesia is still found in rural areas, among others influenced by the knowledge, the characteristics of the physical environment, economic and social culture. Based on the results of a preliminary study in the Village Purwawinangun, interviews were conducted to 10 PUS known to most of them do not know the impact of early marriages on reproductive health. The purpose of this study to identify there a relationship between knowledge about reproductive health with pernikahan incident early on EFA in Sub Purwawinangun. Research type used is analytic with cross sectional design. The respondents totaled 135 respondents were taken by total population sampling. Data were collected using secondary data is data that is seen from the number of marriages in the can from the village and primary data using a questionnaire with interview research shows that the level of knowledge about reproductive health that respondents with good knowledge level of 14.8% (20 respondents), just as much as 71.2% (96 respondents) and less than 14% (19 respondents). Conclusion The level of knowledge about reproductive health that respondents with good knowledge level of 14.8%), just as much as 71.2% and less than 14%). The results of this study are expected to be material information or input for EFA in the village Puerwawinangun, so they are better prepared to plan a wedding.*

**Keywords:** *reproductive health; the incidence of early marriage*

## **1. INTRODUCTION**

The latest data from the Central Statistics Agency (BPS) in collaboration with the West Java Provincial Family Disaster Coordination Agency (BKKBN) shows that in 2014 from 288,318 couples of childbearing age (PUS), there are 281,243 (24.3%) PUS who performed early marriage. And some of them do not know about reproductive health. Data from the Center for Population Research of Pad jajaran University (UNPAD) in collaboration with the West Java BKKBN reported that in 2015 the data shows that there are 12,975,458 family cards (KK). And 2357 PUS who performed early marriage on the reason of their parents' will, because they were forced and some were pregnant outside of marriage. The young age of marriage in mountainous areas is still



high, noted 36.7% first marriage between the ages of 12-14 years, 56.7% aged 15-19 years and 6.6% aged 20-24 years, with the background factor is the low level of knowledge and culture. Early marriages occur in many groups of the poor community which are characterized by low income, lack of education, lack of health, and lack of assets (Oyorley & Pobi, 2013). Early marriage in developing countries including Indonesia is related to economic, educational, demographic and socio-cultural aspects. In Indonesia, early childhood marriages still exist, especially in rural areas (Nurwati, 2014).

Adolescent reproductive health problems including early marriage in Indonesia are still found in rural areas. Early marriage in rural areas is influenced by knowledge, the characteristics of the physical, economic and socio-cultural environment of the community (Hanum, 2013). The median age at first marriage in Indonesia is at the age of 19.8 years, while the median age at first marriage in rural areas is 17.9 years (BPS & ORC Marco, 2014). This figure indicates that half of

couples of childbearing age in Indonesia are married under the age of 20 years. Likewise in Kuningan district, the obtained data shows that around 9,542,526 couples of childbearing age (PUS) and there are 100 couples of childbearing age were married early. Based on data in Purwawinangun village in 2015, there were 135 couples of childbearing age (PUS) and many were found under 20 years who had married early in 2015. The results of interviews conducted with 10 PUS showed that most of them did not know the impact of early marriage on reproduction health. Based on the above background, the researcher was interested in conducting research on the relationship between knowledge about reproductive health and the incidence of early marriage in PUS in Purwawinangun village, Kuningan district in 2015.

## **2. METHOD**

In this research, the writer uses analytical research type. According to Badriah (2009: 16), analytics is a research method that analyzes and presents data

systematically so that it is easier to understand. The design plan in this research, the writer used a cross sectional. According to Badriah (2012: 27), a cross sectional research is a study that measures the prevalence of disease. Therefore it is often called as prevalence research. This study aims to study the relationship of exposure by observing a simultaneous exposure to disease in individuals from a single population at a certain time or period.

The population of this study were all couples of childbearing age (PUS) in Purwawinangun Village at the 2015 marriage as many as 135 couples of childbearing age. The sampling technique used in this research is total sampling technique, namely taking the sample with the total population used as respondents. The independent variable in this research was the knowledge of PUS about reproductive health. The dependent variable in this research is the incidence of early marriage. The method of this research used a questionnaire instrument with open interviews.

As for this research, the research used primary data, namely data obtained directly from respondents. Secondary data in this research is the marriage data obtained from the Purwawinangun Village Office.

Univariate analysis was carried out looking at description of each variable from the research results, in this analysis only uses the distribution and percentage of each variable. The univariate analysis used a relative frequency distribution where the frequency of each class was changed into a percentage (%). The change to a percent is done by dividing the frequency ( $f$ ) by the number of observations ( $N$ ) and multiplied by 100% (Notoatmodjo, 2002) by the formula:

Description:

$P$  = Percentage

$f$  = Frequency

$N$  = Number of Respondents for Bivariate Analysis

The statistical test conducted is Chi Square to see the relationship between two variables, namely the independent variable and the dependent variable, both of which are in the form of categories.

### 3. RESULT

Based on research conducted on 20-24 June 2016, with a sample of all PUS at Junior high school in Purwawinangun village, Kuningan district in 2015, as many as 135 respondents with the title of the relationship between knowledge about

reproductive health and the incidence of early marriage for PUS in Purwawinangun village, Kuningan district in 2015. The presentation of the research results of each variable can be seen in the following tables:

#### Univariate Analysis

**Table 1. Frequency distribution of the level of knowledge of PUS about reproductive health**

No	Knowledge level	n	Percentage
1.	Good	20	14,8
2.	Enough	96	71,2
3.	Less	19	14
	Total	135	100

Based on table 5.1.1 from the total of the 135 respondents, it showed the level of knowledge about reproductive health was mostly in the enough category, as much as 71.2% (96 respondents).

**Table 2. Frequency Distribution of Early Marriage incidence**

No	Incidence of early marriage	n	Persentase
1.	Forced marriage	39	28,8
2.	Marriage of the parents' will	84	62,2
3.	Unwed marriage	12	9
	Total	135	100 %

Based on table2, From the number of respondents as many as 135 people, it is known that the incidence of early marriage was mostly occurred due to the will of the parents as many as 84 respondents (62.2%).

### Bivariate Analysis

Incidence of early marriage knowledge	forced		parents' will		Unwed marriage		Total		P value
	N	%	N	%	N	%	N	%	
Good	5	12,8	23	58,9	11	28,3	39	100	0,002
Enough	10	12	48	57,1	26	30,9	84	100	
Less	2	16,7	4	33,3	6	50	12	100	
Total	17		75		43		135		

Based on table 5.1.3 from the total of 39 respondents, most of whom had good knowledge (58.9%), because of their parents' will, from the 84 respondents, most of them had enough knowledge (57.1%), because of the will of their parents, from the total of 12 who had less knowledge (50%), because of pregnant outside of marriage. The data was then performed statistical tests using SPSS version 16 for windows, the obtained value of P value = 0.002, while  $\alpha = 0.05$  because the value of  $P = 0.05$  ( $0.002 < 0.05$ ).

## 4. DISCUSSION

### 1. The level of knowledge of PUS about reproductive health in Purwawinangun village in 2015

The results of this research are in accordance with the theory which states that knowledge of reproductive health is very important for PUS. Researcher has opinion that the majority of knowledge levels in Purwawinangun village are sufficient because in Purwawinangun the majority graduated from senior high school education (SMA) and a healthy environment so that the majority already understand about reproductive health. Knowledge is the result of

knowing result, this happens after people sensing a certain object. Sensing occurs through the five senses, namely the senses of sight, hearing, smell, and taste. Most of human knowledge is obtained from the eyes and ears (Notoatmodjo, 2010: 01). Likewise with the research results of Marlinda (2010) that the level of knowledge of EFA regarding reproductive health is influenced by the lack of information sources, the social conditions of adolescents, and their families. With a P value =  $0.003 < 0.05$ .

## **2. Incidence of early marriage in Purwawinangun village, Kuningan regency**

Researcher has opinion that the cause of early marriage is the majority due to the will of the parents, this is because in Purwawinangun village the parents think that marriage is better than undesirable things so that many of their children are married off after high school according to Notoatmodjo (2012: 56) Many things can influence the occurrence of early marriage, including knowledge. Factors that affect knowledge according to Notoatmodjo (2010: 10-12) include experience including experiences from parents so it is only fitting that the results of this research are influenced by the wishes of the parents. As is the case with the results of research by Rismalinda (2010) that the incidence of early marriage is mostly justified because they were forced and because they were pregnant outside of marriage with a value of  $P = 0.002 < 0.05$ .

## **3. The Relationship Between Knowledge of Reproductive Health and the Incidence of Early Marriage at PUS in Purwawinangun, village Kuningan Regency**

Researcher has opinion that a high level of knowledge on reproductive health has little effect on someone not having early marriage, such as PUS who have a good level of knowledge about reproductive health. they did early marriage because of the parents' will and forced. not because of their own will. The data is then tested Statistically using SPSS version 16 for windows, the P value =  $0.002$ , while  $\alpha = 0.05$  because the P value  $< 0.05$  ( $0.002 < 0.05$ ) then the decision  $H_a$  is accepted, it means that there is a relationship between knowledge of

reproductive health and the incidence of early marriage for PUS in Purwawinangun village, Kuningan district in 2015.

According to Hyde (2012) The cause of early marriage occurs because of the forced circumstances of the family who are still living under the poverty line, to ease the burden on their parents, their daughter is married to someone who is considered capable. The results of this research are suitable with the opinion of Soetjningsih (2007) in his book, suggesting that early marriage is not only influenced by knowledge of reproductive health but there are still many factors that greatly influence the incidence of early marriage, namely forced marriage, marriage due to parents' will and marriage due to pregnancy out of married. There is also an internal factor, namely the influence that comes from within us. How do we express feelings, desires, and opinions about various kinds of problems. determining choices or making decisions is not easy. In deciding something, we must have a basis consideration, insight and mature principles.. The internal factors can also be said that the Intelligence Quotient (IQ), Emotional Quotient (EQ), and Spiritual Quotient (SQ) factors.

The results of this research are also similar with the Research of Unul in Jakarta (2013) with the title of the relationship between knowledge about reproductive health and the incidence of early marriage in adolescents in 2013 which in terms of demographics shows that marriage before the age of 18 generally occurs in women in Indonesia, especially in rural areas. . This is due to compulsion, the will of the parents and because of pregnancy outside of marriage. With a P value = 0.001 <0.05. Likewise, Munaroh's research (2012) in Cirebon on the relationship between knowledge of reproductive health and the incidence of early marriage in 2012 stated that 27.2% of adolescents who married before the age of 16 years had enough knowledge about reproductive health (57.1%), with a P value. = 0.001 <0.05.

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# ANXIETY LEVELS AND SELF-MANAGEMENT IN PATIENTS UNDERGOING HEMODIALYSIS

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## ABSTRACT

*Chronic kidney disease is irreversible so it is necessary to make efforts to maintain kidney function through hemodialysis throughout its life. Hemodialysis will not be effective without being based on the daily life management of the client itself, known as self-management, which includes modification of his lifestyle in regulating diet, limiting fluids, vascular access care, and medication adherence. One of the factors that influence self-management is anxiety because this worry can make the patient's condition worse so that the patient cannot control, direct and manage his management. The purpose of this study was to analyze the relationship between anxiety levels and self-management in patients undergoing hemodialysis at Majalaya General Hospital. The type of research used is a correlation study with a cross-sectional approach. In this study, the population was 55 patients with new hemodialysis patients from January to July at Majalaya Hospital with a sample of 35 respondents, taken using the Accidental Sampling technique. The research instrument used the Hemodialysis Self-Management Instrument (HDSMI) and ZSRA-S (Zung Self Rating Anxiety Scale). Data analysis using Spearman Rank Correlation. The results showed that most of the patients had a moderate level of anxiety, namely 19 people (54%), and most patients had moderate self-management, namely 21 people (60%). The results of the Spearman Rank Correlation test show a signed value (2-tailed) of  $0.000 < \alpha (0.05)$ , which means that there is a relationship between the level of anxiety and self-management in patients undergoing hemodialysis at the Majalaya Hospital. Nurses are expected to improve communication so that patients can express their feelings and problems, as well as provide education and information about the importance of self-management of hemodialysis.*

**Keyword : Anxiety, Chronic Kidney Disease, Hemodialysis, Self-management**

## 1.INTRODUCTION

Chronic Kidney Disease (CKD) is a serious health problem in the world and Indonesia. Based on data from Global Burden of Disease in 2010, chronic kidney failure was ranked 18th in 2010 with a mortality rate of 16.3% per 100,000. In Indonesia, the prevalence of CKD increased from 2013 (2.0%) per 1000 population to (3.8%) in 2018, and increases with increasing age, with an increase in the 35-44 year age group compared to the 25-34 age group year. Then the prevalence in men (4.17%) was higher than women (3.52%), a higher prevalence occurred in urban communities (3.85%). While the prevalence by



province, West Java is the 8th province that has experienced an increase in 2018 after Aceh (Risksedas, 2018).

CKD is the failure of kidney function to maintain metabolism and fluid and electrolyte balance due to progressive destruction of kidney structures with the manifestation of accumulation of metabolic waste (toxic uremic) in the blood (Muttaqin & Sari, 2014). Uremia is a result of the body's inability to maintain metabolism and balance of fluids and electrolytes due to progressive and irreversible disturbances in kidney function (Smeltzer & Bare, 2010). To remove metabolic waste, and excess fluid and substances that are not needed by the body, kidney replacement therapy is needed.

Hemodialysis is one of the most frequent renal replacement therapies performed on CKD clients and is a method of dialysis therapy that aims to remove fluids and waste products from the body when the kidneys cannot accurately or progressively carry out the process (Harmilah, 2020). Hemodialysis can be done when toxins or toxic substances must be removed immediately to prevent permanent damage or cause death (Muttaqin & Sari, 2014). Harmilah (2020) states that hemodialysis is generally performed on CKD patients and takes 3-5 hours and is carried out 3 times a week.

According to the Indonesia Renal Registry (2018), the number of hemodialysis procedures has increased in Indonesia from year to year, in 2017 amounting to 1,694,432, there was a quite high increase in 2018 to 2,754,409. In 2018 there was an increase of about twofold new patients compared to 2017 around 30,831 to 66,433, this also has an impact on the number of active patients, which increased sharply compared to the previous year of around 77,892 in 2017 to 132,142 in 2018. More than two million people in the world get treatment with dialysis or kidney transplant and only about 10% experience this treatment (Kemenkes RI, 2018).

Hemodialysis will not be effective without being based on the management of daily life. Self-management is important in the management of patients who

have a chronic disease, including patients who are undergoing hemodialysis. Self-management is defined as an individual's ability to manage symptoms, treatment, physical, psychosocial consequences, and lifestyle changes from health conditions, especially chronic diseases (Gela & Mengistu, 2018). Self-management begins with providing information about the disease they are experiencing so that patients will get tasks that must be done as patients with chronic diseases (Astuti et al., 2018), as well as tasks that must be undertaken by individuals with chronic diseases such as treatment management, behavior management ability (Self-Efficacy), decision making (Problem Solving), emotional management, resource utilization, relationships with health workers, and self-care (Li et al., 2014). This long treatment requires the involvement of patients in modifying their lifestyle in regulating diet, limiting fluids, vascular access care, and adherence to regular hemodialysis (Astuti et al., 2018).

Improving Self-Management in patients undergoing hemodialysis is an effective way to reduce the incidence of mortality and complications, and can improve quality of life (Griva et al., 2011). There are various complications of chronic renal failure that can occur if the patient does not comply with self-management such as dyspnoea and severe uremic syndrome. Hemodialysis patients who do not comply with self-management will experience worsening conditions, ineffective treatment, and can cause economic losses because patients have to pay higher treatment costs (Pratiwi et al., 2019). For that hemodialysis patients must carry out self-management properly to improve their health condition. To carry out self-management optimally in hemodialysis patients can be influenced by several factors. According to Li et al (2014), Nasution et al (2013), Gela & Mengistu (2018), Astuti et al (2018) factors that influence self-management include education, knowledge, self-efficacy, social support, financing, and worry.

Anxiety is a common symptom that appears in CKD patients undergoing dialysis treatment and has a straight comparison with a decrease in quality of life because it is related to patient self-management (Wakhid & Suwanti, 2018). Anxiety can be defined as an emotional reaction to unpleasant

subjective experiences regarding an individual's worry or tension in the form of feelings of anxiety, tension, and emotions experienced by a person (Ghufron, M & Risnawita, 2012). This symptom is a normal and appropriate response to stress but becomes pathological if it does not match the stress severity, continues after the stressor disappears, or occurs in the absence of external stressors (Yanti & Miswadi, 2018). When someone experiences pain, the psychological impact that someone will experience is anxiety (Arafah et al., 2015).

The level of anxiety is influenced by how the patient undergoes hemodialysis. In patients who have just undergone the hemodialysis procedure, the average level of anxiety obtained is because in the initial period the patient felt that he was hopeless and could not recover as before. Anxiety in patients undergoing hemodialysis is caused by a situational crisis, death threats, and not knowing the outcome of the therapy carried out (Santoso, 2018). Patients also often experience problems such as loss of work, income, freedom, decreased life expectancy, and sexual function which can cause anger and will lead to a condition of anxiety as a result of the systemic illness that preceded it (Wakhid & Suwanti, 2018). These problems can disrupt his life and will have an impact directly or indirectly on the implementation of his care.

The results of research by Astuti et al (2018) state that respondents who do not feel anxiety and depression show better self-management than respondents who experience anxiety and depression. Individuals undergoing hemodialysis often feel worried about their illness. This worry can affect their physical and psychological condition, this will make the patient's condition worse so that the patient cannot control, direct and regulate their behavior. Meanwhile, patients who have emotional maturity, high reasoning, and can manage the stress that occurs to them will find it easier to carry out self-management or carry out good self-management (Nasution et al., 2013). Psychological factors (anxiety and depression) can be a good predictor of self-management (Gela & Mengistu, 2018). The anxiety that occurs continuously will cause stress that

will interfere with daily activities. If this problem is not resolved, it can cause more serious psychological problems such as depression (Riski et al., 2019).

Data on patients undergoing hemodialysis at the Majalaya Regional Hospital from the year were found to have increased, especially in new patients, recorded from 2017 as many as 108 patients, 2018 as many as 140 patients, 2019 as many as 123 patients, and in 2020 data from January-July as many as 55 new patients. undergo hemodialysis. Based on the results of the preliminary study, the patient said that he received support from the nurse so that the patient always underwent HD regularly and did not give up on his illness, for meeting physical needs such as managing nutrition, fluids, and medication, the patient was still unable to fully comply and carry out all activities independently. because the patient often complains of weakness and fatigue so that the patient is helped by the family as a supporting factor. The nurse said that most of the patients could not manage themselves, especially in medication adherence, restriction of fluids, and food. Resulting in several physical and psychological problems that occur such as shortness of breath, edema, fatigue, weight loss, anxiety. The reason for patient non-compliance in treatment is because they still have not accepted the disease they are experiencing and are still looking for other alternatives to dialysis, especially in new patients, they undergo hemodialysis therapy with compulsion due to complaints of shortness experienced due to non-adherence to treatment. The psychological problems experienced by chronic kidney failure patients undergoing hemodialysis are, among others, due to the impression that they have in their environment regarding poor dialysis, worry about the disease and the condition that they have to undergo continuous hemodialysis, financial problems, fear of the tools used, and fear of death, with symptoms of anxiety that often appear, namely the patient looks silent, has difficulty sleeping, dizziness, weakness, decreased appetite. So that based on the problems that occur, it is necessary to study anxiety and self-management in patients undergoing hemodialysis.

Therefore, researchers are interested in researching "The Relationship Between Anxiety Levels and Self-Management in Patients Underwent Hemodialysis at Majalaya Hospital"

## 2.MATERIALS AND METHODS

This study used a descriptive correlative research design with a cross-sectional approach. The population in this study were 55 new patients undergoing hemodialysis from January to July at Majalaya Hospital with a total sample of 35 patients who were taken using the Accidental Sampling technique. The instrument in this study used a Hemodialysis Self-Management Instrument consisting of 20 question items divided into 4 sub-variables: there is problem-solving (five items), emotional management (four items), self-care (seven items), and partnerships there are (four items), and the Zung Self Rating Anxiety Scale (ZSRA-S) which consists of 20 question items consisting of 15 Unfavorable and 5 Favorable questions. Data collection was carried out by distributing questionnaires to patients while undergoing intradialytic. Data were analyzed using the Spearman rank correlation test.

## 3.RESULTS

**Table 1**  
**Frequency Distribution of Anxiety Levels in Patients Undergoing Hemodialysis**

Anxiety Levels	Frequency	Percentage
Mild	11	31,4%
Moderate	19	54,3%
Severe	5	14,3%
Panic	0	0%
Total	35	100%

Based on table 1, it can be seen that of the 35 patients who underwent hemodialysis at the Majalaya Regional Hospital, most of them had moderate anxiety levels, namely 19 people (54%).

**Table 2**

**Frequency Distribution of Self-management in Patients Undergoing Hemodialysis**

Self-Management	Frequency	Percentage (%)
Bad Self-Management	5	14,3%
Moderate Self-Management	21	60%
Good Self-Management	9	25,7%
Total	35	100%

Based on table 2, it can be seen that of the 35 patients who underwent hemodialysis at the Majalaya Regional Hospital, most of them had moderate self-management, namely 21 people (60%).

**Table 3**  
**Frequency Distribution of Self-Management Sub Variables in Patients Undergoing Hemodialysis**

Sub Variables	Bad	Moderate	Good	
Problem Solving	4 (11,4%)	25 (71,4%)	6 (17,1%)	Base d on table
Emotional Management	7 (20%)	22 (62%)	6 (17%)	
Self-care	6 (17,1%)	19 (54,3%)	10 (28,6%)	
Partnership	5 (14,3%)	22 (62,9%)	8 (22,9%)	

3, it can be seen that of the 35 patients undergoing hemodialysis at Majalaya Hospital, it shows that the sub variable with the highest good category is the self-care sub variable, namely 10 people (28.6%), the problem-solving sub variable is a sub variable with a moderate number of categories. The highest was 22 people (71.4%), and the emotional management sub variable was the sub variable with the worst category, namely 7 people (20%).

**Table 4**  
**Relationship Between Anxiety Levels and Self-Management in Patients Undergoing Hemodialysis**

Anxiety Levels	<i>Self-Management</i>						$\alpha$	<i>Sign (2-tailed)</i>	<i>t hitung</i>	<i>t tabel</i>
	Bad		Moderate		Good					
	F	%	F	%	F	%				
Mild	0	0	5	14,28	6	17,14				
Moderate	0	0	16	45,7	3	8,57	0,0	0,000	5,0192	1,69236

Severe	5	14,28	0	0	0	0
Panic	0	0	0	0	0	0

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Based on table 4, it can be seen that almost some patients have a moderate level of anxiety with moderate self-management as many as 16 people (45.71%). The results of the Spearman Rank test obtained sig 0.000 ( $\alpha = 0.05$ ) with a Correlation Coefficient value of -0.658 with a correlation direction which interprets that the greater the value of a variable, the smaller the value of other variables, the higher the level of anxiety, the lower the self-management. This shows that there is a relationship between the level of anxiety and self-management in patients undergoing hemodialysis at Majalaya Hospital.

## 2. DISCUSSION

### 1. Levels of Anxiety in Patients Undergoing Hemodialysis at Majalaya Hospital

Wakhid & Suwanti (2018) stated that the anxiety that occurs in patients undergoing hemodialysis is caused by a situational crisis, death threats, and not knowing the outcome of the therapy carried out. With the psychological changes that are felt, it can be seen from the physical condition and behavior changes, including patients, always feel confused, feel insecure, dependent, and become passive individuals (Wakhid & Suwanti, 2018). Patients with hemodialysis have varying degrees of anxiety which can be influenced by how the patient undergoes the hemodialysis procedure. The category of anxiety levels is divided into 4 levels, namely: mild, moderate, severe, panic (Annisa & Ifdil, 2016).

Based on table 1, shows that almost 11 patients experienced mild anxiety levels (31.4%). This mild anxiety is associated with tension in everyday life and causes a person to be alert and increase the perception area (Annisa & Ifdil, 2016). The results of field observations show that the patient is calmer and looks comfortable in his condition, has motivation for his recovery, and

wants to do activities as before, making the patient always think about positive things in his life so that the patient can control all the problems at hand. The results of this study are following Wakhid & Suwanti, (2018) which shows the results of 27 respondents (30.7%) of 88 patients experiencing mild anxiety, this is indicated by the manifestation of 22 people being tired, 2 people irritable, 3 people in the field of increased perception, awareness high, able to learn, increased motivation and behavior according to the situation.

Based on table 1, it can be seen that most of the patients experienced moderate anxiety as many as 19 people (54%) of 35 patients. This level of anxiety allows a person to focus on important issues and put others aside so that a person experiences selective attention, but can do something in a direction. The results of field observations show that the patient is still thinking about the problem at hand, but the patient believes that all the problems faced must have a solution, including the current disease that the patient is experiencing, the patient can only surrender and pray for his recovery, the patient also gets motivation from family and closest people to always undergo therapy according to his schedule and reduce the burden on his mind.

A small proportion of patients experienced severe anxiety as many as 5 people (14.3%). This is in line with Amalia's research (2020), there are 5 people (11.9%) who have severe levels of anxiety. Severe anxiety greatly reduces the field of perception of a person with severe anxiety tends to focus on something detailed and specific, and cannot think about anything else, so that individuals with severe anxiety need a lot of direction to be able to focus on another area. The results of field observations show that the patient experiences severe anxiety because the patient has only undergone hemodialysis several times, the patient is still not familiar with the environment and all the equipment installed in his body, the patient also has not accepted the disease he is experiencing and makes all the problems he faces a burden in his life, The patient also feels that it will be more



troublesome for the family and those closest to him because the patient cannot do activities freely and must always be helped by his family.

Based on the results of field observations, shows that most patients are willing to accept the condition of the disease, this can be seen from the positive attitude of the patient towards healing, belief in God, family support, and the patient has often undergone hemodialysis so that the patient already understands the hemodialysis procedure and has started They are accustomed to the tools they have on their bodies, although several things outside of hemodialysis that become a burden to their minds that carry over when doing hemodialysis these stressors can be handled properly so that the patient's anxiety level can be reduced and to a moderate level.

Based on the ZSRA-S questionnaire regarding anxiety, seen from the statement which states that increased anxiety, the highest value is found in item number 8 where the patient experiences many signs and symptoms that appear such as feeling weak and tired quickly, while for the lowest score on item number 12 and item number 18 which states that I often faint or feel faint and my face feels hot and flushed, the impact of the symptoms that appear on the patient is from the variable of increased anxiety with signs that appear such as the patient feeling tired and weak, resulting in inhibition of the patient from doing activities and an increase body temperature. Whereas in the statement that shows a decrease in anxiety the highest value is in item no.19 where the patient shows signs and symptoms, namely the patient falls asleep easily and can rest well, while for the lowest score in item number 17 where the patient shows signs of dry and warm hands, the impact of Symptoms that appear in the patient care from the anxiety reduction variable, namely the patient does not appear restless, and is comfortable with his condition.

## **2. Self-Management of Patients Undergoing Hemodialysis at Majalaya Hospital.**

Hemodialysis patients must undergo various treatment therapies including hemodialysis on schedule, use of drugs as recommended, limiting fluid and

food intake, and self-care. In carrying out this treatment, hemodialysis patients must carry out self-management so that treatment can go according to expectations and treatment goals can be achieved (Pratiwi et al., 2019). Self-management is defined as an individual's ability to manage symptoms, treatment, physical, psychosocial consequences, and lifestyle changes from health conditions, especially chronic diseases (Gela & Mengistu, 2018).

Based on the results, most of the patients had moderate self-management as many as 21 people (60%) and as many as 9 people (25.7%) had good self-management. Self-management of patients undergoing hemodialysis is a positive effort for patients to find and participate in their health services to optimize health, prevent complications, control symptoms, arrange treatment. By Pratiwi's research results, (2019), as many as 37 people (28.7) obeyed self-management, patient compliance in carrying out hemodialysis according to schedule was good. The results of Kamilah's research, (2018) show that most patients (53.8%) with self-care management have reached the moderate category. Self-care management includes fluid restriction, diet regulation, medication, and vascular access care.

The results showed that a small proportion of patients had poor self-management as many as 5 people (14.3%). The results of Supati's (2015) study state that patients undergoing hemodialysis must limit fluids and food, lose freedom, depending on health services, conflicts in marriage, family, and social life, reduced income which causes patients to ignore their illnesses so that the patient's self-management in the bad category.

From the results of the study, the highest results were obtained on the sub variable problem-solving item question number 7 which states that patients try to describe what leads to uncomfortable symptoms, while for the lowest results on item no.1 which states that most patients rarely discuss and ask about the results of blood tests (Hb, urea, creatinine, etc.), this is because when the doctor explains the laboratory results the patient only listens without giving feedback in the form of questions about the test results,

which can have an impact on improving life patterns when abnormal lab results. The highest result on the emotional management sub variable is question item number 17 which states that most patients have tried to discuss the emotional stress that occurs, while for the lowest score on item number 20 which states that most patients are reluctant to ask for help from others when they have a problem. , this is because the patient does not want to add to the burden on the family or the closest person to the problems the patient is facing, if this continues it will result in the patient having a high level of anxiety. The highest result on the self-care sub variable is item number 8 which states that patients always wash vegetables before cooking, while for the lowest value on item number 9 which states that most patients do not clean needle puncture marks on their hands before dialysis, patients rarely or not. Never cleaned a needle puncture before doing hemodialysis because the nurse always cleans it first when a treatment procedure is going to be carried out, this will have an impact on the patient's self, especially in the treatment of AV fistula which if not treated will cause swelling in the area of the insertion site. The highest result on the sub-variable of the partnership is item number 19 which states that patients and nurses discuss body fluids to be disposed of by health staff, while for the lowest value on item number 15 which states that patients and nurses rarely or never discuss determining the place of stabbing.

### **3. Relationship between anxiety levels and self-management in patients undergoing hemodialysis at the Majalaya Hospital**

The results of the research on the relationship between anxiety levels and self-management in patients undergoing hemodialysis at Majalaya Hospital can be concluded that there is a relationship between anxiety levels and self-management in patients undergoing hemodialysis at Majalaya Hospital. Anxiety is a common symptom that appears in patients undergoing hemodialysis and has a straight ratio with a decrease in quality of life because it is related to patient self-management (Wakhid & Suwanti, 2018). Psychological factors (anxiety and depression) are a tool to predict or assess self-management, patients who experience anxiety and depression are more

likely to experience low levels of self-management than patients who do not experience anxiety (Gela & Mengistu, 2018).

The results of this study agree with (Astuti et al., 2018) who said that respondents who did not feel anxiety and depression showed better self-management than respondents who experienced anxiety and depression. Individuals undergoing hemodialysis often feel worried about their illness. Nasution et al (2013) stated that the patient's worry or anxiety can cause the patient's physical and psychological condition to worsen so that the patient cannot direct, regulate and control their behavior. Meanwhile, patients who have emotional maturity, high reasoning, and can manage the stress that occurs to them will find it easier to carry out self-management or carry out good self-management.

This shows that the lower the level of anxiety the patient has, the better the self-management of the patient. Effective self-management is also useful for increasing patient satisfaction, increasing the independence and quality of life of patients, therefore it is hoped that patients can control their anxiety more so that self-management that must be done can run well.

Based on the results of the self-management questionnaire, the emotional aspect is the lowest item of all questions. This emotional management aspect is a psychological problem felt by patients, this can be seen from the statement that patients rarely ask for help from others when they have problems or emotional stress. Patients tend to hide the problems they face with the assumption that they do not want to be a bother and do not want to add to the burden on their family and loved ones, if this continues it will increase patient anxiety, and the impact that can be caused is that the patient is not cooperative during hemodialysis, lack of control over daily activities, the patient does not pay attention to his condition and care so that he lacks attention in managing fluids.

This psychological aspect of anxiety is important to pay attention to because it will affect the self-management carried out by patients and have an impact

on improving the health and quality of life of the patient. It can be seen from the direction of the correlation in this study is negative, which interprets that the higher the level of anxiety, the worse the self-management will be.

## **5.CONCLUSION**

Based on the results of the study, it can be concluded there is a significant relationship between the level of anxiety and self-management in patients undergoing hemodialysis so that hemodialysis nurses are expected to maintain relationships and communication with patients and their families and be able to learn about the experiences of other patients how they accept their will. the disease and activities, as usual, to be applied to patients with anxiety problems, hemodialysis nurses can provide education to patients related to poor self-management in terms of emotional management, nurses can use therapeutic communication so that patients can express feelings and problems faced by the patient. be able to find good solutions to problems faced, provide education and information on the importance of doing vascular access care, fluid restriction, and dietary intake.

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# ANALYSIS OF COVID TRANSMISSION TO NURSES IN THE HOSPITAL

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## **ABSTRACT**

*COVID-19 is still an outbreak that has not been resolved throughout the world. Nurses as one of the health workers who work at the forefront of health services are at risk of being exposed to COVID-19. Until now, the number of nurses who died as a result of exposure to COVID-19 has increased. This study aims to analyze the modes of transmission of COVID-19 in nurses. This type of research is quantitative research with analytic descriptive design. The number of respondents in the study was 31 nurses, which were obtained by using total sampling technique. The results of this study indicate that the transmission of COVID-19 to nurses occurs due to a history of contact with COVID-19 patients (80,6%), eating habits with colleagues (67,7%), treating patients with confirmed COVID-19 in a non-isolation room (67,7%), history of contact with hospital staff confirmed COVID-19 (51,6%), and visiting crowded places such as traditional markets (45,2%)*

**Keywords:** *Covid-19, Hospital, Nurses, Transmission*

## **1. INTRODUCTION**

Corona Virus Disease 2019 (COVID-19) is still an outbreak that has not been resolved worldwide. The first case of COVID-19 occurred in December 2019 in Wuhan City, China. The COVID-19 outbreak was caused by a virus called Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) which has an ecological origin from the bat population. This virus causes respiratory illness in humans, from the common cold to more serious illnesses such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS), both of which were detected for the first time in 2003 and 2012. To date, the number of COVID-19 cases is increasing day by day in various countries in the world.



World Health Organization (2020) reported that there were 8.3 million confirmed cases of COVID-19 in the world as of June 19, 2020. The total number of COVID-19 patients who died was 450,686 people. For positive cases of COVID-19 in Indonesia up to June 19, 2020, there were 43,803 cases. There was an increase of 1,041 cases from the previous day. The total number of patients who recovered was 17,349 people, while the number of positive COVID-19 patients who died was 2,373 people (Ministry of Health, 2020).

As cases of COVID-19 continue to increase, public attention in Indonesia about the severity of the disease and vulnerability to exposed populations has also increased, especially for health workers. Nurses as health workers who work in hospitals or other health facilities are at very risk of being exposed to COVID-19 (Li, Peng, Wang, Ping, Zhang, & Fu, 2020). On April 12, 2020, the International Council of Nurses (ICN) first reported that more than 100 nurses had died from COVID-19. The ICN update on 6 May showed that 90,000 health workers had been infected and more than 260 nurses had died. As of June 3, the number of nurse deaths had risen to more than 600 nurses. Nurses and other health workers are at the forefront of health care who are highly likely to become infected with COVID-19 (ICN, 2020).

The large number of increasing cases of COVID-19 that occur from day to day, requires hospitals to open COVID-19 care services. Murni Teguh Memorial Hospital as one of the private hospitals in Medan City opened COVID-19 services for the first time in March 2020. Before this service was opened, the hospital had prepared Human Resources (HR), facilities and channels for providing services to patients with COVID-19 and expose staff to preventive measures. However, the risk of staff exposure cannot be eliminated given the conditions of this pandemic. In June 2020, it was discovered for the first time that Murni Teguh Memorial Hospital staff who had confirmed COVID-19 were detected by means of an RT-PCR examination.

Until now, the source of the transmission of COVID-19 is still difficult to understand because there are several nursing personnel who died or were confirmed positive for COVID-19, not from the special COVID-19 treatment room. Based on this, it is important to analyze the source of transmission of COVID-19, especially in nursing personnel in hospitals.

## **2.METHODS**

This research used descriptive analytic method. It was conducted at Murni Teguh Memorial Hospital in July-August 2020. The population of this study were all nurses of Murni Teguh Memorial Hospital who experienced COVID-19. The number of respondents in the study was 31 nurses, which were obtained by using total sampling technique.

Collecting data in this study, namely through the distribution of demographic data questionnaires, and COVID-19 transmission questionnaires to nurses using google form which were sent personally to each research respondent. The demographic data questionnaire consisted of the initials name, age, gender, work unit, medical history, and comorbid diseases. For the COVID-19 transmission questionnaire to nurses, it is divided into 2 (two) parts, namely questions related to behavior at the hospital and outside the hospital. Questions related to behavior at the hospital contained 9 (nine) items and questions related to behavior outside the hospital contained 8 items. This questionnaire is in the form of multiple choice. This questionnaire is modified from the World Health Organization (WHO) questionnaire entitled Health workers exposure risk assessment and management in the context of COVID-19 virus.

The data that has been collected through a questionnaire sheet is then processed by the researcher through four stages, namely editing, coding, data entry, and cleaning.

The results of this study were analyzed using descriptive analysis through the distribution of frequencies and percentages of data which included demographic data and the prevalence of transmission of COVID-19 by nurses. The analysis process is carried out using computerization by producing output tables in the form of descriptive data and frequency distribution tables

### 3.RESULTS

Respondents involved in this study who were confirmed positive for COVID-19, totaling 31 people. It is known that most of the nurses are in the 26-35 years age group, 15 people (48.4%). The majority of nurses were female, 27 people (87.1%). For work units, it was found that it varied, but the majority of nurses who were exposed to COVID-19 came from inpatient rooms, 16 people (51.6%). Regarding a history of disease and comorbid diseases, the majority of respondents did not have a history of disease, 26 people (83.9%). Demographic characteristics of respondent are detailed in table 1 below.

Table 1.  
Demographic characteristics of respondent (n=31)

Characteristics	Frequency	Percentage
<b>Age</b>		
17 – 25 years	11	35,5
26 – 35 years	15	48,4
36 – 45 years	3	9,7
46 – 55 years	2	6,5
<b>Gender</b>		
Female	27	87,1
Male	4	12,9

Work Unit		
Polyclinic	1	3,2
Inpatient room	16	51,6
Intensif Care	2	6,5
Emergency	2	6,5
Hemodialysis	4	12,9
Palliative	2	6,5
Oncology	1	3,2
Operating Theater	2	6,5
Wound Care	1	3,2

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History of disease		
Yes	5	16,1
No	26	83,9

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Comorbid Disease		
No	26	83,9
Transient Ischemic Attack	1	3,2
Urinary tract infection	2	6,5
Sinusitis	1	3,2
Diabetes Mellitus	1	3,2

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The COVID-19 transmission questionnaire was given to 31 nurses at Murni Teguh Memorial Hospital. The results of the distribution of the questionnaire part I regarding behavior in the hospital obtained data that as many as 25 people (80.6%) had a history of contact with COVID-19 patients, as many as 16 people (51.6%) had a history of contact with hospital staff confirmed COVID-19. Then, 24 people (77.4%) had used the appropriate Personal Protective Equipment (PPE) and always complied with using PPE when taking action on patients. As many as 25 people (80.6%) always do hand hygiene. For the habit of eating when having rest, as many as 21 people (67.7%) have the habit of eating together with friends at work tables. As many as 21 people (67.7%) treated patients with confirmed COVID-19. As many as 18 people (58.1%) did not perform aerosol actions, 20 people (64.5%) had used appropriate PPE when carrying out aerosol actions.

The results of the distribution of the questionnaire part II, obtained data that 29 people (93.5%) did not live with people who were confirmed positive for COVID-19. A total of 27 people (87.1%) do not live in a confirmed environment with COVID-19. There are 29 people (93.5%) did not participate in social activities for 14 days before the results of the RT-PCR came out. As many as 28 people (90.3%) practiced worship at home. For the crowded places visited, the majority visited the market, namely 14 people (45.2%). The implementation of health protocols, one of which is maintaining distance, has always been carried out by respondents, 23 (74.2%). All respondents (100%) consume vitamins and do not have a history of smoking. The distribution of the frequency and percentage of transmission of COVID-19 among nurses in hospitals can be seen in full in the table 2 below.

Table 2.  
Distribution Frequency and Percentage of COVID-19 Transmission among  
Nurses (n=31)

Variable	Frequency	Percentage
<b>I. Behavior in the hospital</b>		
History of contact with COVID-19 patients		
Yes	25	80,6
No	6	19,4
History of contact with hospital staff confirmed COVID-19		
Yes	16	51,6
No	15	48,4
Use of PPE		
appropriate	24	77,4
Not appropriate	7	22,6
Compliance with the use of PPE when performing actions		
Always	24	77,4
Often	7	22,6

Implementation Hand Hygiene		
Always	25	80,6
Often	6	19,4
The habit of eating at rest		
Eat with friends at work tables	21	67,7
Eat alone at the work table	5	16,1
Eat in the pantry	3	9,7
Not eating while working	2	6,5
Treating patients with confirmed COVID-19 in a non-isolation room		
Yes	21	67,7
No	10	32,3
Perform aerosol action		
No	18	58,1
Yes	13	41,9
Use of PPE during aerosol action		
Appropriate	20	64,5
Not appropriate	11	35,5

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## II. Behavior outside the hospital

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Living with a person who are confirmed COVID-19		
No	29	93,5
Yes	2	6,5
Living in the environment with confirmed COVID-19		
No	27	87,1
Yes	4	12,9
Social activities that are followed		
Nothing	29	93,5
Environment social gathering	1	3,2
Wirid	1	3,2
Worship		
At home	28	90,3
Go to the place of worship	3	9,7

Crowded place visited		
Traditional market	14	45,2
Mall	5	16,1
Cafe	3	9,7
Nothing	9	29
Keep a distance from other people		
Always	23	74,2
Often	7	22,6
Sometimes	1	3,2
Take vitamins		
Yes	31	100
Smoking		
No	31	100

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#### 4.DISCUSSION

COVID-19 has a very high level of infection. The results of this study indicate that the transmission of COVID-19 to nurses occurs due to a history of contact with patients and hospital staff who have been confirmed with COVID-19, the habit of eating together with colleagues, caring for patients with confirmed COVID-19 in non-isolation rooms, and visiting crowded place like a market.

Research conducted by Jin et al. (2020) showed that the route of transmission of 39 cases occurred through contact with colleagues. The transmission of COVID-19 starts from animal-to-human infection, but the virus has evolved into a form that can cause rapid human-to-human transmission. Human-to-human spread of the virus occurs due to close contact with an infected person, whether coughing, sneezing, or aerosols. Aerosols can penetrate the human body, especially the lungs through inhalation through the nose or mouth. Coronaviruses also show a higher transmission rate than SARS due to genetic recombination which has increased transmission ability (Shereen et al, 2020).

According to Tellier, Li, Cowling, & Tang (2019), the transmission of COVID-19 through aerosols, droplets, and direct contact. Aerosol transmission is thought to be the main mode of transmission. Aerosols are particles with a diameter below 100 µm. Airborne transmission contributes to the incidence of COVID-19. The findings showed that the transmission of COVID-19 in the air is in line with reports of SARS incidents in the past (Sheng et al, 2020)

Nosocomial transmission of COVID-19 patients in health services can be controlled by taking adequate safety or control measures such as hand hygiene, use of PPE and complying with health protocols established by the government (Rahman et al, 2020). This is in line with Chou et al's (2020) study of 64 studies meeting the inclusion criteria, 43 studies discuss the infection burden of health workers and 34 studies discuss risk factors. The results showed that health workers account for a significant proportion of COVID-19 infections and may experience a very high incidence of infection after unprotected exposure. The use of PPE and infection control training was associated with a reduced risk of infection, and certain exposures were associated with an increased risk.

Currently, nurses are actively involved in interventions for COVID-19, and nurses will remain a key person in stopping the pandemic with adequate assistance. Therefore, nurses must be provided with a healthy work environment to empower their efforts in controlling and overcoming the outbreak. Work safety is key to the work of nurses during COVID-19, as they come face to face with dangers every day. The main task of nursing management is to ensure that appropriate precautions and safety measures are taken to reduce hazards in the workplace. In this regard, the organization must have appropriate infection control procedures and personal protective equipment (masks, gloves, goggles, gowns, handrub / hand sanitizers, soap and water, and other cleaning agents) in sufficient quantities for nurses who did the caring to the patients with COVID-19 confirmed.



Nursing supervisors must provide knowledge of workplace safety, instructions and guidance on infection prevention and control, how to properly wear, remove and dispose of personal protective equipment. In this regard, staff members should also be guided on how to carry out regular self-assessments, and directed at how to follow quarantine or isolation measures, if indicated, to protect them, their families and their communities, and to maintain their safety, mental health and well-being. them (Fawaz, Anshasi & Samaha, 2020).

Health workers are naturally at high risk for COVID-19 infection due to workplace exposures that may occur multiple times in health care settings or while providing care to COVID-19 patients. Transmission can also occur in nonmedical areas of the hospital while talking or eating. Therefore, regular screening of health workers, even when asymptomatic and especially among those at high risk for SARS-CoV-2 transmission, can enable early detection and isolation of health workers (Çelebi et al, 2020).

In addition to screening, nurse managers must be prepared to face the impact of a pandemic on staff and need to ensure availability and replacement of quality personal protective equipment, train strategies for communicating with patients while wearing personal protective equipment and establish protocols for communicating with relatives (Catania, 2020).

## **5. CONCLUSIONS**

COVID-19 transmission to nurses occurs because of a history of contact with COVID-19 patients (80.6%), the habit of eating together with colleagues (67.7%), treating patients with confirmed COVID-19 in a non-isolation room (67,7%), a history of contact with hospital staff with confirmed COVID-19 (51.6%), and visiting crowded places such as traditional market (45.2%).

The suggestion in this study is that nurses should adhere the health protocols set by the government and hospitals regarding the use of Personal Protective Equipment (PPE), hand hygiene and keep the distance in order to reduce the spread of COVID-19.

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# PHENOMENOLOGY STUDY: COPING MECHANISM OF OLDER ADULTS SUBMITTED BY THE FAMILY TO HOME NURSING ELDERLY

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## **ABSTRACT**

*The older adults receive a variety of changes that occur and able to adapt to its limitations, wiser to respond to the process of life experienced. On the contrary if it fails to pass this stage elderly people are experiencing stressful conditions, a sense of rejection, Angry and despair of the reality he faces. This condition make the older adults need to have a coping mechanism to avoid psychological problems. This research aims to exproposing the mechanism of coping with the elderly submitted by the family to the Orphanage. This phenomenology study applied an in-depth interview and involving ten older adults were selected through snowball sampling techniques. Through analysis methods by Collaizi, produces five themes. These themes undergo psychological changes, older adults response while in home nursing elderly sosial service tresna werdha, the view of the elderly while in panty Werdha, adaptive coping used by the older adults when the family brought them to the Werdha orphanage, older adults hope for families who have brought the elderly to the orphanage. These findings strengthen the justification for involve psycho-social aspects of geriatric nursing*

**Keywords: coping mechanism, older adults, home nursing elderly**

## **1.INTRODUCTION**

Elderly are the final stage of the human life cycle and it is part of the life process that cannot be avoided and will be experienced by every individual

(Prasetya, 2010). The elderly accept the various changes that have occurred sincerely, are able to adapt to their limitations, become wiser in responding to the life processes they experience. On the other hand they fail, they will pass this stage with despair, the elderly experience conditions full of stress, a sense of rejection, anger and despair about the reality they face (Setiati, 2012). Behaviors that generally occur in the elderly, either individually or in groups, are getting closer to God Almighty, accepting circumstances, having regular relationships with family and others, moderate exercise every day, choosing appropriate food, stopping smoking, taking medication according to the rules. doctors or other health workers, develop hobbies / interests according to ability, maintain and are passionate about sex life, and check their health regularly (Siti Maryam et al, 2008). Not all elderly people can accept, adjust to the severity of the life stressors they face. Stressors for one person are not necessarily stressors for others, while some who cannot adjust and consider life stressors to be experienced are heavy burdens, and will disrupt life and tend to lead to depression and mental disorders (Purwanto, 1998).

According to Al Nasis & Al Hadad (1999), the percentage of the elderly who live in an institution tends to experience stress than those who live at home. Nurleli & Istiodonna (2004), the elderly who live in the nursing home experience mild depression as much as 54.41%, where stress has a very close relationship to the occurrence of depression and Watson (2003) says that some of the elderly who live in the orphanage are the result of family rejection of themselves so that it makes the elderly even more stressed out in the home. Based on previous research, it can be concluded that the elderly who live in the Wherda Home experience stress, depression.

Nasir and Muhith (2011) say that coping strategies are the determination of a person's style or certain characteristics of a person in solving a problem based on the demands faced. Coping mechanisms are all efforts directed at managing stress which can be constructive or destructive (Stuart, 2016). Coping is all cognitive and behavioral efforts to cope with, reduce, and be resistant to demands (Nasir & Muhith, 2011). Various efforts have been made by

government agencies, health professional prana, and in collaboration with the private sector and the community to reduce morbidity and mortality (mortality) in the elderly. Social health services, employment, and others have been carried out at various levels, namely at the level of the elderly individual, the Tresna Wreda Social Institution (PSTW), Tresna Wherda (STW) facilities, first-level (secondary) referral level health service facilities and advanced level health service facilities (tertiary) to overcome problems that occur in the elderly (Siti Maryam et al, 2008).

The facilities and infrastructure used to provide services to the elderly by various government and private agencies as well as community organizations, professional organizations and foundations such as the Tresna Wherda Panti. Tresna Werdha Social Institution (PSTW) Khusnul Khotimah Pekanbaru is one of the elderly orphanages in Riau Province, which is located in the middle of Pekanbaru city, managed directly by the local government, namely the Riau Province Social Service. PSTW accommodates elderly from 12 districts / cities, data from the Head of UPT PSTW Khusnul Khotimah Riau Province Social Service found that 86 people live in PSTW including 37 elderly men and 49 elderly women, generally the elderly who live in the Wherdha Home are handed over by family. The elderly who live in nursing homes will experience changes to the environment and new friends which require the elderly to adapt positively or negatively. Differences in residence can lead to differences in the physical, social, cultural, economic, psychological and spiritual environments of the elderly which can affect the health status of the elderly people who live there. The problem that underlies the health status of the elderly is the environment in which they live. Differences in where the elderly live causes differences in health services obtained by the elderly (Ekawati, 2014).

The elderly who live in the Wherdha Home will experience various psychological problems that need to be considered by nurses, families and other health workers, from the data from the Head of UPT PSTW Khusnul Khotimah it was found that 15.1% were found to be elderly with psychological

problems such as: understanding, social isolation, hallucinations and schizophrenia. Early problem solving will help the elderly in implementing these problem-solving strategies and in adapting to their daily activities (Kartinah, 2014). Based on the description above, the researcher is interested in conducting research with the title Phenomenological study: coping mechanisms for the elderly who are handed over by their families to the Nursing Home.

## **2.METHODOLOGY**

This type of research is qualitative research with a phenomenological approach. Taking participants in this study was carried out using the snowball technique, which means that data collection is carried out in a chain from one participant to another, the next potential participant is selected based on information, appointed or proposed by previous participants who have been interviewed, thus providing the necessary data (Afiyanti, 2014). Researchers give questions to participants in accordance with the interview guidelines that have been made during preparation, questions can develop according to participants' answers. After the interview was completed, the researcher immediately transcribed the interview (Saryono & Anggraeni, 2010).

## **3.RESULTS**

### **Characteristics of Participants**

Participants age above 60 years. On average, the participants lived in the institution for more than 5 years. Most of the participants came to the orphanage of their own accord for various reasons. Here are the participants' expressions:

"Come alone" (P1).

"Grandma has no children and has nothing" (P2).

"Living alone, don't have children" (P3).

"Living at home alone" (P4).

Analysis of Themes: Data analysis using the Colaizzi method resulted in five themes. The theme is experiencing psychological changes such as:

"Coming in here is very sad, the family's inferiority complex does not want to meet, doesn't fit the child, just looking safe" (P1).

"No one cares about the family" (P2).

"How come the heart is so cruel" (P4)

"feeling sad"

**The responses of the elderly when they are at the Nursing Home are:**

"Happy, eating enough, enough hospital care, adequate resting place, enough worship, so happy to be happy" (P1).

"I'm happy because I can't work, I can't do anything" (P2).

"Happy, happy" (P3).

"Just happy" (P4).

**The views of the elderly when they are at the Nursing Home such as:**

"Just fine" (P1, P2,).

"Happy, acquaintance" (P3, P4).

"People don't have parents, just let them be there" (P3).

The adaptive coping used by the elderly when the family brings it to the nursing home, such as:

"Worship" (P1, P3).

"Every morning marathon and walk around the orphanage" (P2).

"Following the rules" (P3).

"Never mind, just accept it, you just worship" (P4)

**Expectations of the elderly for families who have brought the elderly to the nursing home, such as:**

"Asking for help, what's wrong, please contact me" (P3)

"Visit" (P4).

#### **4.DISCUSSION**

**Experiencing psychological changes**

The elderly living in the Nursing Home experience psychological changes. Psychological changes experienced such as: feeling inferior, feeling ignored by the family and feeling sad. Participants expressed a sense of inferiority because



the participants felt that they felt disgruntled, wasted and even their families in the village used up the participants' assets, so that caused them to feel sad. The sadness experienced by the participants was that the children and their families did not contact them while staying at the Nursing Home, and even the participants could not contact their families. The results of the study (Sa'id & Djudiyah, 2019) say that sadness is most often experienced by the elderly who live in nursing homes, claiming to be sad because loved ones have left them (such as spouses, children, other relatives). The elderly who live in nursing homes are rarely visited by their families and some are not even visited by their families.

### **The response of the elderly when they are at the Nursing Home**

The elderly when they are at the Nursing Home feel happy because there, the needs of the elderly are met properly such as eating and getting enough rest and being able to carry out worship in peace as well as get health care. In general, the elderly who live in this nursing home come on their own accord for various reasons, including: no children, no parents, living separately and there are also economic problems, and not being compatible with the child's partner. So there are some elderly people who come to the orphanage to avoid fights in family life, there are elderly people who think that by living in the orphanage the problems will be reduced a little. The results of this study are also supported by research by Pradnyandari & Diniar (2013). Elderly people like to live in an orphanage. The elderly said that there were many activities carried out there, starting from daily activities such as sweeping, mopping, worshipping, making prayer tools, samples were also given additional activities, such as social guidance, mental spiritual guidance and recreation, channeling talents and hobbies, group therapy. The life of the elderly who live in this nursing home is more secure, both in terms of food, clothing, and housing (physiological needs). Thus they become more prosperous and happier in life than before entering the nursing home (Sa'id & Djudiyah, 2019).

### **The views of the elderly when they are at the Nursing Home**

Based on the results of the research, the views of the elderly while at the Nursing Home are fine and normal because they don't have parents, just leave them in the orphanage. Participants were of the opinion that instead of living alone and making it difficult for their family it is better to live in a nursing home. The influence of the development of technology and science also makes current thinking to think practically by relying on sophisticated technology which forms the assumption that their daily needs must be met easily. This is a factor in the family choosing the alternative to entrust their parents to a nursing home and the community has forgotten the services of their parents. It is proven that more and more children do not care about the fate of their parents by leaving them in a nursing home (Irawan, Prasetyo & Arsi, 2016).

### **The adaptive coping used by the elderly when the family brings them to the nursing home**

Based on the results of this study, the coping mechanism that was generally used by the participants when the family brought them to the nursing home was adaptive coping. The adaptive coping includes categories: worship, every morning of the marathon, and surrender. After living and living in the nursing home the participants accept the reality of life by diligently carrying out worship to get closer to Allah SWT by diligently carrying out worship and giving up in living this life. Participants always try to comply with and carry out the rules in the nursing home environment. According to Suyanta (2012) Surrender is interpreted by them as self-acceptance of God's will, but it does not mean being silent. This submission form is expressed by the subject by means of praying, reciting, dzikir, istighfar, and sholawat. According to Sa'id & Djudiyah (2019), the participants' choice of coping strategies is likely to have more to do with other things, such as personality and stress levels from problems or conditions they experience and feel while living in nursing homes. Coping is done by partners to deal with problems and balance emotions in stressful situations. This problem management includes everything that a person thinks or does in an effort to adjust to stress, by choosing the most appropriate strategy and demands continuous evaluation (Papalia, 2008).

## **Expectations of the elderly towards families who have brought them to the Home for the Elderly**

Participants said that if there is anything, the elderly, please contact and pick them up and visit the elderly at the Wherda home because if they are not contacted and they are not picked up, the elderly will not know and will not come home. Participants also hope that even though we have lived here, they will still visit us here. more and more children do not care about the fate of their parents by leaving them in a nursing home (Irawan, Prasetyo & Arsi, 2016).

## **5.CONCLUSION**

The elderly living in the Nursing Home experience psychological changes. Psychological changes experienced such as: feeling inferior, feeling ignored by family and feeling sad. The elderly when they are at the Nursing Home feel happy, the views when they are in the Nursing Home are normal, the coping mechanism that is generally used by the participants when the family brings them to the Nursing Home is adaptive coping, Participants also hope that even though we have lived here, we will still visit the elderly at nursing home.

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# THE ANALYSIS OF BPJS INPATIENT SATISFACTION IN RSU JAMPANGKULON SUKABUMI 2017

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## **ABSTRACT**

*Patient satisfaction is the main indicator of the quality of hospital services as well as a measure of service quality. The purpose of the research is to analyze of BPJS inpatient satisfaction in BLUD RSUD Jampangkulon Sukabumi. The methodology uses descriptive analysis with a cross-sectional design. The number of samples as many as 110 respondents obtained from the Hypothesis test formula with two different proportions. Primary data collection techniques using questionnaires, interviews and observations. Validity test with the Pearson Product Moment formula and reliability test with Cronbach Alpha. Data analysis using Logistic Regression Analysis and Cartesian Analysis. The results showed that the majority of patients said they were satisfied with the service in general at 94.5%, as well as based on the dimensions of service quality. The variables that were significantly related to patient satisfaction were tangible, reliability, empathy, and the most dominant variable affecting patient satisfaction was responsiveness with the highest OR, namely 50.39. In terms of patient expectations and satisfaction, the main priority for improvement is the accuracy of the examination schedule, the speed with which doctors respond, complete drug supplies, complete medical equipment and cleanliness of the room. It is hoped that the hospital management will improve its top priorities and make efforts such as providing clarity of service information, fast service and availability of prioritizing the interests of patients as an effort to improve the quality of services in the BLUD RSUD Jampangkulon Sukabumi, Sukabumi Regency.*

**Keywords:** *Cartesius analysis, Patient satisfaction, Service quality*

## **1. INTRODUCTION**

Health is a right for everyone (Depkes RI, 2010). Along with advances in science and technology in various aspects of human life, science and technology in the health sector have also experienced significant and encouraging developments, but this has resulted in increasingly expensive health care costs (Koentjoro, 2007). Sulastomo (2000) states that the increase in the cost of health services is actually a problem in many countries. The increase in the cost of health care is always described as outpacing the increase in the rate of inflation and increases in other consumer goods.

The high cost of health services makes it impossible for the whole community to bear the costs of obtaining health services by themselves. Sulastomo (2000) states that one of the problems we need to anticipate is health financing in the future. Therefore, a system is needed so that it is hoped that all members of the community can enjoy health services, through health insurance.

Health insurance reduces the risk of people covering health costs out of their own pocket, in amounts that are difficult to predict and sometimes have enormous costs. For this reason, a guarantee in the form of health insurance is needed because participants pay a fixed premium. Thus health financing is shared mutually by all participants, so that it is not burdensome individually (Ministry of Health of the Republic of Indonesia). Health insurance that is enforced by the Government of Indonesia administered by an insurance company under the name BPJS (Social Security Administering Body) is the National Health Insurance (JKN), which started on January 1, 2014 (BPJS Kesehatan, 2014).

In the implementation of JKN there is a fundamental change in terms of claims, namely the payment of previous claims using the Fee For Service (FFS) mechanism to become Indonesian Case Base Groups (INA-CBGs). Regulation of the Minister of Health of the Republic of Indonesia No. 59 of 2014 in CHAPTER I Article 1 paragraph (3), states that: "In Indonesian - Case Based Groups Tariff, hereinafter referred to as INA-CBG's Tariff, is the amount of claim payment by BPJS Kesehatan to Advanced Level Referral Health Facilities for service packages based on to the grouping of disease diagnoses and procedures ". Meanwhile, Fee for Service is a claim that is billed in accordance with the number of services provided by hospitals or other health service facilities to patients or insurers (Ilham, 2015).

For hospitals, the INA-CBG system is a challenge, on the one hand it has to be efficiency, on the other hand the demands of the community for the quality of health services are getting higher, which in turn requires the hospital to strive to continue to implement the principle of efficiency without compromising

service quality (Firdaus, 2015). Thus it is expected that the degree of satisfaction of patients who are customers for the hospital can be achieved, because customer satisfaction is the main indicator of the standard of a health facility (Atmojo, 2006).

As for the satisfaction of BPJS participants with health services in health service facilities, as stated by BPJS Kesehatan (2014), a nationwide survey was conducted simultaneously from 15 September to 24 October regarding Participant satisfaction and the 2014 BPJS Health Health Facility was carried out with the aim of measuring the satisfaction and loyalty index of Participants and Health Facilities to BPJS Health. The survey results show that the National Index for Participant Satisfaction is 81%, while the National Index for Health Facility Satisfaction is 75%.

The Jampangkulon Regional General Hospital (RSUD), Sukabumi Regency, is a Type C Government-owned General Hospital with all limited resources and financial resources trying to improve service quality in the hope that patient satisfaction can be achieved. And since January 2015 participated in serving BPJS participants, which in quantity, BPJS participant patients are increasingly dominating.

## **2. MATERIALS AND METHODS**

The methodology uses descriptive analysis with a cross-sectional design. The number of samples of 110 respondents obtained from the hypothesis test formula with two different proportions. Primary data collection techniques with questionnaires, interviews and observations. Validity test with Pearson Product Moment formula and reliability test with Cronbach Alpha. Data analysis using logistic regression analysis and Cartesian analysis. This study analyzes patient satisfaction of BPJS participants.

## **3. RESULTS**

Univariate Analysis

a. Patient Satisfaction In General Services

Table 1  
Distribution of Respondents According to Patient Satisfaction in General Services in Jampangkulon Hospital BLUD Inpatient Installation 2017

Satisfaction	Frequency	Percentage
not satisfied	6	5.5
Satisfied	106	94.5
Total	110	100

Source: Primary Data

b. Service Quality Dimensions

Table 2  
Distribution of Respondents According to Dimensions of Physical Evidence (Tangible) in the Inpatient Installation of BLUD Jampangkulon Hospital, Sukabumi Regency in 2017

Satisfaction	Frequency	Percentage
not satisfied	10	9.1
Satisfied	100	90.9
Total	110	100

Table 3  
Distribution of Respondents according to the Dimension of Reliability (Reliability) in the Inpatient Installation of BLUD Jampangkulon Hospital, Sukabumi Regency in 2017

Satisfaction	Frequency	Percentage
not satisfied	4	3.6
satisfied	106	96.4
Total	110	100



Table 4  
Distribution of Respondents According to Dimensions of Responsiveness (Responsiveness) in the Inpatient Installation of BLUD Jampangkulon Hospital, Sukabumi Regency in 2017

Satisfaction	Frequency	Percentage (%)
not satisfied	4	3.6
satisfied	106	96.4
Total	110	100

Table 5  
Distribution of Respondents according to the Dimension of Assurance in the Inpatient Installation of Jampangkulon Hospital, Sukabumi District in 2017

Satisfaction	Frequency	Percentage
not satisfied	0	0
satisfied	110	100
Total	110	100

Table 6  
Distribution of Respondents According to the Dimension of Empathy in the Inpatient Installation of BLUD Jampangkulon Hospital, Sukabumi Regency in 2017

Satisfaction	Frequency	Percentage
not satisfied	3	2,7
Satisfied	107	97,3
Total	110	100

Table 7  
Respondents' Expectations on the Dimensions of Service Quality in the Inpatient Installation of Jampangkulon Hospital, Sukabumi District

Important		Not Important	
Frequency	Percentage	Frequency	Percentage

Tangible	110	100	0	0
Reliability	110	100	0	0
Responsiveness	110	100	0	0
Assurance	110	100	0	0
Emphaty	110	100	0	0
Total	110	100	0	0

c. Characteristics of Respondents

Table 8  
Distribution of Respondents by Age

Age	f	Percentage
≤ 20 tahun	7	6,4
> 20 tahun	103	93,6
Jumlah	110	100

Table 9  
Distribution of Respondents by Gender

Gender	f	Percentage
Male	45	40,9
Female	65	59,1
Jumlah	110	100

Source: Primary Data

Table 10  
Distribution of Respondents by Education

Education	f	Percentage (%)
No school	8	7,3
Elementary School	54	49,1

Junior High School	15	13,6
Senior High School	19	17,3
Diploma	3	2,7
Bachelor	11	10
<b>Total</b>	<b>110</b>	<b>100</b>

Table 11  
Distribution of Respondents by Occupation

Occupation	f	Percentage (%)
unemployment	60	54,5
government employees	8	7,3
TNI/Polri	0	0
Private	4	3,6
entrepreneur	13	11,8
Others	25	22,7
<b>Total</b>	<b>110</b>	<b>100</b>

Table 12  
Distribution of Respondents by Inpatient Room

Inpatient Room	f	Percentage
VIP	5	4,5
Class 1	20	18,2
Class II	40	36,4

Class III	45	40,9
Total	110	100

**Bivariate Analysis**

Table 13

Relationship of Physical Evidence (Tangible) to Patient Satisfaction in the Inpatient Installation of BLUD Jampangkulon Hospital, Sukabumi Regency in 2017

Tangible	Patient Satisfied				Total	P Value	OR	
	Not Satisfied		Satisfied					
	n	%	n	%				
Not Satisfied	2	20	8	80	10	100	0,034	6
Satisfied	4	4	96	96	10	100		

Table 13 shows the results of the analysis of respondents' answers about satisfaction with physical evidence are: respondents who expressed satisfaction with physical evidence tended to be higher 96% would be satisfied with general services while being treated at the BLUD Hospital Jampangkulon Hospital, Sukabumi Regency, compared to respondents who felt not satisfied that only 80%. The statistical test results obtained p value of 0.034 (p value <0.05). This means that there is a significant relationship between tangible evidence and patient satisfaction.

Table. 14

Relationship Reliability (Reliability) to Patient Satisfaction in the Inpatient Installation of BLUD Jampangkulon Hospital, Sukabumi Regency in 2017

Reliability	Patient Satisfied		Total	P Value	OR
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	Not Satisfied		Satisfied		f	%		
	N	%	n	%				
Not Satisfied	2	50	2	50	4	100	0,000	25,5
Satisfied	4	4	102	96	106	100		

Table 14 shows that the results of the analysis illustrate that 96% of respondents who are satisfied with the reliability tend to be more satisfied with the service in general while being treated at the BLUD Hospital Jampangkulon Hospital, Sukabumi Regency, compared to respondents who feel dissatisfied with only 50%. The statistical test results obtained p value of less than 0.000 (p value <0.05). This means that there is a significant relationship between reliability and patient satisfaction.

Table. 15  
Relationship of Responsiveness to Patient Satisfaction in Jampangkulon Hospital, Sukabumi District BLUD Inpatient Installation in 2017

Responsiveness	Patient Satisfied				Total	P Value	OR	
	Not Satisfied		Satisfied					
	N	%	N	%				
Not Satisfied	1	25	3	75	4	100	0,080	6,73
Satisfied	5	5	101	95	106	100		

The result of the analysis shows that respondents who are satisfied with the responsiveness tend to be 95% higher than those who are satisfied with the general service while being treated at the BLUD Hospital Jampangkulon Hospital, Sukabumi Regency, compared to respondents who are not satisfied with only 75%. However, from the statistical test results obtained p value of

0.080 (p value > 0.05). This means that there is no relationship between responsiveness to patient satisfaction.

Table. 16  
Assurance Relationship to Patient Satisfaction in Jampangkulon Hospital,  
Sukabumi District BLUD Inpatient Installation in 2017

Assurance	Patient Satisfied				Total	P Value	OR	
	Not Satisfied		Satisfied					
	n	%	N	%				f
Not Satisfied	0	0	0	0	0	0	-	0
Satisfied	6	5	104	95	106	100		

The results of the analysis show that 95% of respondents who are satisfied with the guarantee dimension will feel satisfied with the general service while being treated at the BLUD Hospital Jampangkulon Inpatient Installation, Sukabumi Regency, because none of the respondents are not satisfied with the assurance, so that yields the number 0. The results of statistical tests do not get the p value. Thus, the relationship between assurance and patient satisfaction cannot be interpreted.

Table. 17  
Relationship of Empathy Toward Patient Satisfaction in Jampangkulon  
Hospital, Sukabumi District BLUD Inpatient Installation in 2017

Assurance	Patient Satisfied				Total	P Value	OR	
	Not Satisfied		Satisfied					
	n	%	n	%				f
Not Satisfied	1	50	2	67	3	100	0,031	10,2
Satisfied	5	4	102	96	106	100		

The results of the analysis show that respondents who are satisfied with the empathy dimension tend to be 96% higher than those who are satisfied with the general service while being treated at the BLUD Hospital Jampangkulon Hospital, Sukabumi Regency, compared to respondents who feel dissatisfied is 67%. The statistical test results obtained p value of 0.031 (p value <0.05). This means that there is a significant relationship between empathy (empathy) and patient satisfaction.

### **Multivariate Analysis**

Multivariate analysis aims to see the relationship between the independent variable (dimension of service quality) and the dependent variable (patient satisfaction) simultaneously by using logistic regression to find the most dominant factor on patient satisfaction at the BLUD Hospital Jampangkulon Hospital, Sukabumi Regency.

#### a. Bivariate Selection

Bivariate selection was carried out to analyze the independent and dependent variables before entering the multivariate stage. Bivariate selection was carried out using a simple logistic regression test. Each independent variable is subjected to bivariate analysis with the dependent variable if the bivariate result produces a p value of less than 0.25 (<0.25) then the variable immediately enters the multivariate stage, while for independent variables whose bivariate results produce a p value of more than 0.25 (> 0.25) but it is important that this variable can be included in the multivariate model.

Table 18

Logistic Regression Test Results Between Tangible, Reliability, Responsiveness and Empathy Variables

Variable	P Value	OR
Tangible	0,018	13,34

Reliability	0,062	23,78
Responsiveness	0,739	1,95
Emphaty	0,288	7,20

b. Multivariate Modeling

Multivariate analysis is a follow-up analysis that aims to determine the correlation of the independent variable (dimensions of service quality) to the dependent variable (patient satisfaction), so that it can be seen which factors are the most dominant from the dimensions of service quality that affect patient satisfaction, using logistic regression analysis. The model selection is carried out in stages by including all the independent variables that have passed the selection in the model, then the variables whose p value is not significant are removed from the model sequentially starting from the largest p value. To see which variable has the greatest influence on the dependent variable, seen from  $\exp(B)$  for a significant variable, the greater the value of  $\exp(B)$  means the greater the effect on the dependent variable analyzed. Thus, there are four variables included in the multivariate modeling, namely physical evidence, reliability, responsiveness and empathy.

Table 19

Logistic Regression Test Results Between Tangible, Reliability, Responsiveness and Empathy Variables

Variable	P Value	OR
Tangible	0,018	13,34
Reliability	0,062	23,78
Responsiveness	0,739	1,95



Emphaty 0,288 7,20

Based on Table 19 from the results of the multivariate analysis of the first model, the variables that have a p value less than 0.05 (<0.05) are tangible, while reliability, responsiveness and empathy are more than 0.05 (> 0.05) so that for The next step that is excluded from the model is responsiveness because it has the largest p value, namely 0.739. Thus the results of the analysis can be seen from Table 20 and Table 21.

Table 20  
Logistic Regression Test Results Between Tangible, Reliability and Empathy Variables

Variable	P Value	OR
Tangible	0,018	12,83
Reliability	0,006	34,41
Emphaty	0,336	5,83

Table 21  
Logistic Regression Test Results Between Tangible, Reliability and Empathy Variables

Variable	Before OR	After OR	Change OR
Tangible	13,34	12,83	2,8%
Reliability	23,78	34,41	44,7%
Emphaty	7,20	5,83	19%

After looking at the whole multivariate process, it can be seen that the tangible, reliability, responsiveness and empathy variables are substantially related to patient satisfaction at the BLUD Hospital

Jampangkulon Sukabumi Hospital, while the assurance variable is the confounding variable.

The most dominant variable related to patient satisfaction is the responsiveness variable considering the highest OR value, which is 50.39, meaning that patients who are satisfied with the responsiveness dimension of hospital services have a 50.39 times chance of patient satisfaction compared to patients who are not satisfied after being controlled. by tangible and empathy variables. However, when viewed from the p value, the most dominant variable is tangible considering that the p value is the smallest compared to other variables.

c. Cartesian Diagram Analysis

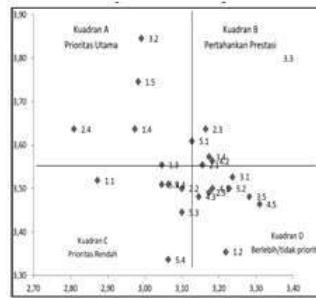
The results of the study are based on the Cartesian diagram analysis, namely the analysis of service quality which includes the level of patient perceptions in the form of frequency distribution about the reality of services provided and patient expectations of services in the BLUD Hospital Jampangkulon Hospital, Sukabumi District from each of the dimensions of service quality items.

As well as the analysis to determine the level of patient satisfaction, namely the measurement of patient satisfaction on service quality. To calculate the level of conformity between the level of expectation and satisfaction, it is necessary to have a match between expectations and the reality of service quality.

After obtaining the data, the priority scale for solving service quality problems can be obtained through the placement of each factor into the Cartesian diagram quadrant (Figure 1).

Figure. 1

Cartesian Quadrant Diagram



The measurement results are as shown in the Cartesian diagram in Figure 1, the elements of the dimensions of the quality of services provided in terms of expectations and patient satisfaction while being treated at the BLUD Jampangkulon Hospital, Sukabumi Regency BLUD, allows the Jampangkulon General Hospital BLUD to make a priority scale efforts to improve and develop things that are truly considered important by patients, but the services received are still not satisfactory. The priority scale is based on the Cartesian diagram in Figure 1, it can be seen that the location of the elements that affect patient expectations and satisfaction is divided into four quadrants.

These priority scales include:

1. The accuracy of the inspection schedule, the questions on the reliability dimension.
2. The speed at which doctors respond to questions in the dimension of responsiveness.
3. Complete drug supplies, questions on the dimensions of physical evidence.
4. Completeness of medical equipment, questions on the dimensions of physical evidence.
5. Cleanliness of the room, questions on the dimensions of physical evidence.

#### 4. CONCLUSION

Based on the results of the study, it can be concluded that the majority of patients expressed satisfaction with the general service at the BLUD

Jampangkulon Hospital, Sukabumi District as many as 104 people or about 94.5%, as well as services based on the dimensions of service quality, which consisted of tangible (90.9%), reliability (96.4%), responsiveness (96.4%), assurance (100%), and empathy (97.3%), and the patient stated importance in all dimensions of service quality (100%).

In terms of patient expectations and satisfaction while being treated at the BLUD Hospital Jampangkulon Hospital, Sukabumi Regency, the main priority for improvement is the accuracy of the examination schedule, the speed with which doctors respond, complete drug supplies, complete medical equipment and room cleanliness. And what needs to be maintained is the clarity of information, the suitability of the implementation of the action, the speed at which nurses respond, the accuracy of service, the system is not convoluted, and the skills of the staff.

Given the limitations in the research, it is necessary to carry out further research by referring to the results of this study as the basic data for conducting further, more complex research, using other variables that are not studied such as the characteristics of the respondent. In addition to measuring patient satisfaction from the perspective of BPJS participant patients quantitatively, it is also advisable to use a qualitative research design in order to explore more deeply.

Measurement of satisfaction should also be carried out by officers at BLUD Jampangkulon Hospital and BPJS Kesehatan considering patient satisfaction, provider satisfaction and the satisfaction of the administering body are interrelated with each other in achieving the target of implementing the National Health Insurance (JKN).

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# RELATIONSHIP OF SERVQUAL DIMENSIONS WITH PATIENT SATISFACTION LEVELS IN TRIBRATA INPATIENT ROOM AT BHAYANGKARA HOSPITAL, BENGKULU CITY

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## ABSTRACT

*Patient satisfaction greatly determines the quality of hospital services, especially the services provided by nurses. The purpose of this study was to study the relationship between servqual dimensions and the level of patient satisfaction in the inpatient room of Tribrata Bhayangkara Hospital, Bengkulu City. This type of research is an analytic survey method using a cross sectional design with accidental sampling with a total of 119 patient. Data collection using a questionnaire with a likers scale. The results showed that 80.7% of patients stated that they were of good quality and 19.3% of patients stated that they were lack of quality, 16% of patients said they were satisfied and 84% of patients said they were less satisfied, Test showed there were 84% patients expressed less satisfaction. and using the Chi-Square, it was found that there was a significant relationship between the Servqual Dimensions and the Satisfaction Level in the Tribrata Inpatient Room at Bhayangkara Hospital, Bengkulu City with the Weak Category.*

**Keywords:** *Servqual Dimensions, Patient Satisfaction*

## 1. INTRODUCTION

Patient satisfaction is the most prominent aspect at the operational level of health services. The activities of providing services at the forefront will result in consumers who tend to return to get health services where they were originally. This is strongly influenced by the understanding and proficiency of employees or officers in various aspects of patient satisfaction (Savitri, 2011).

Patient satisfaction concerns the patient's physical, mental, social satisfaction. Customer satisfaction is the target of efforts to improve service quality, especially health services without neglecting existing limitations and problems. In addition to the many weaknesses in the hospital service system, this has become the concern of various parties, especially the government with the issuance of hospital service standards which are expected to provide satisfaction to hospital service users (Pohan, 2013).

In 2014, The Commonwealth Fund released a report comparing health services from 11 countries in the world. The eleven countries include Britain, Switzerland, Sweden, Australia, Germany, the Netherlands, New Zealand, Norway, France, Canada and the United States. According to the report, New Zealand ranks first with the worst quality of healthcare services in terms of

equity. Equity level is measured by how often people are unable to avoid going to the doctor when they are sick (Paramitha, 2019).

Patient dissatisfaction with health services both in Indonesia and in other developing countries is currently a problem. Data in hospitals in one of the ASEAN countries in 2016 showed that patient satisfaction was only 79%, while the standard set patient satisfaction was > 80% with a complaint rate of 4–5 cases / month (Klaipetch, 2016).

Patient satisfaction data in one of the regional public hospitals in Indonesia found that 70% of patients were less satisfied with nursing services (Hafid, 2014). Patient satisfaction rates in Central Maluku were only 42.8% and 44.4% in West Sumatra. Based on these data, it can be concluded that the patient satisfaction rate is still low, so that patient satisfaction is a problem for hospitals both in Indonesia and abroad.

The quality of health services in the hospital is all health services with professional standards by making good use of existing resources, so that all customer needs and goals to achieve an optimal health degree can be achieved. Health service is a system consisting of various components which are interrelated, depend on and influence one another. The quality of health care in a hospital is the end product of a complex interaction between components or aspects of service (Triwibowo, 2013).

The quality of hospital services has several dimensions according to Budiastuti in Nooria, (2008) there are several dimensions of quality that can increase patient satisfaction, namely product or service quality, service quality, emotional factors, prices, costs. While the dimensions of the quality of health services according to Bustami (2011), namely *reliability*, *responsiveness*, *assurance*, *emphaty* and *tangibles*. The five dimensions of service quality are the concept of Service Quality which is a measure of the quality of health services.

Analysis of the aspects of patient satisfaction with the condition of the hospital facilities and the behavior of hospital staff from the initial research survey conducted by researchers at Bhayangkara Hospital, Bengkulu City on July 23, 2020. Of the 3 respondents hospitalized in the Tribrata room at the Bhayangkara Hospital, Bengkulu City, it turns out that many of them are still not satisfied with the services provided by the Tribrata Room officers at the Bhayangkara Hospital, Bengkulu City, especially the dissatisfaction due to slow nursing services, the lack of hospitality of the nurses on duty so that patients are less comfortable asking what they are complaining about and the hospital facilities have not fulfilled the wishes of the patient, especially in the toilets where unpleasant smells spread when other patients use the restroom.

## **2. METHODS**

The research location was the Bhayangkara hospital in Bengkulu city in the Tribrata inpatient room and was carried out in August 2020. This type of research used an analytical survey with a cross sectional approach. The population in conducting this study was the total number of patients who

visited the inpatient room of Tribrata Bhayangkara Hospital, Bengkulu City in August 2020. The sample in this study were some of the patients in the inpatient room of Tribrata Bhayangkara Hospital, Bengkulu City who visited in August 2020, the sampling method was using accidental sampling technique.

Data collection with primary and secondary data. The data analysis technique used univariate and bivariate analysis with the Chi Square test and Coefficient Contingency

### 3. RESULT

#### 1. Univariate Analisis

Univariate analysis is an analysis used to obtain an overview of the frequency distribution and proportion of the variables studied, both Independent (Servqual Dimension) and Dependent (Patient Satisfaction).

Table 1

Frequency Distribution of Servqual Dimensions in Tribrata Bhayangkara Inpatient Room, Bengkulu City

<i>Servqual Dimension</i>	F	Persentase
Quality	96	80.7
Less Quality	23	19.3
Total	119	100.0

According to the table above, it shows that almost all (80.7%) patients stated that the tribrata room was of good quality and a small proportion (19.3%) of the patients stated that the tribrata room was of Less quality.

Tabel 2

Frequency Distribution of Patient Satisfaction in Tribrata Bhayangkara Inpatient Room, Bengkulu City

Kepuasan	f	Persentase
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Satisfaction	19	16
Less Satisfaction	100	84
Total	119	100

According to the table above, it shows that there is a small proportion (16%) of patients who are satisfied with the services in the inpatient room of the Tribrata room and almost all (84%) of the patients are dissatisfied with the services in the inpatient room of the Tribrata room.

### Bivariate Analisis

Bivariate analysis is to determine the relationship between the dependent and independent variables. Where research to determine the relationship between servqual dimensions and patient satisfaction levels in the Tribrata Inpatient Room at Bhayangkara Hospital, Bengkulu City, can be seen in the cross tabulation table below:

Table 3  
Relationship of Servqual Dimensions with Patient Satisfaction Levels in Tribrata Inpatient Room at Bhayangkara Hospital, Bengkulu City

Servqual Dimension	Patient Satisfaction				Total	$\chi^2$	P	C	RP	
	Satisfaction		Less Satisfaction							
	f	%	f	%						f
Quality	19	19,8	77	80,2	96	100				
Less Quality	0	0	23	100	23	100	5,417	0,02	0,209	1,247
Total	19	19,8	100	84	119	100				

From the cross tabulation above, it can be seen from 23 respondents who answered that the servqual dimension was less qualified, there were no patients who expressed satisfaction and there were 23 patients who were dissatisfied, out of 96 respondents who answered the quality servqual dimension there were 77 patients who were unsatisfied and 19 were satisfied.

To determine the relationship between the servqual dimensions and the level of patient satisfaction in the inpatient room, Tribrata Bhayangkara Hospital, Bengkulu City, used the chi-square test (Fisher's Exact Test). The results of the Exact Fisher's test showed that the  $p\text{-value} = 0.022 < 0.05$  was significant, meaning that there was a difference in patient satisfaction between the inferior and quality servqual dimensions, so  $H_0$  was rejected and  $H_a$  was accepted. So there is a significant relationship between Servqual Dimensions and Patient Satisfaction at Bhayangkara Hospital, Bengkulu City.

Based on Table 1, it shows that of the 119 respondents in the Tribrata inpatient room, Bhayangkara Hospital, Bengkulu City, it can be seen that almost all of the patients said it was quality with the highest statement in the respondent's answer to the doctor's timeliness, the accuracy of dispensary officers in providing medicinal services, the services provided by officers do not see the status, and a small proportion of respondents answered that they were of poor quality with the lowest respondent's answers to room comfort, room cleanliness.

These results are in line with research conducted by Junita Butar Butar and Roymond H Simamora (2016) showing the results of their research that the quality of nursing services in general in the inpatient room of Pandan Regional General Hospital, Tapanuli Tengah Regency is a high category with 24 respondents. moderate nursing service was 47 respondents, but 1 respondent found the quality of nursing service in the low category.

This research is also in line with the results of a study conducted by M Fatkhul Mubin (2007), it was found that the dimensions of nursing services in the high category of Tugurejo Hospital Semarang were 57 respondents, the medium category was 41 respondents.

The quality of health services in a hospital is all health services with professional standards by making good use of existing resources, so that all customer needs and goals to achieve an optimal health degree can be achieved. Health service is a system consisting of various components which are interrelated, depend on and

influence one another. The quality of health care in a hospital is the end product of a complex interaction between components or aspects of service (Triwibowo, 2013). So it can be concluded that the quality of service at the hospital must be improved in an organization, because the quality of service is the most important aspect in an organization / installation so that customers always come back to get service at the installation.

Quality is very important in health service organizations, increasing public awareness about health and health services encourages every health service organization to be aware of quality in providing services to service users of health service organizations. Every problem that arises in health service organizations, especially in relation to the quality of health services, there are three main concepts that always arise.

These concepts are access, cost and quality. Access course includes physical, financial, mental or intellectual human resource access to the available health care and services. Of the three concepts, the element of customer satisfaction is the most important. If consumers are not satisfied with the quality of services provided, patients will not return or seek other services, even though these services are available, easy to get and easy to reach (Herlambang, 2016).

Based on Table 2 shows that of the 119 respondents in the inpatient room Tribrata Bhayangkara Hospital, Bengkulu City, it can be seen that a small proportion of respondents answered satisfied, This can be seen from the respondent's answer about the nurse's attitude to the patient / respondent, and almost all respondents answered less satisfied and The nurse's lack of alertness, the patient's lack of understanding of the nurse's explanation.

Satisfaction is a comparison between the quality of services obtained with the wants, needs and expectations. Satisfaction is defined as the level of a person's feelings after comparing performance (results), customer satisfaction is the main goal of excellent service so that every service apparatus has an obligation to try to satisfy its customers ( Tjiptono, 2004).The results of this study are also in line with the research conducted by Yuanita Ananda, (2017) The results showed that

more than half as many as 41 people said they were not satisfied with the service and as many as 22 people said they were satisfied with the services in the Internal Inpatient Room of DR. Rasidin Padang in 2017.

Patient satisfaction is the most prominent aspect at the operational level of health services. The activities of providing services at the forefront will result in consumers who tend to return to get health services where they were originally. This is strongly influenced by the understanding and proficiency of employees or officers in various aspects of patient satisfaction. (Savitri, 2011). So it is concluded that patient satisfaction is the most important or most prominent thing for the operational level of health services, because if patient satisfaction is not in a good category it will have an impact on other things such as: customers will look for other health service places that can meet customer needs.

Patient satisfaction is a comparison between the quality of health services obtained with the wants, needs, and expectations. Patient satisfaction is defined as the feeling of a person after comparing the perceived results with his expectations (Nurusalam, 2014).

The results of research conducted in the Tribrata inpatient room at Bhayangkara Hospital, Bengkulu City, showed that out of 96 patients who stated quality, 19 patients stated that they were satisfied and 77 stated that they were not satisfied. Meanwhile, out of 23 stated that they were of low quality, there were 0 that were satisfied and 23 stated that they were not satisfied. So from the data obtained, there are almost all patients in the inpatient room, Tribrata stated that it was quality and almost all patients said they were not satisfied.

From the results of the study, it was found that 77 patients stated that they were not satisfied, while for the Servqual Dimension the patients stated that it was quality, this was due to the patient's waiting time. This is in line with the theory of Syafrudin, Masyitoh & Musyanawati about customer satisfaction factors in hospitals or health services, one of which is caused by waiting time.

The results of this study are in line with the research conducted by Nurul Annisa (2017) which stated that of the 44 respondents, there were 20 patients who stated quality, there were 19 patients who expressed satisfaction and 1 patient stated that they were not satisfied, While 24 patients stated that they were not of good quality, 1 patient stated that they were satisfied and 23 patients stated that they were not satisfied. These results are also in line with the results of research conducted by Leo Bavenro (2014) which stated that from 34 respondents, 26 patients stated that they were qualified, 18 patients stated that they were satisfied and 8 patients stated that they were not satisfied, while 8 patients stated that they were not qualified, 4 patients stated that they were satisfied and 4 patients stated that they were not satisfied. Likewise according to research conducted by Rattu (2018) which stated that out of 97 respondents, there were 69 respondents who stated quality, 43 respondents felt satisfied and 25 respondents who did not feel satisfied while 29 respondents stated that they were not qualified, 7 respondents were satisfied with patient satisfaction and 22 respondents who were not satisfied respondents

The quality of health services shows that at the level of perfection of health services in causing a sense of self-satisfaction for each patient, the more perfect the satisfaction, the better the quality of health services (Pohan, 2011: 5). The quality of nursing service is the most important factor in forming customer or patient trust in nursing services so that customer loyalty and satisfaction are created. Patient satisfaction is an asset to get more patients and to get loyal patients. Loyal patients will reuse the same services if these patients need nursing services again. Patient satisfaction also depends on the quality or quality of nursing services. Measuring the level of patient satisfaction is closely related to the quality of nursing services. Performance and service quality are successful when what the customer needs, wants, and expectations can be met (Nursalam, 2015)

Chi-square test results (Fisher's Exact Test) show that there is a significant relationship between Servqual Dimensions and Patient Satisfaction Levels in Tribrata Inpatient Room Bhayangkara Hospital, Bengkulu City. This can be seen from the results of the Chi-square test (Fisher's Exact Test), the value of Pvalue



(p) = 0.020, C = 0.029 and RP = 1.247. The results of the risk estimate test showed that the value of the Prevalent Ratio (RP) = 1.247 (1.129 - 1.377), which means that patients who do not answer the low quality servqual dimensions tend to be less satisfied by 1.247 times when compared to patients who answer quality. Here there is almost no difference between the patient's dissatisfaction and satisfaction from the inferior and quality servqual dimensions. So this shows that there is a significant relationship between the Servqual Dimension and Patient Satisfaction in the inpatient room of Tribrata Bhayangkara Hospital, Bengkulu City with the weak category..

This is in line with research conducted by Nurul Annisa (2017), which said that there was a relationship between quality and satisfaction of Class III inpatients at the Madiun Level IV Hospital with a p-value of 0.000 smaller than  $\alpha$  0.05. This is also in line with research conducted by Nufardiansyah Burhanudddin (2016), This research shows that there is a relationship between each dimension of service quality, that is, there is a relationship between the dimensions of service quality tangible, reliability, responsiveness, jaminan assurance, and empathy with the satisfaction of BPJS participant patients in the inpatient room of the Syekh Yusuf Gowa Regional General Hospital with p Value = 0,000 and a value of C = 0.026.

The results above are also in line with the results of research conducted by Nurhasni (2018) His research said that the results of the analysis with the Spearman Rho Coreation test showed p = 0.002, where  $p \leq 0.05$  then  $H_0$  was rejected, which means that there is a relationship between the quality of health services at the Puskesmas and the level of patient satisfaction at the ENT clinic Rumkital Dr. Ramelan Surabaya.

According to Bowers (2004) that service quality is closely related to satisfaction, where good quality will provide experience for customers and will then invite them to come back for their next visit and become loyal customers. Patient satisfaction can be achieved by increasing the quality of service provided to patients, so that they are in accordance with what they expect. Customers who are satisfied with the service are likely to become loyal customers, and can even be used as free promo media. Conversely, if customers are not satisfied, they can

easily move to another company. Basically, the notion of customer satisfaction includes the difference between the level of importance and the perceived performance or results, (Phili Kotler dalam Syafrudin, Masyitoh & Mosyanawati 2011).

Satisfaction is a feeling of pleasure or disappointment in someone who arises after comparing their perceptions or impressions of the performance or results of a product and their expectations. (kotler, 2004:42). Patient satisfaction is related to the quality of hospital services. By knowing the level of patient satisfaction, hospital management can improve the quality of service. Percentage of patients who are satisfied with the service based on the survey results with standard instruments (Indikator Kinerja Rumah Sakit, Depkes RI tahun 2005:31)

#### **4. Conclusion**

1. Out of 119 respondents, 96 respondents (80.7%) answered quality services
2. Out of 119 respondents 100 (84%) respondents answered satisfied
3. There is a significant relationship between the servqual dimension and the level of patient satisfaction in the Tribrata room at Bhayangkara Hospital, Bengkulu City.

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# NUTRITION STATUS AND HANDGRIP STRENGTH AMONG ELDERLY SITUATED IN PEKANBARU, INDONESIA

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## **ABSTRACT**

*Handgrip strength has been widely used as a lead measure in geriatric conditions such as frailty. This condition tends to be experienced by the elderly due to nutritional factors. The study aims to determine the association of nutritional status toward hand grip strength among elderly. Observational analytic cross-sectional design was used and a total of 120 elderly were selected via cluster sampling situated in Tenayan Raya Sub-District, Pekanbaru, Indonesia. Mini Nutritional Assessment (MNA) was utilized to measure the nutritional status of elderly and dynamometer was used to assess their handgrip strength. Data were analyzed using chi square test. Results revealed that that elderly obtained low handgrip strength (43.3 %) and they are at risk of malnutrition (27,.5%). Moreover, it was found out that there is association between nutritional status and handgrip strength ( $p=0.011$ ). It is concluded that nutrition status plays a vital role in hand grip strength among elderly. As such, further study is recommended to verify its results to other context or elderly population groups.*

**Keywords:** *Elderly, Handgrip Strength, Nutrition status, Observational-Analytic Design*

## **INTRODUCTION**

Recently, the elderly population has increased significantly in most countries and regions around the world (United Nations, 2015) (He, Goodkind, & Kowal, 2016). In Indonesia, the proportion increases along with the degree of health and welfare, causing a tendency of more sarcopenia cases (Vitriana, Irma Ruslia Defi, gaga Irwan Nugraha, 2016). One of the triggers of decrease in muscle mass and strength is aging (Sekarsari, Vitriana, & Defi, 2018). Aging has an impact on the progressive decrease in muscle mass and strength (Kim & Choi, 2013). This contributes to the elderly condition and increases hospitalization, immobilization, malnutrition, and mortality (Widajanti et al., 2020) (Hai et al., 2017).

Hand grip strength plays an important role in the daily lives of people and serves as a reliable proxy indicator of an individual's hand motor abilities. Many daily functions such as carrying require the use of the flexor musculature of the forearms and hands, and these are the muscles that are involved in gripping strength (Ong et al., 2017). Low Handgrip Strength was positively associated with age (Confortin et al., 2018). hand grip strength was correlated with nutritional status (Setia, 2018). Previous studies have explained that there is an increase in hand grip strength in the elderly, especially those in the community. Currently, no prevalence data has been found in the special rural and urban areas in Pekanbaru City, Indonesia. This study aimed to examine the correlation between nutrition status toward hand grip strength.

## **1. MATERIAL AND METHODS**

This was an observational analytic study with a cross-sectional. The study was conducted from August to October 2020. It was in Tenayan Raya Sub-District which has the highest number of elders in Pekanbaru City with 13 villages, and each is divided into hamlets/neighborhoods. The 120 elderly were selected using the cluster sampling technique obtained from the Slovin formula ( $n=N/1+Ne^2$ ) with an error value of 5% (Ryan, 2013). The inclusion criteria were the elderly that worked together during the study, did not experience mental health, hearing and vision problems. But, had a stroke and severe cardiorespiratory or cardiovascular problems. Furthermore, those receiving therapy or drugs that affect exercise capacity, and also suffered from a disease that caused muscle mass loss.

Questionnaires were divided into two groups, namely the independent and dependent variable questionnaire. The independent variables were nutritional status. Meanwhile, the dependent variable was hand grip strength.

The original questionnaire English was translated into Indonesia. All translation and backtranslation were performed according to the recommended approach (Cha, Kim, & Erlen, 2007). Nutritional status used the Mini Nutritional Assessment (MNA). According to Bauer JM, Kaiser MJ, Anthony P et al (2008), MNA is a measure of sensitivity and specificity, which has high reliability. This is an appropriate method for the elderly population's evaluation and the detection of subjects with normal nutritional status, and those at risk of malnutrition (Isautier et al., 2019) (FERRARI BRAVO et al., 2018). The MNA was

good levels of reliability for the total score, the categorized score and for most of its items (Bleda, Bolibar, Pares, & Salva, 2002). The nutritional status instrument was assessed based on 3 categories, namely malnutrition (0-7 Points), risk of malnutrition (8-11 points), normal (12-14 points).

Handgrip strength is the maximum muscle strength produced by the contraction of the hand muscle during handgrip. The handgrip strength measurement was performed using a hand dynamometer in a standing position. The data analysis used was multivariate logistic regression.

The participants were ensured informed and confidentiality that participation was voluntary and that older people could drop out of the study at any time. The study received ethical approval from the ethical review board for medicine and health research medicine faculty Riau University (Number.B/13/UN.19.5.1.1.8/UEPKK/2020).

### 3. RESULTS AND DISCUSSION

**Table 1: Age, Gender, marital status, Education level, Nutritional status, hand grip strength among elderly (n = 120)**

<b>Respondent characteristics</b>	<b>Number (%)</b>
<b>Age</b> (Mean ± SD)	63.3± 37
<b>Gender</b>	
Male	25 (20.83)
Female	95 (79,17)
<b>Marital status</b>	
Married	90 (75)
Widower/widow	30 (25)
<b>Education</b>	
Elementary school	45 (37.5)
Junior high school	70 (58.33)
Senior High School	5 (4.17)
<b>Nutritional Status</b>	
Malnutrition	14 (11.7)
At Risk malnutrition	33 (27.5)
Normal	73 (60.8)
<b>Hand Grip Strength</b>	
Low	52(43,3)
Normal	68(56,7)

According to Table 1, 52 (43.3%) of the participants experienced low hand grip strength, mean of them were 63.3 years old, mostly females, 90 (75%) were married. and 70 (58.33%) were

junior high school. The education level was mostly junior school, 70 (58.33%), while 73 (60.8 %) had normal nutritional status.

**Table 2: Nutritional status toward hand grip strength among the elderly in Pekanbaru City (Total = 120)**

Variable	Hand Gript strength				<i>P-value</i>
	Low		Normal		
	N	%	N	%	
<b>Nutritional status</b>					
Malnutrition	7	1.34	7	10.29	0.011
At Risk malnutrition	21	40.38	12	17.64	
Normal	24	46.15	49	72.05	

### **The relationship between nutritional status and Hand grip strength in the elderly in Tenayan Raya District**

The bivariate analysis of nutritional status related to hand grip strength in the elderly in Tenayan Raya District, Pekanbaru City showed p-value of 0.011. Moreover, 27,5 % of malnutrition in the elderly was assessed by MNA which is the best validated and most widely used test to measure nutritional status. Handgrip strength and malnutrition have similar and common physiological mechanisms as well as overlap in older adults (Zunic & Peter, 2018).

## **4. CONCLUSIONS AND RECOMENDATION**

This study found that there were correlation between nutrition status toward hand grip strength. The *Posyandu* or integrated service post for the elderly in Tenayan Raya Public Health Center needs to be optimized. This requires continuous collaboration between the doctors, nurses, nutritionist, families, religious and community shops.

### **Acknowledgement**

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# **THE EFFECTIVENESS OF HEALTH EDUCATION ON THE ELDERLY TOWARDS INCREASED ELDERLY VISITS TO THE POSYANDU FOR THE ELDERLY NEW MARKET IN THE WORK AREA OF THE UPTD HEALTH CENTER BASERAH**

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## **ABSTRACT**

*The aging process is a process that occurs in someone aged 60 years and over which the process is the final stage of his life phase. Based on an initial survey conducted by researchers of 10 elderly people, 8 of them said they did not make a visit to the elderly Posyandu. The purpose of this study was to look at the Effectiveness of Health Education in the Elderly towards Increased Elderly Visits to the Posyandu of the Pasar Baru Elderly in the Work Area of the UPTD Health Center in Baserah. Type of experimental research, pretest and posttest group design research design. This research was conducted in the Work Area of the UPTD Health Center Baserah. The population in this study were all elderly aged 45 - 59 years who were in the Posyandu Elderly Pasar Baru Work Area Health Center UPTD Baserah with a target number of 182 elderly people, the number of samples 126 people. The number of elderly visits before being given health education is 41 people and after being given health education increased to 113 people. The results of the statistical test are the effectiveness of health education in the elderly towards increasing elderly visits with a value ( $p$  value = 0,000). It is recommended that the results of this study be a guideline for health workers to be able to apply it in the field and be more active in providing health education to the elderly to increase the interest of the elderly to come to posyandu*

**Keywords:** *Health education, Elderly Visitation*

## **1. INTRODUCTION**

The aging process is a process that occurs in someone aged 60 years and over, which is the final stage of their life phase. According to the World Health Organization (WHO), an elderly person is someone aged 60 years and over. The age limitation for the elderly can be divided into: middle age, namely the 45-59 year old group, elderly, namely the 60-74 year old group, old age group, 75-90 years old, very old (very old), namely the age group over 90 years. This is also confirmed in Law No.13 of 1998 regarding the welfare of the elderly in chapter I Article 1 paragraph 2 which states that a person can be said to be elderly if he is 60 years and over (Yoktan, 2017).

The rate of development of the world's population, including Indonesia, is currently heading towards an aging process which is marked by the increasing number and proportion of elderly

people (Andini, 2013). Data from World Population Prospects (2015) explains that there are 901 million people aged 60 years or over, comprising 12% of the world's population. In 2015 and 2030, the number of people aged 60 years or over is projected to grow by around 56% from 901 million to 1.4 billion, and by 2050 the elderly population is projected to more than double by 2015, to reach 2.1 billion (United Nations, 2015).

Based on population projection data, it is estimated that in 2017 there are 23,66 million elderly people in Indonesia (9,03%) Predicted number of elderly population in 2020 (27,08 million), 2025 (33,69 million), year 2030 (40,95 million), and 2035 (48,19 million) (Indonesian Ministry of Health, 2017). The results of the 2010 population census show that Indonesia is among the top five countries with the largest number of elderly people in the world, reaching 18,1 million people in 2010 or 9,6 percent of the population (BPS, 2015).

The Central Bureau of Statistics (BPS) projects that the number of elderly people in Indonesia in 2005-2010 is the same as the number of children under five, namely 8.5% of the total population or 19.9. million. In 2020 the number of elderly will be 28.8 million or 11.34% of the total population. In 2025, one fifth of Indonesia's population will be elderly. The increase in the number of elderly people is estimated to be followed by an increase in life expectancy from 59.8 years in 1990 to 67.4 years in 2005 and to 71.7 years in 2020. Various parties are aware that the increasing number of elderly people in Indonesia will brings a major influence in the management of health problems, namely physical health problems and health mentally. To overcome these elderly health problems, it is necessary to develop a group of elderly people through the Community Health Center by setting up Posyandu for the elderly (Sumiarti, 2012).

The elderly posyandu is an integrated service post for the elderly community in an area that is moved by the community to get health services, but the program is not used properly by the elderly. The interest / behavior of the elderly in checking into Posyandu is still minimal or lacking. This can be seen from research conducted by Anggraini, Fadli, and Wahono who said that the awareness or interest of the elderly in going to Posyandu is still very minimal (Yoktan, 2017). The lack of interest in the elderly to come to the posyandu for the elderly is influenced by the lack of knowledge of the elderly about the posyandu program for the elderly. So that health education is needed to increase the interest of the elderly to come to the posyandu for the elderly. Health education is an educational activity carried out by

conveying messages, instilling confidence, so that people are not only aware, know and understand, but also want and can do a recommendation that has to do with health.

The timing of information delivery must pay attention to the level of community activity to ensure the level of community attendance in outreach. Methods that can be used in providing health education are individual counseling methods, group counseling and mass extension. The purpose of counseling is to achieve changes in the behavior of individuals, families and communities; according to WHO (2011) to change individual or community behavior in the health sector. Elderly guidance in Indonesia is carried out based on statutory regulations as a basis for determining development policies in accordance with Law No. 13 of 1998 concerning the welfare of the elderly, which states that health services are intended to maintain and improve the health status and ability of the elderly, counseling, healing and institutional development. A significant increase in the elderly population will be accompanied by various problems and will affect various aspects of elderly life, both for individuals and for families and communities, including physical, biological, mental and socio-economic. Considering that the elderly is one of the vulnerable groups in the family, elderly development is very much needed special attention according to its existence (Ministry of Health, 2010).

Posyandu is a place for health care carried out from, by and for the community guided by related officers. However, currently the elderly's activeness in the elderly posyandu has not been going well. This proves that in Tulungrejo, there are 63 elderly people, none of them follow the elderly posyandu. This could be due to the lack of knowledge of the community about the elderly posyandu itself, while the main diseases that attack the elderly are hypertension, heart failure and infarction as well as heart rhythm disorders, diabetes mellitus, impaired kidney and liver function.

There are also various conditions that are typical and often disturb the elderly, such as impaired cognitive function, body balance, vision and hearing. Of these phenomena and many deaths in the elderly are caused by this incident. Therefore, the government of the Republic of Indonesia urges to immediately revive the posyandu back to the village, because posyandu is at the forefront of monitoring early detection of disease in the elderly (Effendi, 2009).

In implementing the posyandu for the elderly, it is necessary to hold a health education which one of its functions is to motivate the elderly to come to the posyandu for the elderly. This is very necessary because it is to increase community participation, especially the elderly. By holding the elderly posyandu itself, it is hoped that it can detect early disease that occurs in the elderly (Maulana, 2009).

Based on the recapitulation of Posyandu in the Baserah Puskesmas Health UPTD Work Area in 2017 there were 337 elderly people and the target number of elderly people in 2018 was 311 elderly people. In 2017 the number of elderly who did not participate in elderly posyandu activities was 212 elderly (62,9%) and in 2018 the number of elderly who did not participate in elderly posyandu activities was 265 elderly (85,2%) (Baserah Puskesmas Annual Report, 2018 ).

## **2.DISCUSSION**

Based on the results of the research before being given health education, the number of elderly visits to the posyandu was 41 people, after being given health education the number of elderly visits to the posyandu increased to 113 elderly people who visited, so it can be seen that there was an increase in 72 visits. The statistical test results obtained p value = 0.000 ( $p < 0.05$ ), it can be concluded that there is the effectiveness of health education for the elderly to increase the visits of the elderly before and after to the new market elderly posyandu in the Baserah Puskesmas Health UPTD Work Area.

According to the theory, extension is an educational activity carried out by spreading messages, displaying beliefs, so that the community does not aware, know and understand, but also willing and able to make recommendations that have something to do with improving the standard of living of the elderly (Maulana, 2009). Extension health is the addition of a person's knowledge and abilities through practical learning techniques or instructions with the aim of changing or influencing human behavior individually, in groups or in the community to be more independent in achieving healthy life goals for the elderly (Maulana, 2009).

The purpose of counseling is to increase one's knowledge. Low knowledge of the elderly about the benefits of the elderly posyandu. The knowledge of the elderly about the benefits of

the elderly posyandu can be obtained from personal experience in their daily life, by attending posyandu activities the elderly will get counseling about how to live healthy with all the limitations or health problems inherent in them. With this experience, the knowledge of the elderly increases, which becomes the basis for the formation of attitudes and can encourage their interest or motivation to always participate in elderly posyandu activities (Maulana, 2009).

Based on the results of research by Nevy Norma (2014) on the effect of health education for the elderly on the visit rate of the elderly posyandu, it is stated that the significant value is 0.0001, so there is a difference between before and after treatment by providing health education on elderly visits to posyandu.

Researchers assume that, in this study there is the effectiveness of health education on elderly visits with a p value = 0.000. In this study, after health education there was an increase in 72 visits, namely initially only 41 visits, after health education increased to 113 visits. Health education can affect elderly visits because health education contains health promotion that is needed by the elderly. The physical and psychological discomfort experienced by the elderly causes a need for health education promotion of the elderly themselves. In health education, it also contains the objectives, benefits and changes that occur in the elderly where this information is not widely known by the elderly. The need for socialization is also very necessary for the elderly, this can also be their motivation to come to the elderly posyandu, so that the influence of health education here plays an important role in elderly visits.

### **3.CONCLUSION**

- a. Of the 126 elderly people before being given health education, most of the elderly did not visit the elderly posyandu, namely 85 people (67.5%) while 41 people (32.5%) visited the elderly posyandu.
- b. Of the 126 elderly people after being given health education, most of the elderly visited the elderly posyandu, namely 113 people (89.7%) while the other 13 people (10.3%) did not visit the elderly posyandu.
- c. There is the effectiveness of health education for the elderly in increasing elderly visits to the new market posyandu.

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**THE RELATIONSHIP BETWEEN MIDWIFE SUPPORT AND FAMILY  
SUPPORT FOR EXCLUSIVE BREASTFEEDING IN THE WORK AREA OF  
THE ASSISTANT HEALTH CENTER OF RUMBAI JAYA VILLAGE UPT  
PUSKESMAS KEMPAS JAYA**

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**ABSTRACT**

*Exclusive breastfeeding is only giving ASI without any additional food until the baby is 6 months old. Coverage of exclusive breastfeeding in the working area of the UPT Puskesmas Kempas that received exclusive breastfeeding was 55,85%. Kempas Jaya Health Center UPT consists of 12 villages, where the village of Rumbai Jaya as much as 59,45% has not reached the national target of 80%. Midwife and family support are factors that influence the success of exclusive breastfeeding. The purpose of this study was to find out the relationship between midwife and family support for exclusive breastfeeding in the work area of ??the Rumbai Jaya Village Supporting Health Center. This research is a descriptive analytic qualitative research with cross sectional approach. The study population of mothers who have babies aged 6-24 months, 114 mothers and a total sample of 77 mothers, with sampling using random sampling. Data analysis used univariate analysis, bivariate analysis with chi square. Univariate analysis of mothers who received midwife support 72,7% while mothers who received family support 68.8%. The results of data analysis obtained p value of midwife support (0,000) and family support (0,000) for exclusive breastfeeding, meaning that there is a significant relationship between midwife support and family support for exclusive breastfeeding. The conclusion of this study is that there is a relationship between midwife and family support for exclusive breastfeeding in the working area of the Rumbai Jaya Supporting Village Puskesmas UPT Puskesmas Kempas Jaya*

**Keywords : exclusive breastfeeding, midwife support, family support**

**1.INTRODUCTION**

One of the goals of the third Sustainable Development Goals (SDGs) in the second target is by 2030 to end preventable infant and under-five mortality. Therefore, in order to reduce child morbidity and mortality, the United Nation Childrens Fund (UNICEF) and the World Health Organization (WHO) recommends early initiation of breastfeeding (IMD) within one hour after delivery, babies should be exclusively breastfed for 6 months, and Breastfeeding is continued for up to 2 years. Breast milk contains all the nutrients a baby needs for growth and develed on research conducted in the United States, it was found that babies who were

exclusively breastfed for 6 months had a 72% lower risk of developing respiratory infections, a 50% lower risk of developing otitis media, and a 30% lower risk of developing diabetes. In addition, breast milk can also reduce the risk of Sudden Infant Death Syndrome (SIDS) by 36% (American Academy of Pediatrics, 2012).

Data on the frequency of babies in the working area of the UPT Puskesmas Kempas Jaya, Kempas Subdistrict, Indragiri Hilir Regency who received exclusive breastfeeding were 342 babies with details, 63 babies in Kempas Jaya village, 39 babies in Harapan Farmers village, 28 babies in Sungai Fig village, 60 babies in Sungai Gantang village The village of Pulai Indah had 22 babies, Rumbai Jaya village had 37 babies, Karya farmer village had 16 babies, Minggu Tua village had 32 babies, Kulim Jaya village had 9 babies, Kerta Jaya village 12 babies, Bayas Jaya village 26 babies, Rabbit river village as many as 5 babies (Puskesmas Kempas, 2018).

In a preliminary study that was conducted with Rumbai Jaya Village Supporting Puskesmas (Pustu) officers who held nutrition programs in December 2018, it was found that the health education strategy on exclusive breastfeeding was in the working area of the Rumbai Jaya Village Auxiliary Puskesmas (Pustu), then interviews conducted by researchers at the beginning of July 2019 in the working area of the Rumbai Jaya Village Auxiliary Puskesmas (Pustu) for 10 mothers who had babies aged 6-24 months, only 4 babies received exclusive breastfeeding, 4 babies received formula milk from birth because the milk did not come out and did not sufficient, 2 babies receive additional food before 6 months of age.

The low coverage of exclusive breastfeeding in the working area of the Puskesmas Supporting UPT Puskesmas Kempas Jaya, Kempas District, Indragiri Hilir Regency is due to a mother's lack of confidence in giving exclusive breastfeeding, they argue that her breastfeeding is lacking, so the mother thinks of giving complementary foods early, this is In line with the lack of family support, be it from the husband, parents-in-law or family, the family assumes that even though the baby is given MP ASI early, the baby still looks healthy like any other baby.

Exclusive breastfeeding coverage data in the working area of the UPT Puskesmas Kempas Jaya, Kempas District, Indragiri Hilir Regency, showed that the number of babies who received exclusive breastfeeding was 55,85%. The UPT Puskesmas Kempas Jaya consists of 12 villages, among the villages with the highest achievement was Pekan Tua village at 65,62%, while the village with the lowest achievement was Rabbit river village at 40%.

## **2. DISCUSSION**

### **a. The Relationship between Midwives Support and Exclusive Breastfeeding**

Based on the results of the study, it can be seen that the support of midwives in the effort of giving exclusive breastfeeding in the working area of the Rumbai Jaya Village Helper Community Health Center, Kempas District, Indragiri Hilir Regency. , 5 respondents (8.9%) did not respond well to the form of support provided by midwives in an effort to provide exclusive breastfeeding. Mothers who gave exclusive breastfeeding to their babies were 4 respondents (19.0%) while mothers who did not exclusively breastfeed their babies were 17 respondents (81.0%). Chi Square test results obtained a significance value of p value of 0.000 <0.05, it can be concluded that there is a relationship between midwife support for mothers in exclusive breastfeeding in the working area of the Puskesmas Pembantu Desa Rumbai Jaya.

In line with Kriselly's research (2012), based on the results of the study, most of the 26 respondents (73.08%) mothers did not exclusively breastfeed their children. The number of mothers who do not provide exclusive breastfeeding to their children because most of the respondents work outside the home, and mothers feel that breastfeeding alone cannot meet the needs of the child because the child is always fussy, supported by the level of knowledge of the mother, caregiver and grandmother and her husband is not good, so that There is a tendency for mothers to provide complementary foods with breast milk such as formula milk, rice mixed with bananas, or team rice to children who are less than 6 months old.

According to the assumptions of the researchers, this is due to a lack of communication between mothers and midwives, so that the mother does not understand the benefits of exclusive breastfeeding and there are also working mothers so they say they do not give exclusive breastfeeding to their babies because of the mother's lack of knowledge about breast milk. This is based on the answers to the questionnaire filled in by respondents, including many who do not breastfeed for 6-12 months but also give their babies formula milk to their babies.

### **b. Family Support Relationship to Exclusive Breastfeeding**

Based on the results of the study, mothers who received support from their families in the form of attention, respect, empathy and affection were able to provide a significant increase in the volume of exclusive breastfeeding, this can be seen from the assessment of the results of the questionnaire that had been distributed by 77 respondents, mothers who did not receive

support from the family. and not exclusively breastfeeding as many as 19 respondents (79.2%) were greater than the mothers who did not receive support and gave exclusive breastfeeding as many as 5 respondents (20.8%), while 50 respondents (94.3%) gave a value Positive from the process of family support to mothers who provide exclusive breastfeeding, this value is greater than mothers who receive support but do not exclusively breastfeed as many as 3 respondents (5.7%) for their babies and respondents prefer to give their baby formula milk. Chi Square test results obtained a significance value of p value of  $0.000 < 0.05$ , it can be concluded that there is a relationship between family support for exclusive breastfeeding in the working area of the Puskesmas Pembantu Desa Rumbai Jaya.

According to the researchers' assumptions, during the research process, it was found that the family that provided support in the form of trust, attention, listening, listening, compassion and empathy was able to significantly increase the volume of breast milk. Meanwhile, mothers who are not given support from their families will become easily stressed, irritable, excessively tired and high emotional, so that the volume of breast milk decreases and causes the baby to lack the nutritional intake obtained from breast milk.

### **3. CONCLUSION**

- a. The results of the research conducted showed that the percentage of mothers who gave exclusive breastfeeding in the working area of the Puskesmas Pembantu Rumbai Jaya was more mothers than mothers who did not provide exclusive breastfeeding.
- b. The percentage of mothers who received support from a midwife in exclusive breastfeeding was far more than mothers who did not receive support from a midwife, as well as a percentage of mothers who received support from their family more than mothers who did not receive support.
- c. Based on the statistical test of the two variables of support for midwives and families using the chi square test, the p value =  $0.000 < \text{Alpha } 0.05$ . It can be concluded that there is a relationship between the support of midwives and families for exclusive breastfeeding in the working area of the village of Rumbai Jaya UPT Puskesmas Kempas Jaya

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# **RISK FACTORS FOR STUNTING IN CHILDREN UNDER FIVE YEARS OLD IN THE WORKING AREA OF UPTD HEALTH CENTER IN TELUK KUANTAN**

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## **ABSTRACT**

*Stunting is a condition of failure to thrive in children under five due to chronic malnutrition so that the child is too short for his age. The prevalence of stunting toddlers has increased from 2016 that is 27.5% to 29.6% in 2017. The prevalence of stunting is higher than the prevalence of malnutrition and bad 10.2%. The purpose of this study for the risk factors for stunting in children under five in the work area of UPTD Health Center in Kuantan Bay Health Center. This type of research is analytic research with cross sectional design. The population in this study were all toddlers aged 1-5 years, totaling 551 with a sample of 65 people. Data processing using computerization. Univariate and Bivariate analysis of data with the Chi-Square test. Statistical test results showed a relationship between nutritional status ( $p = 0.002$ ), Antenatal Care visits ( $p = 0.012$ ,  $OR = 9,400$ ) and environmental sanitation ( $p = 0.003$ ,  $OR = 8,778$ ) with the incidence of stunting in infants. It is hoped that the puskesmas staff will work together with the community tokok through posyandu activities and cadres through toddlers posyandu to overcome the risk factors for stunting in toddlers.*

**Keywords: Stunting, Nutrition Status, Antenatal Care Visit, Environmental Sanitation**

## **1. Introduction**

The nutritional status of infants and toddlers is an indicator of the health and welfare of the people. The state of good and healthy nutrition in the toddler years is an important foundation for his health in the future. Malnutrition that occurs in toddlers can result in disruption of their growth and development. At this age the need for energy, protein, vitamins and minerals is quite high, so it needs serious attention from parents regarding food intake. Toddler age is an age that is very vulnerable to nutritional problems, including prone to stunting (UNICEF, 2012).

Short toddlers (stunting) can be seen if a toddler has measured his length or height, then compared with the standard, and the results are below normal. Short toddlers are toddlers with nutritional status based on length and height according to age when compared to the

2005 WHO standard, the Z-Score value is less than -2SD and categorized as very short if the Z-Score value is less than -3SD (Ministry of Health, 2016).

Stunting is a condition of failure to thrive in children under five as a result of chronic malnutrition so that the child is too short for his age. Malnutrition occurs since the baby is in the womb and in the early days after the baby is born, however, the condition of stunting only appears after the baby is 2 years old (National Team for the Acceleration of Poverty Reduction / TNPPK), 2017).

Stunting can start in the womb. The nutritional condition of pregnant women, even before pregnancy will determine fetal growth. Undernourished pregnant women are at risk of giving birth to babies with low birth weight, and this is a major cause of stunting. After birth, babies who are not properly breastfed will be at risk of suffering from various diseases due to insufficient and unhygienic diets (National Program for Community Empowerment, 2016).

Some of the factors that influence the occurrence of stunting in the community include direct and indirect causes. Direct causes include food intake, infectious diseases, birth weight, and genetics. While indirect causes include family food availability, nutritional parenting, maternal education, maternal knowledge. , the number of families, family income, environmental sanitation and utilization of health services. The quality of nutrient intake and exposure to infections are the main factors causing growth disorders in children under five (Almatsier, 2011).

In addition, the factors that cause stunting are multidimensional factors, including poor nutrition care practices, including a lack of knowledge of mothers about health and nutrition before and during pregnancy and after delivery (PERSAGI / Indonesian Nutritionist Association, 2018).

Antenatal care is the care given to pregnant women, during pregnancy periodically, followed by efforts to correct any abnormalities found in accordance with prescribed antenatal care guidelines. ANC (Antenatal Care) services are provided to pregnant women in accordance with the MCH service guidelines, namely antenatal care examinations at least 4 times during pregnancy with the provision of 1 time in the first period, 1 time in the second period, and 2 times in the third period (MOH RI, 2013).

Pregnancy examination aims to identify or identify problems that arise during pregnancy, so that health during pregnancy can be maintained and the most important thing is that the mother is in the best possible state at the time of delivery. The relationship between the frequency of antenatal care and the incidence of LBW is that the less frequency of antenatal care, the higher the risk of getting LBW by 1.5–5 times. Low birth weight has the potential to become stunting (Anonymous, 2013).

Stunting prevalence data for children under five collected by the World Health Organization (WHO), Indonesia is included in the third country with the highest prevalence in Southeast Asia / South-East Asia Regional (SEAR). The average prevalence of stunting under five in Indonesia in 2005-2017 is 36.4% (Data and Information Center, Ministry of Health of the Republic of Indonesia 2018).

The incidence of stunting (short) under five is a major nutritional problem facing Indonesia. Based on Nutritional Status Monitoring (PSG) data for the last three years, stunting has the highest prevalence compared to other nutritional problems such as malnutrition, thinness, and obesity. The prevalence of stunting under five has increased from 2016, namely (27,5%) to (29,6%) in 2017. The prevalence of stunting is higher than the prevalence rate of malnutrition and malnutrition of (10,2%) (RIKESDAS, 2018).

In Riau Province, the nutritional status of children under five TB / U shows that children are short (very short and short) by (27,4%) (RIKESDAS, 2018). A preliminary study conducted by researchers at the Health Office of the Kuantan Singingi Regency in 2018, obtained data on 1584 toddlers with stunting in 25 Puskesmas in Kuantan Singingi Regency. In 2019 (January - August) in Kuantan Singingi Regency, there were 402 children under five with stunting, where the Teluk Kuantan Puskesmas had the most stunting children out of 24 other Puskesmas, there were 100 stunting children under five. Based on these data, it can be concluded that there are still many toddlers with stunting conditions in Kuantan Singingi Regency, especially in the working area of the Teluk Kuantan Health Center.

## **2.DISCUSSION**

Based on the results of the analysis of the relationship between nutritional status and the incidence of stunting, it was obtained from 3 respondents who experienced malnutrition,



there were 2 people (66,7%) who experienced stunting and of the 14 respondents who experienced malnutrition there were 10 people (71,4%). ) respondents are stunted. The results of statistical tests obtained p value = 0,002 ( $p < 0,05$ ), it can be concluded that there is a significant relationship between nutritional status and the incidence of stunting in children under five.

According to the theory, nutritional status is one of the factors that can cause stunting. Nutritional status is a condition caused by a balance status between the amount of nutrient intake or the amount of food (nutrients) consumed and the amount of nutrients needed by the body, which is a reflection of the measure of the fulfillment of nutritional needs which can be measured in part by anthropometry or biochemistry clinically. (Ministry of Health RI, 2012). In developing countries, the nutritional status of pre-pregnant women and pregnant women will have an impact on the birth of Intrauterine Growth Restriction (IUGR) children. This condition is almost partly related to the nutritional status of mothers, pre-pregnant women who are not in accordance with their height or are short, and weight gain is not suitable as they should be (Kemenko Kesra, 2012).

Based on the results of research conducted by Margawati (2018) regarding maternal knowledge, diet and nutritional status in stunting toddlers aged 1-5 years, it is stated that 2,8% of toddlers are very thin, 11,1% thin, 80,6% normal and 5,6% fat. The results of statistical tests obtained p value 0,015, it can be concluded that there is a significant relationship between nutritional status and the incidence of stunting in children under five.

Researchers assume that one of the factors that can cause stunting is nutritional status. In this study, there is a relationship between nutritional status and the incidence of stunting. In the field, some mothers of toddlers provide malnutrition to their children, the mothers of these toddlers do not pay attention to their diet and nutritional intake. Malnutrition in children can affect children's brain development and experience stunting.

Based on the results of the analysis of the relationship between Antenatal Care visits and the incidence of stunting, it was obtained from 19 respondents whose Antenatal Care visits were insufficient, there were 14 people (73,7%) who experienced stunting and of the 46 respondents whose Antenatal Care visits were good there were 4 people (8,7%) respondents experienced stunting. The results of statistical tests obtained p value = 0,012 ( $p < 0,05$ ), it can be concluded that there is a significant relationship between ANC visits and the incidence of

stunting in children under five. The results of the analysis also showed that the OR value = 9,400, meaning that mothers whose antenatal care visits were not good had a 9,400 times greater chance of experiencing stunting compared to mothers whose antenatal care visits were good.

According to theory, one of the factors that can influence the incidence of stunting is Antenatal Care visits. Antenatal Care Visit is a visit of a pregnant woman to a midwife or doctor as early as possible since she is pregnant to keep the mother healthy during pregnancy, childbirth and postpartum and to keep the baby born healthy, monitor the possibility of pregnancy risks, and plan optimal management of pregnancy.

Antenatal care visits can affect the incidence of stunting. In the field, most mothers under five consider that they do not need to have an Antenatal Care visit because they think that an Antenatal Care visit does not cause stunting. Researchers provide knowledge to mothers who are pregnant to routinely conduct Antenatal Care visits during pregnancy at the Puskesmas to prevent babies born from not being stunted.

This research is in line with the results of research conducted by Amini Aulia (2016) on "The Relationship between Antenatal Care Visits (ANC) and the incidence of stunting in toddlers aged 12-59 months in North Lombok Regency, NTB Province" where the results of her research on Antenatal Care visits with the incidence of stunting for children aged 12-59 months with an OR value of 2,284 (p-value  $0,021 < 0,05$  and 95% CI 1,124-4,639).

Researchers assume that mothers of toddlers consider that they do not need to go to Antenatal Care visits because they think that Antenatal Care visits do not cause stunting of children under five. The connection between Antenatal Care visits and stunting is that if the mother visits Antenatal Care regularly, problems in pregnancy can be detected early, one of which is malnutrition, if you do an Antenatal Care visit, health workers can provide counseling about fulfilling nutrition during pregnancy which can prevent stunting. in the child who will be born.

Based on the results of the analysis of the relationship between environmental sanitation and the incidence of stunting, it was obtained from 2.25 respondents who had environmental sanitation that did not meet the requirements, there were 16 people (64%) who experienced

stunting and of the 40 respondents who had environmental sanitation fulfilled the requirements there were 2 people (5%) respondents experienced stunting.

The results of statistical tests obtained p value = 0,003 ( $p < 0,05$ ), it can be concluded that there is a significant relationship between environmental sanitation and the incidence of stunting in children under five. The results of the analysis also showed that the OR = 8,778, meaning that environmental sanitation that did not meet the requirements had a 8,778 times chance of causing stunting compared to environmental sanitation that met the requirements.

According to the theory, environmental factors are very important factors in determining whether or not a child's potential is achieved. A good environment will allow the child's growth and development to run as well as possible according to certain norms. Meanwhile, an unfavorable environment will hamper children's growth and development (Maryunani, 2010).

Most of the normal height of children has good environmental conditions while stunting children have poor environmental conditions. This indicates the need for a mother to pay attention to the child's environmental conditions so that children can explore themselves safely because of the comfortable environment. Such as disposing of garbage in its place, making SPAL at home, cleaning water reservoirs and providing latrines in the house and so on. Because all these things will damage the environmental conditions where the children will later play and explore themselves (Rahmayana et al, 2014).

This study is in line with Oktavia's research (2016) which shows that there is a significant relationship between toddlers who have poor environmental sanitation and the incidence of stunting in toddlers. This study proves that poor environmental sanitation is related to the incidence of stunting in toddlers.

Another research that is in line with this research is research conducted by Rahayu Beauty (2019) which shows that there is a significant relationship between environmental sanitation and the incidence of stunting with a p value  $< 0,05$ . Researchers assume that, in this study, there is a relationship between environmental sanitation and the incidence of stunting. Environmental factors are very important factors in determining whether or not a child's potential is achieved, a good environment will allow the child's growth and development to run as well as possible otherwise an unfavorable environment will hinder the child's growth and development.

### 3. CONCLUSION

- a. Most of the respondents (72,3%) did not experience stunting, (73,8%) with good nutritional status, (70,8%) visited Antenatal Care in the good category and (61,5%) had environmental sanitation that met the requirements.
- b. There is a relationship between nutritional status and the incidence of stunting with p value = 0,002.
- c. There is a relationship between Antenatal Care visits and the incidence of stunting with p value = 0,012 and OR = 9,40.
- d. There is a relationship between environmental sanitation and the incidence of stunting with p value = 0,003 and OR = 8,778.

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# FACTORS THAT INFLUENCE PREGNANT MOTHERS COMPLIANCE IN PREGNANT MOTHERS' CLASSES IN THE WORK AREA KUALA LAHANG HEALTH CENTER OF INDRAGIRI HILIR DISTRICT

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## ABSTRACT

*Maternal and child health problems are greatly influenced by various factors. However, it is important to pay attention to increasing knowledge and information for pregnant women and their families about health services for pregnant women, childbirth, post-partum, family planning services, and BBL care as outlined in class activities of pregnant women. The purpose of this study was to determine the factors that influence the compliance of pregnant women attending pregnant women classes. This research uses descriptive analytic method, purposive sampling technique. Sampel size 66 respondents. Analysis in this research is univariate and bivariat analysis. The results showed 54.5% adhered to the class of pregnant women, 83.3% of parity multipara, 51.5% did not have a KIA book, 57.6% provided information and 60.6% had the support of health workers. Chi Square test results showed no significant relationship between parity and compliance of pregnant women following the class of pregnant women  $p$  value 0.507, there was a significant relationship between the ownership of the KIA book and maternal compliance following the class of pregnant women  $p$  value 0,000 with an OR of 7,468, there was a significant relationship between the availability of information with maternal adherence to the class of pregnant women  $p$  value 0.033 with OR 2.972, there is a significant relationship between health care support with maternal adherence to the class of pregnant women  $p$  value 0.034 with OR 2.971. The results of this study are expected to be used as input and comparison material to conduct further research.*

**Keyword** : **Parity, KIA Book Ownership, Health Staff Support, Pregnant Women**

## 1. INTRODUCTION

The high maternal mortality rate (MMR) is a critical indicator of women's health status. The death of a mother in the family has a great impact, not only in terms of the loss of a life but also because of its effect on the health and life span of the family members left behind. One of the priority agendas for health development in Indonesia is to reduce the Maternal Mortality Rate (MMR) and the Infant Mortality Rate (IMR), which are the agenda in the Sustainable Development Goals (SDGs), a continuation of the Millennium Development Goals (MDGs). This problem of maternal and child health is strongly influenced by various factors. However, what needs to be considered is increasing knowledge and information to pregnant women and their families about health services for pregnant women, childbirth,

postpartum, family planning services, and BBL care which are contained in the class activities for pregnant women (RI Ministry of Health, 2017).

Maternal Mortality Rate according to SUPAS (Inter-Census Population Survey) 2015 is 305 / 100,000 live births, with a target in 2024 of 234 / 100,000 live births. Currently, the most places of death are in hospitals at 77% and second at home at 15.6 %, this can be caused by various factors, such as late referral, inadequate health service facilities, less competent health workers and others. Therefore, in an effort to reduce MMR, it is necessary to improve many systems both from sarpras, human resources and public awareness. One of the awareness of the community, one of which is the awareness of participating in a class for pregnant women by applying the MCH booklet as an effort to learn from mothers, husbands, families and the community through joint learning activities to prepare pregnant women for safe and safe childbirth as well as preparation of mothers and infants in child health care according to standar

In a study conducted by Risneny, R et al. (2017), there is a significant relationship between knowledge and attendance, distance of residence, occupation, husband's support, ownership of MCH books, and parity of pregnant women in the mother class. According to Masini's (2015) research, there is a significant relationship between gravida and husband's support and participation of mothers in the class of pregnant women and there is no significant relationship between support from midwives / health workers and participation of mothers in the class of pregnant women

The results of Yuliantika's (2016) research on factors related to participation of high-risk pregnant women in attending the class program for pregnant women in the Sukolilo 2 Community Health Center work area, stated that factors related to participation in classes for pregnant women are knowledge, availability of information, affordability, and family support. , support from village government, support from health workers.K4 coverage data according to district / city distribution shows the districts / cities with the lowest achievement were Bengkalis Regency at 65.8%, followed by Rokan Hilir Regency at 68.5%, and Indragiri Hilir Regency at 70.4% (Riau Provincial Health Office, 2016).

The Kuala Lahang Puskesmas is one of the health centers that has carried out routine pregnancy classes every month and has been conducted since around 2009 in each sub-district of the Kuala Lahang Puskesmas working area.

Based on the report on the Implementation of the Class of Pregnant Women at the Kuala Lahang Health Center in 2018, there were 888 pregnant women as targets for implementing the class for pregnant women. However, the number of pregnant women who joined the class of pregnant women was 160 people, only 18% of the total target of pregnant women. This shows that the visits of pregnant women in the class of pregnant women in the working area of the Kuala Lahang Health Center are still low. The implementation of the class for pregnant women from May to July 2019 at the Kuala Lahang Health Center was 29 people.

The results of the preliminary survey conducted on July 26, 2019 at the Kuala Lahang Puskesmas through interviews with midwives and cadres at the Puskesmas, information was given to pregnant women regarding the existence of a class program for pregnant women at the Puskesmas and each posyandu in the Kuala Lahang Puskesmas working area. According to information from midwives, the low class visits for pregnant women are due to the lack of availability of information regarding the timing of the pregnant women class each month so that there are still pregnant women who do not attend pregnant women classes. From the data from the Kuala Lahang Health Center in 2018 regarding the Class of Pregnant Women, it shows that there are still pregnant women who do not have a KIA book in participating in class activities for pregnant women.

Apart from the two factors above, the researchers conducted interviews with 10 pregnant women whom the researchers met at the Puskesmas. As a result, 3 mothers participated in the pregnant women class (2 mothers participated 4 times and 1 mother participated 2 times) and 7 mothers did not participate in the pregnant women class. Mothers who did not participate in the pregnant women class knew what pregnant women classes were but did not know the benefits of the pregnant women class . Thus, they tend to be less willing to attend / participate in pregnant women class programs.

## **2. DISCUSSION**

The relationship between parity and compliance of pregnant women in joining the class of pregnant women in this study did not have a significant relationship. Seen in table 4.8, it is known that the  $p$  value obtained is 0.507, this value indicates that  $p$  value > Alpha. From the above results, we can conclude that the parity factor is not related to the compliance of pregnant women in joining the class of pregnant women.



The results of this study are not in line with research by Risneni, R et al. (2017) which states that there is a relationship between parity and the presence of pregnant women in the class of mothers. From the analysis, it was also obtained that the OR value was 18,750, meaning that mothers with parity <1 child had 18 times the chance to comply with the maternal class compared to mothers with parity > 2 children.

Based on the results of the study, it is known that the percentage of respondents who do not comply with the class of pregnant women is more in multiparous mothers than primiparous mothers. Pregnancy in the multi para group is often accompanied by complications. Complications such as location abnormalities, antepartum bleeding, post partum bleeding and others. In our country, women with high parity are still often found and efforts to reduce pregnancies at high parity and age can be done with preventive efforts, namely through existing family planning programs, the important thing is how we can motivate them to have an interest in starting small families.

The relationship between KIA book ownership and the compliance of pregnant women in attending classes for pregnant women in this study has a significant relationship. It can be seen in table 4.9 that it is known that the  $p$  value obtained is 0,000, this value indicates that  $p$  value <Alpha. So it can be concluded that there is a relationship between KIA book ownership and compliance with pregnant women in attending classes for pregnant women.

Based on the results of the study, it is known that the percentage of respondents who have the KIA book is more obedient to following the class of pregnant women than those who do not have the KIA book. The results of this study were supported by the results of Risneni, R, et al (2017) which stated that of the 105 pregnant women at the Karang Anyar Health Center, 54 respondents (51.4%) had KIA books and were obedient to attend the mother's class, and 33 respondents ( 31.4%) do not have a MCH handbook and do not comply with the mothers' class. Based on the results of statistical tests, it shows that  $p$  value =  $0.000 \leq 0.05$ , then  $H_a$  is accepted, which means that there is a relationship between KIA book ownership and the presence of pregnant women in the class of mothers.

The MCH Handbook is also a complete health record that is kept at the household level, so that families / mothers and health workers, both formal and informal, can use it to monitor the

development of basic health service interventions designed to ensure the health, safety and survival of pregnant women and their children.

Based on the results of the study, it is known that the percentage of respondents who do not comply with the class of pregnant women is more in respondents who do not have a KIA book compared to respondents who have a KIA book. Considering that the benefits of the MCH Handbook in general are so that mothers and children have complete health records from the time the mother is pregnant until her child is five years old. Meanwhile, the specific benefit is to record and monitor the health of mothers and children. Therefore, it is very important for pregnant women to have a KIA book.

The relationship between the availability of information and the compliance of pregnant women in following classes of pregnant women in this study has a significant relationship. It can be seen in table 4:10 that it is known that the  $\rho$  value obtained is 0.033, this value indicates that  $\rho$  value  $<$ Alpha. From the above results, we can conclude that the availability of information has a significant relationship with the compliance of pregnant women in attending classes of pregnant women.

This is in accordance with the theory put forward by Lawrence Green (1980) quoted by Soekidjo Notoatmodjo (2007) that one of the supporting factors for participation is information. The ease of obtaining information will accelerate a person to acquire new knowledge (Mubarok, 2007 in Sri Sukesih, 2012). In the group of pregnant women who are given information about pregnant women classes through print and electronic media, it can increase awareness and participation of mothers in attending classes for pregnant women.

The results of this study are in accordance with Yuliantika's research (2016) which states that there is a relationship between the availability of information and participation in classes for pregnant women. Mothers who did not have the availability of information had a 6.25 times risk of not participating in the class of pregnant women compared to mothers who had the availability of information (OR = 6.25; 95% CI: 2.21-17.6).

Based on the results of the study, it is known that the percentage of respondents who do not comply with the class of pregnant women is more in respondents who are less information available than respondents who have information about the class of pregnant women. Given

the importance of information obtained from both formal and non-formal education, it can have a short-term effect, resulting in changes or increases in knowledge. The development of technology will provide a variety of mass media that can influence people's knowledge about new innovations. As a means of communication, various forms of mass media such as television, radio, newspapers, magazines, etc. have had a major influence on the formation of people's opinions and beliefs. The existence of new information about something provides a new cognitive basis for the formation of knowledge about.

The relationship between support from health workers and compliance with pregnant women in following classes of pregnant women in this study has a significant relationship. It can be that it is known that the  $p$  value obtained is 0.034, this value indicates that  $p$  value  $<$ Alpha. From the results above, we can conclude that the support of health workers is closely related to the compliance of pregnant women in attending classes for pregnant women. Then from the analysis results obtained OR = 2,971 means that mothers who do not receive support from health workers have a 2.9 times risk of disobeying the class of pregnant women compared to mothers who receive support from health workers.

The results of this study are in accordance with Yuliantika's (2016) research, it was obtained  $p$  value = 0,023 where this value was less than 0.05, so that  $H_0$  was rejected and  $H_a$  was accepted. It can be concluded that there is a relationship between the support of health workers and participation in classes for pregnant women. Pregnant women who did not receive support from 107 health workers were 3.77 times more likely to not participate in the class of pregnant women compared to mothers who received support from health workers (OR = 3.77; 95% CI: 1.3-10.9 ). Hasil penelitian ini tidak sejalan dengan penelitian Masini (2015) yang menyatakan bahwa Dukungan bidan / tenaga kesehatan dari hasil uji statistik dengan Chi Square didapatkan  $p=0,205$  artinya bahwa tidak ada hubungan antara dukungan bidan/tenaga kesehatan dengan partisipasi ibu dalam kelas ibu hamil.

Based on the results of this study, the support of officers is very helpful, where with the support of the officers is very significant and beneficial for pregnant women to be motivated to participate in classes for pregnant women that are held. Because health workers or midwives are people who often check the womb and often interact with pregnant women, pregnant women are more likely to follow directions from the village midwife. Frequent interaction will greatly affect the sense of trust and acceptance of the attendance of officers

for him, and the motivation or support given by officers is very significant for the participation of mothers in participating in pregnant women class programs.

### 3. CONCLUSION

Based on the results of research from 66 respondents studied, it was found that:

- a. Most of the respondents obeyed the pregnant women class, namely 36 people (54.5%), multiparous in attending the pregnant women class, namely 55 people (83.3%), did not have KIA books in attending the pregnant women class, namely 34 people (51.5 %), available sources of information in participating in the class for pregnant women, namely 38 people (57.6%) and received support for attending classes for pregnant women, namely 40 people (60.6%).
- b. The results of statistical tests show that the value of  $\rho$  value obtained is 0.507, this value indicates that  $\rho$  value > Alpha, it can be concluded that there is no significant relationship between parity and compliance with pregnant women following the class of pregnant women in the working area of Kuala Lahang Public Health Center, Indragiri Hilir Regency.
- c. The results of statistical tests show that the value of  $\rho$  value obtained is 0.000, this value indicates that  $\rho$  value < Alpha, it can be concluded that there is a significant relationship between KIA book ownership and compliance with pregnant women following classes of pregnant women in the working area of Kuala Lahang Public Health Center, Indragiri Hilir Regency.

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# THE RELATIONSHIP BETWEEN EFFLEURAGE MASSAGE TECHNIQUE AND DECREASING PEKANBARU CITY

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## **Abstract**

*Labor pain is a subjective experience of physical sensations associated with uterine contractions, dilation and thinning of the cervix. Most deliveries (90%) are accompanied by nyari. Non-pharmacological treatment with effleurage massage technique is an alternative to reduce labor pain when the active phase is active in primigravida mothers. An initial survey conducted at BPM Ernita on July 22 of 2 postpartum mothers said that during labor the mother felt pain. But only 1 mother who did light massage such as stroking all parts of the stomach and the mother said that it is more comfortable to do the method. The purpose of this study was to determine the relationship of effleurage massage techniques to the reduction of pain intensity in the first phase of active phase in primigravida mothers. This type of quantitative analytic study is a quasi-experimental non-randomized pretest-posttest design approach. The population in this study were all primigravida mothers who performed labor. Based on the paired t test results that on average before doing 5.2308 and after 3.0769 with a P value of 0.000, which means  $\leq$  from 0.05, so it can be concluded that there is a relationship between effleurage massage techniques to decrease the internal pain of labor in the first stage of the addictive phase in mothers primigravida at BPM Ernita. Midwives as executors in providing midwifery services are expected to be able to recognize every need of patients and their families and to provide IEC (communication, information, and education) on issues related to maternity pain, so that the effleurage massage technique is expected to be able to be used as a midwifery independent measure to reduce the level of pain.*

*Keywords: Effluarge massage technique, 1st pai*

## **1. INTRODUCTION**

Effleurage technique is one of the skin stimulation strategies used in dealing with labor pain. Touch relaxation may help the mother relax by the way the partner touches or rubs parts of the mother's body. Gentle massage will help the mother feel more refreshed, relaxed and

comfortable during labor. A study says that mothers who are massaged 20 minutes every hour during the labor phase will be more pain-free. This happens because massage stimulates the body to release endorphin compounds which are natural pain relievers. Endorphins can also create a feeling of comfort and comfort. Massage performed during labor can reduce labor pain, because massage can increase patient comfort (Marmi, 2016)

Effleurage massage technique can reduce labor pain during the first active phase if done correctly, namely every time there is a contraction. Massage effleurage aims to increase blood circulation, warm the abdominal muscles, and increase physical and mental relaxation. Effleurage massage is a relaxation technique that is safe, easy, doesn't cost money, has no side effects and can be done alone or with the help of others (Trinowiyanto, 2012).

In line with the research conducted by Wulandari and Nur Hiba in Semarang in 2015, which showed that there was a significant reduction in pain levels with differences in respondents before being given effleurage massage an average of 3.78 with severe pain and those who had been given effleurage massage 2, 96 with moderate pain (Wulandari & Hiba, 2015).

Mothers who concentrate on enjoying effleurage massage become relaxed and calm so that oxytocin will flow, oxytocin is very influential in uterine contractions, oxytocin which flows smoothly in the mother's body when the mother is approaching labor makes the mother's contractions become adequate, adequate uterine contractions are directly proportional to the opening of the cervix. The more adequate the contraction of the uterus, the faster the cervical opening and thinning will accelerate the delivery process, thereby reducing the risk of complications during childbirth (Wahyuni & Wahyuningsih, 2015).

Complications causing maternal mortality and morbidity need to be considered, this is necessary in order to determine the direction of policies to reduce mortality, especially in Riau Province. Regarding the coverage of obstetric complications management, Pekanbaru City itself is still below the Strategic Plan target (75%), which is only 29.6%. Therefore, an effective effort is needed to reduce complications during pregnancy, childbirth and childbirth (Riau Provincial Health Office, 2016).

Data from the Pekanbaru City Health Office (2018) from 21 Puskesmas in Pekanbaru, Puskesmas RI Sidomulyo is in the 3rd highest order of birth rates, namely 1,956 mothers

giving birth. Based on the recapitulation of labor registers at BPM Ernita from March to June 2019, as many as 88 mothers had pain. The results of interviews on July 22 with 2 postpartum mothers said that during labor the mother felt pain. But only 1 mother did a light massage such as stroking the entire stomach and the mother said that it was more comfortable to do this method. Researchers also made observations on July 24 to mothers who were going into labor during the active phase where after the effleurage massage technique (light massage on the abdomen) the mother said she was comfortable and had never done this method before.

## **2. DISCUSSION**

According to Bobak, (2005) labor pain is a natural process that is felt by mothers who are about to give birth. This pain is a subjective feeling due to changes in the function of various organs of the body which also determine the smoothness of the labor process. Pain that is felt comes from the lower part of the abdomen and spreads to the lumbar back and spreads to the thighs (Maslikhanan, 2011). Massage that is applied to the abdomen (effleurage massage technique) is easier to do on the abdomen because it can be done alone. On average, respondents used pain control techniques by walking, squatting, sitting, and back massage, the application of the action was not optimal, so there was no significant reduction in pain.

The results showed that effleurage massage was effective in reducing labor pain intensity where the results of the pain intensity study in the intervention group and the control group after effleurage massage technique obtained an average pain scale in the intervention group 5.2308 with a standard deviation of 0.32. The average pain scale after intervention in the control group was 3.0769 with a standard deviation of 0.862. The statistical test results showed that the sig value was 0,000, so  $H_a$  was accepted, meaning that it could be concluded that there was a significant relationship between the effleurage massage technique and the decrease in the intensity of labor pain during the first stage of the active phase in the intervention group and the control group.

Physiologically, the effleurage massage technique can reduce the level of pain, this is in accordance with the gate control theory which states that pain stimuli can be controlled or blocked by the door of mechanism along the nervous system of the neurons. There is a difference in the level of pain between before and after giving effleurage massage, because



the touch movement of effleurage massage can cause a feeling of comfort and relaxation, so as to reduce pain in the mother during childbirth (Maryunani, 2010).

This is also supported by research conducted by Handayani (2015) regarding the effect of the effleurage massage technique on the pain intensity scale for the first stage of labor, the results showed that 2 respondents did not experience changes in pain levels, 14 respondents experienced mild pain and 12 respondents experienced moderate pain. which means that most of the study samples experienced a decrease in pain levels with a p-value of  $0.000 < \alpha (0.05)$ . From various studies it can be concluded that the effleurage massage technique is one of the effective massages to reduce labor pain.

Based on research conducted by Rosalinna, (2017) in the Work Area of the Kemalang Public Health Center which aims to determine the effect of the effleurage massage technique on reducing labor pain, the results obtained by using paired t-test analysis with a t-count value greater than t table ( $3.885 > 2.045$ ), and the p-value = 0.001 (p-value  $< 0.05$ ) means that there is an effect of effleurage massage on reducing labor pain. This study shows that the effect of effleurage massage can reduce labor pain.

According to the assumption of researchers that the birth process is felt by each woman differently. The pain felt before childbirth is also not the same between one woman and another. The pain during labor is influenced by the position, size of the baby and contractions. Pain during childbirth is considered normal, there are many efforts or methods that can be applied to overcome labor pain, one of which is the effleurage massage technique because this technique provides light touch and massage to the abdomen that can make the mother feel relaxed and comfortable during labor. This happens because the effleurage massage technique stimulates the body to release endoprine compounds which are natural pain relievers, thereby reducing discomfort in the affected area.

### **3. CONCLUSION**

Based on the results of research conducted at BPM Ernita Pekanbaru to determine the relationship of effleurage massage techniques to the intensity of pain in the phase I of the active phase 1 in priigravida mothers at BPM Ernita can be concluded.

- a. Most of the 13 people in the control group were in the age range of 20-25 years as many as 7 people (53.8%), most of the respondents worked as many as 7 people (53.8%) and most of the respondents' education was PT as many as 6 people (46.2%), while for the 13 intervention group most of the respondents were in the age range 26-30 years 6 people (46.2%), most of the respondents did not work as many as 10 people (76.9%), and most of them were not working. education of respondents is high school as many as 9 people (69.2%).
- b. The mean intensity of labor pain during the first stage of the active phase in the control group before the intervention was 5.2308 and the mean value of the intensity of the active phase I labor pain in the intervention group before intervention was 4.5385. So it is known that the average pain intensity of respondents who did the intervention was lower than that which was not done with the intervention or effleurage massage technique.
- c. The mean intensity of labor pain during the first stage of the active phase in the control group after intervention was 4.8482 and the mean value of the intensity of the first stage of labor pain in the active phase in the intervention group after intervention was 3.0769. So it is known that the average pain intensity of respondents who did the intervention was lower than that which was not done with the intervention or effleurage massage technique.
- d. It can be seen that the significance value is 0,000 which means  $\text{sig} \leq 0.05$  (Pvalue: 0,000;  $\alpha$ : 0.05), which means that there is a relationship between the intensity of labor pain before and after the intervention (effleurage masage technique) in the control and intervention groups. A positive sign on the t value indicates that the pain intensity after intervention in the control and intervention groups has decreased significantly compared to pain before the intervention.

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# EVALUATION OF THE IMPLEMENTATION OF DENGUE HEMORRHAGIC FEVER (P2DBD) PROGRAM IMPLEMENTATION IN PUSKESMAS PAYUNG SEKAKI

PEKANBARU

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## ABSTRACT

*The incidence of dengue fever in Indonesia has increased every year. In particular, in Pekanbaru City, there was an increase in dengue case data in 2019, reaching 274 cases with the highest cases of DHF, namely at Payung Sekaki Health Center with 73 cases. The high number of cases of DHF can be caused by problems in planning and implementing the Dengue Hemorrhagic Fever Control Program (P2DBD) which is not optimal due to the factors that influence it. The optimal implementation of the P2DBD program is basically to reduce the number of DHF cases. This study aims to find out about the Evaluation Results (Input, Process and Output) in the P2DBD Program at Puskesmas Payung Sekaki, Pekanbaru City which was conducted in January-July 2020. This type of research is qualitative research by conducting in-depth structured interviews and observations with 6 research informants. The result of this research is that the input variable for human resources is only 1 person and has a double burden. The process variable shows that there is still a lack of community participation in the implementation of the DHF program, namely the PSN Program, Community Participation and Periodic Larva Examination. The output variable is seen from the larva free rate (ABJ) which decreases and does not match the target. The target for ABJ is 95% while ABJ PKM in 2019 is only 77%. So it can be concluded from the results of the input, process, and output variables that are the constraints, namely HR, there is still a lack of community participation in the implementation of the P2DBD program and the decreasing number of ABJ. It is recommended that the Puskesmas provide recommendations for additional surveillance and epidemiology personnel in the process of implementing the P2DBD program, adding additional jumantik kits, and it is hoped that cadres can be more active in the community to support and participate in the implementation of the P2DBD program.*

**Keywords : P2DBD Program, Evaluation, Implementation**

## 1.INTRODUCTION

One of the infectious diseases which is still a public health problem in Indonesia is Dengue Hemorrhagic Fever (DHF) which is currently a public health problem in Indonesia which tends to increase the number of patients and the wider its spread. Initially, Dengue Hemorrhagic Fever was not considered a dangerous disease for the community. This disease is known as five- day fever (vander-scheer heat). Dengue fever has been known since the XVII century, especially in tropical and subtropical areas. Then after 1954 it seems that the dengue virus has changed its nature (mutation) to become a malignant. In Indonesia, this disease was first discovered in Surabaya in 1968 following the spread of dengue fever (Nuraini, 2012).

Member countries in the three regions of the WHO (World Health Organization) report the number of cases per year. The number of reported cases rose from 2,2 million in 2010 to more than 3.34 million in 2016. In the year 2016 was marked by major dengue outbreaks worldwide. The Western Pacific Region reported more than 375,000 suspected cases of dengue fever in 2016. Solomon Islands declared an outbreak with more than 7,000 suspects. In the African Region, Burkina Faso reports an outbreak of dengue fever as many as 1061 cases (Saragih et al., 2019).

The incidence of dengue fever in Indonesia men is suffering rise each year. Based on data from Surveillance of Infectious Diseases by the Directorate General of Communicable Disease Eradication and Control (P2PM) of the Ministry of Health, it was stated that in February 2019 dengue cases reached 16,692 cases with a death rate of 169 people. The Ministry of Health of the Republic of Indonesia suppresses the spread of DHF by making a P2DBD Program (Control of Dengue Hemorrhagic Fever) in the presence of the Minister of Health Decree No.581 of 1992 concerning the eradication of DHF and Kepmenkes No. 92. The existence of a policy on Dengue Control Program and as executors (PHC), then that needs to be seen is how the implementation of Program Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas. The optimal implementation of the P2DBD program is basically to reduce the number of DHF cases. Activities in the P2DBD program currently carried out include Epidemiological Investigation (PE), Fogging, Jumantik, Periodic Larva Examination, Eradication of Mosquito Nests (PSN), Community Participation and Socialization of Health Education (Magdalena & Barsasella, 2012).

Based on data from the Health Profile of DHF in Riau Province in 2017 there were 1,928 cases of DHF. In 2018 there were 925 dengue cases but this figure when compared to the national standard was still below the average, namely by way of 49 per 100,000 population and the CFR <1 %. Based on data from the P2P field of Pekanbaru City Health Office, in 2017 there were 447 dengue cases in Pekanbaru City, in 2018 there were 201 cases of dengue fever in Pekanbaru City. In 2019, data on the number of dengue cases in 2019 reached 274 cases. Pekanbaru City has 12 Districts and 22 Puskesmas, one of which is Payung Sekaki District which has the highest DHF cases as many as 73 cases.

Based on the initial survey can be seen that the high incidence of dengue in Puskesmas Payung Sekaki in program implementation Control of Dengue Hemorrhagic Fever (P2DBD) is still not optimal views of the factors that affect it, SDM, Funding, Facilities, Infrastructure, Communications, and Environmental Factors in Puskesmas are inadequate so that the P2DBD Program implementation process has not been implemented optimally. The number of health workers in the DHF sector is one person and at the same time the environmental health and counseling section at the Puskesmas. Additionally obtained awareness and community participation is still low on the program conducted by the Health Center and resulted in a high rate of incidence of dengue Therefore, the researcher conducting research to Know about Evaluation (Input, Proses and Output ) in the Control Program Dengue Hemorrhagic Fever (P2DBD) at Payung Sekaki Health Center, Pekanbaru City.

## 2.METHOD

This research was conducted in the working area of the Pekanbaru City Health Office, which is based on the 2019 Pekanbaru City Health Profile, the highest case finding of Dengue Hemorrhagic Fever (DHF) is at Payung Sekaki Health Center, Pekanbaru City. The type of research used is qualitative research using indepth interviews and observation. Informan is the source of information in this study amounted to 6 comprising d ari Head of Puskesmas Payung Sekaki as main informants, coordinator P2P as key informants, Responsible P2DBD Program all at once as environmental health personnel and three cadres Jumantik that recommended by the person in charge of the P2DBD program. Instrumen study is a guidelines in the form of sheets interview question that is equipped with a tape recorder in the interview. Primary data were obtained from indepth interviews with key informants research includes information about the component input, proces , and output related to the implementation of the program carried out in the region P2DBD Puskesmas Payung Sekaki Pekanbaru City. Secondary data were obtained from a review of documents related to the implementation of P2DBD program activities in the area of Puskesmas Payung Sekaki Pekanbaru City to review the correctness of information obtained from indepth interviews and complete information that was not obtained from the in-depth interview. Data analysis was carried out qualitatively to obtain in- depth information about the implementation of P2DBD program activities using a matrix/table containing summary data of the in-depth interviews from the interview transcripts.

## 3.RESULTS

### 3.1 Variable Input

Human Resources, funding, Infrastructure, Method, Communication and Environmental Factors are included in the input variable component The number of human resources involved in implementing the P2DBD program activities in the area of the working father of the Payung Sekaki Health Center is 1 person at the same time having a double burden of being Kesling personnel at the Payung Sekaki Health Center In terms of number and area, the human resources at Payung Sekaki Health Center are insufficient. For Human Resources as the Responsible Disease Control Program Dengue Hemorrhagic Fever is getting the last of Balitbangkes training (Training and Development Agency for Health). The form of training is evaluating, monitoring DHF activities, training PJ DBD, and cadres in the community.

**Human Resources** in Health Center Payung Sekaki on Disease Control Program DBD is jumantik cadres same with health cadres. Each Posyandu is assigned 1 person to become a Jumantik Cadre. Cadres receive training on DHF, socialization to the community about DHF prevention and meetings at the Puskesmas. For availability and sources **Funding** received the health center to run the program Control of Dengue Hemorrhagic Fever (P2DBD) derived from the BOK Operational Assistance (Health) and the City Health Department. Jumantik cadres do not have budget funds. **Infrastructures** in Puskesmas

Payung Sekaki to program Disease Control Dengue Hemorrhagic Fever (P2DBD) in terms of quantity is sufficient need for that flashlight to support the implementation and the needs of PSN Kit, powder abate for implementation abatisasi, APD, leaflets, posters, needs jumantik, insecticides, and larvicides. And in terms of quality it is still low. For P2DBD program cadre jumantik given flashlights, tools for larvae survey, forms to record inspection results larva, and Card Jumantik given in each house/building dating from the health center. **Methods** or procedures the way in the implementation of programs for Disease Control Dengue Hemorrhagic Fever (P2DBD) was based on SOP (Standard Operating Procedure), and guided by the Strategic Plan of the City Health Office. For **communication** between the Head of the Puskesmas, the P2P Coordinator, the person in charge of P2 DBD, and the Jumantik Cadre, the implementation of the Dengue Hemorrhagic Fever (P2DBD) Control program is smooth and good in reporting cases and others. **Environmental** Factors in the implementation of disease control Dengue Hemorrhagic Fever (P2DBD) for internal already good while for the external is still not good because of the lack of concern society in the implementation of the program P2DBD, bad environment marked by the characteristics of the people who rely on fogging focus on controlling dengue than PSN (Eradication Mosquito Nests) and 3M + (Drain, Bury and Cover).

### 3.2 Process variables

Socialization and Counseling, Epidemiological Investigation (PE), Mosquito Nest Eradication (PSN), Fogging, Community Participation, and Periodic Larva Examination (CHD) are included in the variable component of the process. **Socialization and Guidance** on the Implementation of the Program Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas Payung Sekaki socialization and education inside and outside the building through the electronic media or print media. Dissemination and Counseling in the Implementation of the P2DBD Program at the Payung Sekaki Health Center for cadres to conduct socialization and counseling at Posyandu, there are community meetings and at the mosque.

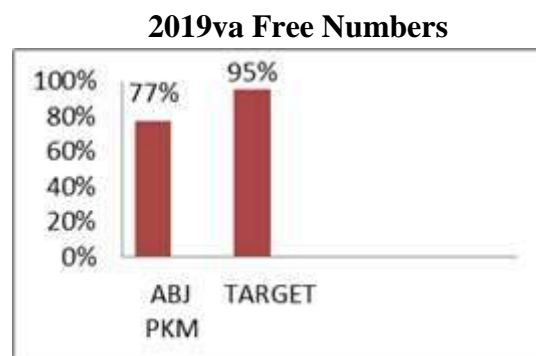
**Investigations Epidemiology** in Program Implementation Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas Payung Sekaki in the Search for the patient and examination mosquito larva dengue the patients home is done directly by the Responsible Program P2DBD, with setting up survey equipment such as sphygmomanometer, flashlights, form PE assisted by Kader, RT and RW. Epidemiological investigations in the implementation of the P2DBD Program at the Payung Sekaki Community Health Center for cadres in DHF cases go directly to the patient's or suspect's house and prepare survey equipment such as flashlights, PE forms and larva examination tools. **The Eradication of Mosquito Nests (PSN)** in the Implementation of the P2DBD Program at the Payung Sekaki Community Health Center is still lacking in inviting the public and across sectors to work together and remind the public for 3M plus which is done regularly and continuously, sowing abate powder , and fogging. For cadres, cadres do it once a week in the Implementation of PSN. **Fogging (fumigation)** in P2DBD Program Implementation in Puskesmas Payung Sekaki still remain to be done if there is a case and the results of PE, which performs fogging is the Health Department not of



Public Health Center. The implementation is carried out in the patient's home and surrounding locations as well as public places. People still rely on fogging in controlling dengue fever. **Community Participation** in the Implementation of the P2DBD Program at Puskesmas Payung Sekaki is still lacking and as a major factor in implementing the P2DBD Program is due to the lack of awareness and concern of the community in the P2DBD program. **Periodic Larva Examination (PJB)** in P2DBD Program Implementation at Payung Sekaki Community Health Center is carried out regularly by health workers and jumantik cadres accompanied by socialization and counseling to the public about dengue disease.

### 3.3. Output Variables

Based on the results of the output components in the implementation of the P2DBD program, it can be seen from the 2019 Larva Free Rate (ABJ) which has decreased and is not in accordance with the target. The target is 95% and ABJ PKM in 2019 is only 77%. Report of Suspect of DHF Sufferers, Cover Letter of Socialization and Counseling, Minutes of Socialization and Counseling, Documentation of Dengue and Outreach, Monthly DHF Case Report Form, Epidemiological Investigation Form (PE), Epidemiological Investigation (PE) Notification Form, Larva Examination Form in Karu Jumantik, and the Form for Vector Control / Focus Countermeasures) is complete and well-structured.



## 4.DISCUSSION

### 4.1 Variable Input

The results of this study indicate that the availability of **Human Resources (HR)** is who is also a health worker at the Payung Sekaki Health Center both in terms of the number and qualifications of human resources education is not in accordance with the provisions. Based on the availability of trained personnel in program management and techniques for dengue eradication, namely receiving training in both DHF control management, dengue prevention and others. This is in accordance with Mufidz's (2016) research conducted at the Tegal District Health Office that the number of personnel in the DHF program, both in terms of numbers and educational qualifications of human resources, is not in accordance with the provisions.trol/ Focus Countermeasures) is complete and well structured. There are 4

personnel involved in the P2DBD program at the puskesmas, namely the coordinator, surveillance staff, sanitarians, and PE (Epidemiological Investigation) staff. The coordinator is in charge of coordinating program implementation. The surveillance staff is tasked with formulating the results of PE to plan disease control programs. Sanitarians have tasks related to the environment. PE executors are tasked with coordinating with personnel who take part in PE activities.

**Facilities and Infrastructures** in the process of program implementation Control of Dengue Hemorrhagic Fever (P2DBD). In terms of quantity, the supporting facilities for the P2DBD program at the puskesmas are sufficient, but in terms of quality it is still low, especially in the activities of PSN (Mosquito Breeding Eradication) and fogging. Performance communicable disease control program officer greatly influenced by infrastructure related to providing services and carrying out their duties, officers are directly related would require facilities and infrastructure. Limited facilities and infrastructure for use will result in the services provided not being as expected. Based on the Kepmenkes RI Number 581 / MENKES / SK / VII / 1992 concerning the Eradication of Dengue Hemorrhagic Fever, the facilities and materials used. If the facilities and infrastructure needed by the implementing staff are deficient, then this could obstruct the implementation of the program. Efforts to achieve policy objectives must be supported by the availability of adequate facilities and infrastructure. Without facilities and infrastructure, specific tasks cannot be completed optimally, inadequate facilities and infrastructure will cause obstacles to the implementation process.

**Funds and budget** sources of funds in the process of program implementation Control of Dengue Hemorrhagic Fever (P2DBD) is from BOK Operational Assistance (Health) Center and the Department of Health. The funds that have been received by the puskesmas are sufficient to meet the various needs of the puskesmas in carrying out the P2DBD program, such as for holding meetings, PSN operational costs, official travel costs, as well as costs for buying fuel and wages for fogging officers. According to Rahim (2013), budgeting is all activities and efforts to formulate the details of determining needs on a certain scale, namely the scale of the currency and the amount of costs by taking into account applicable directions and restrictions.

**The method** in the process of program implementation Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas Payung Sekaki already have a SOP (Standard Operating Procedure). In implementing a program, prior direction is needed from the supervisor and the person in charge of the program for the smoothness and success of implementing a program. Reports from the puskesmas to the village / kelurahan are only verbally through a Pokjandal DBD meeting every 3 or 4 months. As evidence that a program has been implemented, evidence of the implementation of a program in the form of an official report is required. However, implementing officers at Payung Sekaki Health Center only make reports on the results of activities in the form of monitoring results, and In addition there is training provided for jumantik cadres in the village / kelurahan in the form of providing materials and practices. According to Wibowo (2010), SOP is a standard activity that must be carried out sequentially to complete a job and if it is adhered to it will have consequences, such as

smooth coordination, no overlapping or duplication, establishing harmonious working relationships, clarity of authority and responsibility for each employee.

**Communication** between the Head of Puskesmas, P2M Coordinator, Responsible P2 DBD, Kader Jumantik, Electric Surveillance in the implementation of disease control at the health center DBD Payung Sekaki smooth and excellent. The direct effect of communication on implementation is also evident in Anggraini's (2013) research when analyzing the implementation of the cervical cancer detection program through IVA at the Puskesmas in the city of Surabaya, even his research concluded that communication factors have the greatest influence compared to other factors. Communication must be maintained and enhanced and include all implementing components involved in program implementation.

**Factor environment** for internal already good. For factor external environment is still unfavorable because of lack of awareness and concern the public on the implementation of the program Control of Dengue Hemorrhagic Fever (P2DBD). Environmental factors have the strongest influence on the implementation of the program Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas Payung Sekaki. The environment in the context of implementation is the characteristics of community participants and interest groups (Program Managers, Health Office, Head of Environment, RT, RW, Lurah and Camat). Jumantik cadres are a concrete form of community participation in DHF control according to local conditions and culture so that messages and program implementation are easier to run. This is in line with Chadijah (2011) who examined the role of the community in the implementation of eradicating dengue mosquito nests (PSN-DBD) in two villages in Palu City, Central Sulawesi by finding out the difference between empowering larva surveyors (Jumantik) and the participation of leaders (Head of RT), he found that the most effective community empowerment in controlling the vector of DHF was the larva surveyor (jumantik). The implication of the environmental factors mentioned above is that there is a need to improve strategies to take people's attention with a more persuasive approach so as to generate enthusiasm and an active role in the community in controlling DHF. The public is invited to dialogue and motivated as well as to straighten out the opinions and behavior of people who still rely on fogging. In addition, it is necessary to strengthen partnerships at the sub district, sub district and local environment heads as well as the development of the PSN (Mosquito Nest Eradication) campaign in partnership with the mass media, NGOs (Non Governmental Organizations) or the business world that cares about the welfare of the community.

#### **4.2 Process variables**

**Socialization and Guidance** on the Implementation of the Program Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas Payung Sekaki continue to socialize and counseling inside and outside the building through the electronic media or print media. Dissemination and Counseling in the Implementation of the P2DBD Program at the Payung Sekaki Health Center for cadres to conduct socialization and counseling at Posyandu, there are community meetings and at the mosque. Health socialization and promotion of dengue fever not only distributing leaflets or posters but also towards changing behavior in

eradicating mosquito nests according to local conditions. There is counseling and community mobilization in the context of PSN DBD carried out in cross-sectoral cooperation under the coordination of the local regional head. The incomplete extension media available resulted in health promotion about dengue hemorrhagic fever not running optimally. The availability of banners in the extension media has not touched the general public. Therefore, it is necessary to add extension media such as leaflets, flipcharts and posters so that the implementation of the extension can use complete media.

**Epidemiological investigations** in the Program Implementation Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas Payung Sekaki PE activity (investigations Epidemiology) conducted if discovered DHF patients who have tested positive with a certificate issued by the hospital. In the search for other sufferers or suspects as well as examination of mosquito larvae transmitting DHF at the home of the patient or suspect, this is carried out directly by the person in charge of the P2DBD program and prepares survey equipment assisted by cadres, RT and RW. Epidemiological investigations in the implementation of the P2DBD Program at the Payung Sekaki Community Health Center for cadres in DHF cases go directly to the patient's or suspect's house and prepare survey equipment such as flashlights, PE forms and larva examination tools. Factors that support the implementation of PE (Epidemiological Investigation) program activities are valid information from various sources, speed of reporting, alertness of officers who are supported by infrastructure, good relations between health workers and the community, and cross sectoral coordination with villages/subdistricts. This is in line with research conducted by Rahayu (2012) which states that the results of epidemiological investigations and focus fogging have a significant relationship with the incidence of dengue.

**Mosquito eradication nest (PSN)** in the Program Implementation Control of Dengue Hemorrhagic Fever ( P2DBD ) in Puskesmas Payung Sekaki invites the public and government sectors for mutual assistance and alert the public to the 3M plus which is done regularly and continuously, sowing powder abate , and fogging . For cadres, cadres do it once a week in the Implementation of PSN. According to a triangulation informant, the number of cadres at Payung Sekaki Health Center is sufficient to carry out PSN (Mosquito Nest Eradication) activities in their area. However, according to key informants, the number of cadres jumentik less active and there are other constraints such as the media used for PSN cadres still relying on health care workers and the low awareness of the community will be important in combating larvae PSN. The results of Setyobudi's research (2011) show that community participation in PSN (Mosquito Nest Eradication) activities is very influential with the presence of *Aedes aegypti* mosquito larvae. Lack of counseling from medical personnel to the public can cause public ignorance about the dangers posed by dengue disease so that people's attitudes and actions remain bad in preventing the occurrence of dengue.

**Fogging (fumigation)** in the Program Implementation Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas Payung Sekaki still remain to be done if there is a case and the results of PE (Research Epidemiology), which performs fogging is the Health Department

not Health Center. Health Center people only coordinate with the Health Office. The implementation is carried out in the patient's home and surrounding locations as well as public places. Activity fogging is made where there is clearly a case of dengue fever have been eligible to do fogging. The fogging activity carried out by the puskesmas encountered various obstacles, such as the lack of public knowledge about fogging and its side effects and the delay in implementing fogging due to using a third party so that the implementation schedule follows the third party. The implementation of fogging can be carried out by the presence of supporting factors in the form of the availability of human resources (Human Resources), adequate transportation, facilities and infrastructure, and sufficient funds for the implementation of fogging. According to the results of research by Siti Hidayati (2005), public knowledge about fogging is still lacking and people's perceptions about fogging are not good because fogging is a program that is more preferred than the other PSN (Mosquito Nest Eradication) program on the grounds that it is carried out together and leaves former /there is evidence.

**Public Participation** in the Program Implementation Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas Payung Sekaki still lacking and as a major factor in the implementation of the Program P2DBD here is because there is less public awareness and concern in P2DBD program. The target of community participation consists of families through the role of the PKK, community organizations, school students through school jumatik activities, teacher training, institutional arrangements (offices, public places, places of worship), and jumatik with the contract system environmental sanitation officers as well as society in general, conduct PSN (Eradication of Mosquito Nests) through the 3 M Plus Movement (Drain, Bury, and Close)(Ministry of Health, 2008).

**Periodic checks** in the Program Implementation Control of Dengue Hemorrhagic Fever (P2DBD) in Puskesmas Payung Sekaki performed regularly by health workers and cadres jumatik 1 times a week along with socialization and education to the public about dengue disease. The obstacles experienced at Payung Sekaki Health Center in implementing PJB (Periodic Larva Inspection) activities are not much different from PSN (Mosquito Nest Eradication) activities, namely low public awareness, funds, and a lack of jumatik personnel. The efforts that have been made by Payung Sekaki Health Center to overcome these obstacles are by holding training for jumatik cadres and coordinating across sectors with villages / wards. The factors that can support the implementation of PJB activities are in terms of personnel, namely jumatik cadres, infrastructure, and funds for fee jumatik cadres. This research in line with the research conducted by Rosidi (2009) is conducted by showing that there is a significant relationship between periodic larva monitoring and larva free rate. The reality in the field is that this PJB (Periodic Larva Examination) activity is very effective in an effort to motivate the community to always carry out the PSN-DBD movement with 3M plus (Drain, Bury, and Close).

#### **4.CONCLUSION**

The results of this study indicate that the components of input , process and output in the P2DBD Program at Payung Sekaki Health Centre is **input variables** in the implementation of the P2DBD program at Payung Sekaki Health Center for Human Resources, Facilities and Infrastructure, Funds, Methods, Communication and Environmental Factors are categorized as good and appropriate. What is not appropriate, namely the human resource is only 1 person and environmental external factors. **Variable Proses** (Socialization and Counseling Program, Epidemiological Investigation (PE), Mosquito Nest Eradication (PSN), Fogging, Community Participation, and Larva/Jumantik Examination) in the Dengue Hemorrhagic Fever (P2DBD) Program at Payung Sekaki Health Center well done, what is still lacking, namely the implementation of the PSN program which also involves the community, periodic larva checks, namely that the community does not fill in the form and jumantik card given by each house / building by the Puskesmas to be checked and monitored and community participation is not carried out with baik. The results of the

**output component** in implementing the P2DBD program are seen from the 2019 Larva Free Rate (ABJ) which has decreased and is not in accordance with the target. Output variables for files in the implementation of the P2DBD program already exist, are well recorded and compiled. What is still lacking is that the larva inspection forms and jumantik cards given to the community are not filled in and become obstructed in the process of implementing the P2DBD program.

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# RELATIONSHIP OF LEADERSHIP STYLE WITH WORKING MOTIVATION OF NURSES AT INPATIENTS WARD RSUD DR. M. YUNUS BENGKULU

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## ABSTRACT

*Leadership style is a different combination of tasks and changes that are used to influence others to accomplish a goal. The aim of the study was to study the relationship between the leadership style of the head of the room and the work motivation of nurses in the Nursing Room of the RSUD dr. M. Yunus Bengkulu. This study uses descriptive quantitative using primary and secondary data. The population in this study were all nurses in the care room of the RSUD Dr. M. Yunus Bengkulu in 2018. The research sample used total sampling technique. Data were analyzed using univariate and bivariate analysis with the Spearman Rank Correlation Test. The results of the study 66.7% democratic style, 86.7% high motivation. There is a relationship between the head room leadership style and the work motivation of nurses in the RSUD dr. M. Yunus Bengkulu with a weak relationship category.*

**Keywords:** leadership style, work motivation

## 1. INTRODUCTION

Work motivation is common in developing countries, but recently the results of international research on 43,000 nurses from 700 hospitals in the United States, Canada, England, Scotland, and Germany were conducted by Aiken et al (2001), which showed that the number of nurses dissatisfied with their jobs ranged from 17% in Germany to 41% in the United States, the percentage of nurses' willingness to increase attendance, their work varied from 17% in Germany, 39% in the UK. Many problems that occur around the work motivation of nurses in Pakistan are known to be 52.1% with low work motivation (Al, 2014).

Indonesia and developing countries with the issue of nursing work motivation are not much different, the lack of related statistical data causes difficulty in structuring and developing programs for human resources in the field of nursing nationally. In Indonesia, Budiawan (2015) reports that in hospitals there are 60% answers to nurses with low work motivation, In North Sumatra there are 19.7% nurses with low work motivation, this is also a major problem in nursing services so that nurses have high work motivation well of course it will affect his work (Khasia, 2013).

According to Herzberg's theory, there are two factors that influence work motivation, namely: intrinsic factors and extrinsic factors, where intrinsic factors include interest and positive attitudes, While the extrinsic factors include: 1) wages and salaries 2) job security 3) honor and recognition 4) fair treatment 5) leadership style 6) work atmosphere. Based on several factors that influence work



motivation, work motivation is influenced by leadership style. If the leadership style is good, the work motivation is higher and vice versa if the leadership style is not good, the work motivation will be lower, From this explanation it can be concluded that there is a dependence between work motivation on leadership, where the leader can affect the morale of job satisfaction, and the quality of work life in increasing motivation. (Sugiyarti, 2008).

Leadership style is a different combination of task behavior and relationships that are used to influence other people to complete a goal (Hubber, 2000). Hanafi (2011) emphasizes that leadership is a process of directing and influencing the task activities of people in the group. Meanwhile, according to Gillies (1996) in Nursalam (2007) based on the results of the power and authority, the leadership style is divided into 4, namely, Autocratic, Democratic, Participatory, and Laiser-faire leadership styles. The leadership style has a strong influence on motivation because the success of a leader in moving others to achieve a goal depends on how the leader creates work motivation in each employee (Kartono, 2008). According to research conducted by Ilham (2012), that between the variable leadership style and employee work motivation has a very strong and positive influence.

M. Yunus Bengkulu Province is one of the Regional General Hospital (RSUD) institutions and is an integrative and cooperative health service unit. RSUD dr. M. Yunus is the highest referral General Hospital in Bengkulu Province which has a role in improving the health of the people of Bengkulu Province, in order to help cure disease sufferers who come for treatment at the hospital. These efforts include promotive, preventive, curative, and rehabilitative. The results of the preliminary study found that nurses had less job engagement. This is evident from the strike action of nurses at RSUD M Yunus Bengkulu on October 1, 2012 demanding an increase in welfare and a medical and paramedic strike at RSUD M Yunus which also occurred on Thursday, October 7 2015 then demanding picket money in the evening and at night as well as a strike action for M Yunus Hospital employees also occurred Monday, April 3, 2017, a protest against late payment of salaries (News, Okezone, 2017). With the number of nurses in the Teratai care room 15 nurses, 15 nurses and Edelweiss 14 nurses Dr. M. Yunus Bengkulu has a total of 44 people, consisting of 1 head of room each, 1 team leader A, 1 team leader B, 1 Administration and Logistics staff in each treatment room found from the initial data of researchers at RSUD M Yunus.

## **2. MATERIALS AND METHODS**

The research design in this study is descriptive quantitative with a correlational approach. The population of this study were the nurses who served in the nursing room of dr. M. Yunus Bengkulu. The sampling technique in this study used a total sampling of 45 treatments. The data collection technique used in this study is to use secondary data and primary data where secondary data is by looking at the documentation of the number of nurses in the nursing room of dr. M. Yunus Bengkulu,

while primary data is by distributing questionnaires to respondents who are the object of research. Data were analyzed using univariate and bivariate analysis.

### 3. RESULTS AND DISCUSSION

#### Data Normality Test

The results of the data normality test using the Shapiro-Wilk test obtained sig. = 0.001 <0.05 for leadership style data, and sig. = 0.000 <0.05 for work motivation data. So that the two groups of data are not normally distributed, cannot be analyzed with simple linear regression and Pearson Product Moment correlation analysis, so the data will be analyzed with Spearman Rank Correlation.

#### Univariate Analisis

This analysis was carried out to get an overview of the frequency distribution of the independent variable (leadership style) and the dependent variable (work motivation) in the hospital ward dr. M. Yunus Bengkulu

Table 1

Description of the Frequency Distribution of the Room Head Leadership Style in the dr. dr. M. Yunus Bengkulu (N=45)

Leadership Style	Frequensi	Persentase
Autocratic	2	4,4
Participatif	13	28,9
Democratic	30	66,7
Total	45	100,0

From table 1 it can be seen that of the 45 nurses in the hospital ward dr. M. Yunus Bengkulu, there are 2 people (4.4%) autocratic leadership style, 13 people (28.9%) participatory leadership style, and 30 people (66.7%) democratic leadership style.

Tabel 2

Description of the Frequency Distribution of Nurse Work Motivation in the dr. dr. M. Yunus Bengkulu (N=45)

Work Motivation	Frekuensi	Persentase
Low Motivation	6	13.3
High Motivation	39	86.7
Total	45	100

From table 2 it can be seen that of the 45 nurses in the hospital ward dr. M. Yunus Bengkulu above work motivation can be seen that there are 6 people (13.3%) low work motivation and 39 people (86.7%) high work motivation.

### **Bivariate Analisis**

his analysis was conducted to determine the relationship between the independent variable (leadership style) of the head of the room with the dependent variable (work motivation) of nurses in the nursing room of dr. M. Yunus Bengkulu. The relationship between the leadership style of the head of the room and the work motivation of the nurses in the nursing room of dr. M. Yunus Bengkulu can be seen in the table below:

Table 3

## Spearman Rank Correlation Test Results

Variable	N	rho	p
Leadership Style * Work motivation	45	0.303	0,043

\*. Correlation is significant at the 0.05 level (2-tailed)

Based on table 3, the results of the Spearman Rank correlation analysis showed that the value of  $\rho = 0.303$  with  $\text{sig. (P)} = 0.043 < 0.05$  means significant, so  $H_0$  is rejected and  $H_a$  is accepted. So there is a relationship between the leadership style of the head of the room and the work motivation of the nurses in the dr. M. Yunus Bengkulu with the weak relationship category because it is located in the interval 0.20-0.4

#### 4. DISCUSSION

Based on the results of research conducted on 45 respondents in the hospital treatment room dr. M. Yunus Bengkulu regarding the type of leadership style of the head of the room found that there were 2 nurses (4.4%) who stated autocratic leadership styles, 13 nurses (28.9%) stated participatory leadership styles, and 30 nurses (66.7%) stated democratic leadership styles. So it can be concluded that more than half (66.7%) of the nurses in the hospital ward dr. M. Yunus Bengkulu stated that the leadership style of the head of the room is democratic.

There are 2 nurses (4.4%) stated autocratic leadership style, This can be proven from the respondent's questionnaire statement that the nurse assessed the leadership style of the head of the RSUD dr. M. Yunus Bengkulu pointed out that in determining all decisions made absolutely in the delivery of regulations to be carried out (20%), then in deciding on delegation of duties the head of the room determines unilaterally or independently without discussion with subordinates (18%).

There are 13 participatory leadership styles (28.9%), this can be proven from the respondent's questionnaire statement that the head of the room in the hospital ward dr. M. Yunus Bengkulu in taking steps to direct subordinates towards the implementation of tasks with

better planning (49%). Then the head of the room allowed the group's involvement in delegating Askep's actions (51%) and the head of the room also involved the nurse in introducing new planning methods (42%).

The democratic leadership style is known to have 30 nurses (66.7%) stated that the leadership style of the head of the room in the hospital ward dr. M. Yunus Bengkulu is a type of democratic leadership style, This can be proven from the respondent's questionnaire statement that the nurse assessed the head of the room to talk with subordinates in determining the room operational plan (60%) who then discussed determining long-term planning (56%) and the head of the room also collaborates with other groups of nurses in handling cases that occur to colleagues (51%).

The results of the above statement can be concluded that the head of the room in the hospital treatment room dr. M. Yunus Bengkulu has carried out a variety of leadership styles. The existence of a leadership style that is in accordance with the conditions and situation of the organization will encourage subordinates in carrying out their duties and obligations. This difference is caused by the different leadership styles of each leader. This statement is in accordance with the results of research where the leadership style of the head of the room is more than half of applying a democratic leadership style (66.7%), a participatory leadership style (28.9%) and an autocratic leadership style (4.4%).

Based on the results of the study, it was found that out of 45 nurses in the hospital ward dr. M. Yunus Bengkulu who have work motivation is known to be 6 people (13.3%) with low work motivation, and more than half of 39 people (86.7%) with high work motivation in the hospital treatment room dr. M. Yunus Bengkulu.

Based on the results of the study, more than half of 34 nurses (68.9%) have high work motivation which indicates that there is a high motivation and desire from within the nurse so that they can carry out an activity or job in accordance with the objectives. This can be proven from the respondent's questionnaire statement that as many as 34 nurses in the hospital ward dr. M. Yunus Bengkulu said he agreed with the current salary received (71%), and as many as 32 nurses said that they strongly agreed that the head of the room always gave work motivation, encouragement to nurses to achieve a desired goal (69%).

Low work motivation is known to have 6 nurses (13.7%), this can be proven from the questionnaire statement that the nurses in the hospital ward dr. M. Yunus Bengkulu stated

that he did not agree because his daily needs were not being met to encourage better work (9%) Based on the results above, it is known that not meeting daily needs can lead to a decrease in work motivation. The results of the above statement can be concluded that the work motivation of the nurse at dr. M. Yunus Bengkulu, more than half have high work motivation (86.7%). Based on the results of the bivariate analysis of the 45 respondents there were 2 nurses (4.4%) autocratic leadership style, 13 people (28.9%) participatory style, 30 people (66.7%) democratic leadership style and 6 people (13, 3%) low work motivation and 39 people (86.7%) high work motivation.

The results of the Rank Spearman's Rho correlation analysis test showed the value of  $\rho = 0.303$  with sig. (P) = 0.043 <0.05 which means significant, so  $H_0$  is rejected and  $H_a$  is accepted, the better the leadership style of the head of the dining room will provide higher work motivation.. So there is a relationship between the leadership style of the head of the room and the work motivation of the nurses in the dr. M. Yunus Bengkulu with weak relationship category because work motivation is not only influenced by leadership style which is a factor that affects work motivation but there are many other factors according to Herzberg's theory that can affect work motivation.

Herzberg (Robbins, 2009) said that there are two factors that affect work motivation, Herzberg's Theory mentions the Motivator-Hygiene Theory. The factors that play a role as work motivation for employees according to Herzberg are those that are able to satisfy and encourage people to work well, namely motivating factors which include responsibility, opportunities for advancement, work itself, achievement, respect for work, growth. Meanwhile, hygiene factors include company policies and administration, wages or salaries, interpersonal relationships, supervision, working conditions, security.

This can be seen from the results of the study that (67%) nurses with high work motivation if the head of the room uses a democratic leadership style, This is because the nurse executing has work problems, the action of the head of the room is to discuss with the nurse so that the nurse feels more motivated at work (71%), and the result is (2%) a nurse with low work motivation. The democratic leadership style in this study is a dominant leadership style compared to other leadership styles. This is in line with research conducted by Kontesa, (2014) that more than half of the nurses argue that a democratic leadership style can increase work motivation.

In this study, there were nurses who assessed the head of the room using a participatory leadership style and each had low (7%) and high (20%) work motivation. This result is in line with research conducted by Dimas (2008) that participatory leadership style has a positive relationship with work motivation, it means that the better the employee's participatory leadership style, the higher the work motivation, Likewise, if the employee's participatory leadership style is poor, work motivation will be low. Another result of this study is that nurses assess the head of the room using an autocratic leadership style that nurses have low work motivation (4%). The autocratic leadership style was not as prominent as the democratic leadership style. This is in line with research conducted by Zulfikhar, (2016) that autocratic leadership style has a negative relationship with work motivation. This means that nurses are not satisfied with autocratic leadership.

Of all respondents who have high work motivation (71%) are influenced by the democratic leadership style, of the three identified, the democratic leadership style is the most dominant compared to other styles applied in dr. M. Yunus Bengkulu. Thus the results of the analysis also show a significant relationship between the leadership style of the head of the room and the work motivation of nurses. These results are in line with the results of research by Abdul Kasir (2011) which states that the application of a democratic leadership style will result in high work motivation and based on research conducted by Hardiansyah (2013) there is a significant relationship between the leadership style of the head of the room and the work motivation of nurses with the category of moderate relationships. The relationship between the leadership style of the head of the room and the work motivation of nurses is expected to maintain a leadership style that is in accordance with standard health service procedures so as to be able to encourage the work motivation of nurses in carrying out an activity or job we

## **5. CONCLUSION**

1. Of the 45 respondents, there were 30 people (66.7%) democratic leadership styles.
2. Of the 45 respondents, 39 people (86.7%) had high work motivation.
3. There is a relationship between the leadership style of the head of the room and the work motivation of the nurses in the dr. M. Yunus Bengkulu with the weak relationship category because it is located in the interval 0.20-0.40.

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# THE RELATIONSHIP BETWEEN KNOWLEDGE OF PREGNANT WOMEN IN THE THIRD TRIMESTER WITH THE LEVEL OF ANXIETY IN DEALING WITH CHILDBIRTH IN THE WORKING AREA OF PUSKESMAS PASAR IKAN BENGKULU CITY

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## ABSTRACT

*The lack of knowledge of pregnant women about preparation for childbirth is one of the causes of mothers experiencing anxiety when facing childbirth. This study aims to study the relationship between maternal knowledge of pregnant trimester III with anxiety level in dealing with childbirth in the Puskesmas Pasar Ikan. Type of research is analytic observational with cross sectional design. The population in this study were all third trimester pregnant women in the working area of Pasar Ikan Puskesmas. The number of samples was 31 trimester III pregnant women. The sample collection technique used was purposive sampling. Data collection techniques using primary data. The data analysis technique used the Chi-Square test ( $\chi^2$ ). To determine the closeness of the relationship, the Contingency Coefficient (C) test is used. The results showed that 31 trimester III pregnant women were 29 mothers (93.5%) who had good knowledge, 16 people (51.6%) had mild anxiety levels and there was no relationship between knowledge of third trimester pregnant women and anxiety levels in facing childbirth. It is hoped that the Puskesmas can make policies in an effort to improve the quality of health services regarding preparation for childbirth through counseling or health education.*

**Keywords :** *Anxiety, Knowledge, Pregnant mother.*

## 1.INTRODUCTION

According to the World Health Organization (WHO), the global maternal mortality rate in 2017 was around 810 per 100,000 live births each day due to complications during childbirth, it is estimated that the total number of maternal deaths is 295,000, This figure is quite a decrease compared to 2015 which reached a maternal mortality rate of 303,000 deaths. The highest maternal mortality rate occurred in developing countries, as much as 415 per 100,000 live births compared to developed countries, which was 12 per 100,000 live births in Europe and North America, while 7 per 100,000 live births in Australia and New Zealand (WHO, 2019). Based on data and information on Indonesia's Health profile in 2017, the number of pregnant women in Indonesia was 5,324,562 people, while the number of mothers who gave birth or postpartum was 5,082,537 people (Kemenkes RI, 2018).

The maternal mortality rate (MMR) in Bengkulu Province in 2018 was 39 people, consisting of 4 pregnant maternal deaths, 10 childbirth maternal deaths and 25 postpartum maternal deaths. There was an increase in 2018 compared to 2017 which occupied the maternal mortality rate (MMR) as many as 28 people (Dinkes Provinsi Bengkulu, 2019).

This data shows that the importance of awareness of pregnant women about knowledge in preparation for childbirth so as not to cause maternal death and can cause mothers to feel anxious in facing childbirth. Childbirth is a series of events that ends with the expulsion of the baby at term or nearly term, followed by removal of the placenta and fetal membranes from the mother's body. (Kuswati&Meliana,2013 dalam Ristica, 2017).

Various causes of childbirth trauma basically stem from the mother's ignorance of childbirth. Maternal knowledge about the delivery process greatly affects the readiness of the mother to undergo labor, mothers who have less knowledge about childbirth have a high level of anxiety to panic as much as 13%. This is closely related to the knowledge of mothers about childbirth (Kartini, 2019).

Anxiety is a psychological disorder that can affect the smoothness of the delivery process, especially for mothers who are approaching labor, such as pregnant women in the third trimester. (Yanuarti, 2018). At the time of approaching labor, the mother will certainly feel anxious, afraid and anxious. This feeling will affect psychologically, especially in pregnant women, especially in the third trimester. Some psychological conditions that will occur, such as emotional changes and discomfort, so that pregnant women need the support of their husbands, family and medical personnel. These emotional changes are a result of worry, fear, doubt and doubt about the condition of her pregnancy. If pregnant women do not have preparation and knowledge about childbirth, the mother can be more anxious and show fear during labor (Janiwarty and Pieter (2013) in Rahmitha (2017)

According to Koelewejin (2017), women who have high (severe) anxiety are at risk for experiencing atric-postpartum problems, for example postpartum depression and can even experience postpartum stress syndrome. Research abroad states 12% of women say childbirth is a scary time, so that mothers feel anxious, afraid and sick will cause stress which results in disruption of the delivery process. So eliminating anxiety and fear during childbirth is very important (Yanuarini, 2017).

Based on the research results from Lendy (2019), it shows that the results of the tau control test with a correlation value of 0.504, where the p value = 0.001  $< \alpha = 0.05$  at the 95% confidence level ( $\alpha 0.05$ ). There is a relationship between the knowledge of third trimester primigravida pregnant women with anxiety in dealing with childbirth. According to Harmia, 2015 the knowledge of pregnant women about the process and preparation for childbirth is one of the causes of anxiety that occurs in pregnant women, so the knowledge of mothers about labor preparation and the delivery process is very important.

## 2.METHOD

This research was conducted in the working area of the Pasar Ikan Puskesmas, Bengkulu City, which was conducted on August 5 to September 5 2020. The design used in this study used analytic observational with a cross sectional approach. The population of this study were third trimester pregnant women who were in the working area of Pasar Ikan Health Center, Bengkulu City. The sampling technique used was purposive sampling, obtained by as many as 31 pregnant women. Data collection with primary data using a knowledge level questionnaire taken from Destari (2013) and the HARS anxiety level questionnaire (Hamilton Anxiety Rating Scale) taken from Rahmitha (2017). The data analysis technique was performed by univariate and bivariate analysis. Bivariate analysis using the Chi-Square test ( $\chi^2$ ). To determine the closeness of the relationship, the Contingency Coefficient statistical test is used ( $C$ ).

## 3.RESULT

### 3.1.Univariate Analysis

This univariate analysis was conducted to obtain an overview of the independent variable (knowledge of pregnant women in trimester III) and the dependent variable (level of anxiety in facing childbirth) in the working area of Pasar Ikan Puskesmas, Bengkulu City.

Table 1. Description of knowledge of pregnant women in the third trimester of preparation for childbirth in the Work Area of the Pasar Ikan Puskesmas, Bengkulu City

Knowledge of pregnant women trimester III	Frequency	Percentage
Good	29	93,5

Enough	2	6,5
Total	31	100.0

From Table 1, it can be seen that of the 31 respondents who were in the PasarIkan Puskesmas working area, Bengkulu City, there were 29 people (93.5%) who had good knowledge and 2 people (6.5%) who had sufficient knowledge.

Table 2. An illustration of the level of maternal anxiety in facing childbirth in the Work Area of the Pasar Ikan Puskesmas, Bengkulu City

Satisfaction	Frequency	Persentase
Satisfied	19	61.3
Less Satisfied	12	38.7
Total	31	100

From Table 2 above, it can be seen that of the 31 respondents in the Pasar Ikan Puskesmas work area, Bengkulu City, 19 (61.3) respondents had mild anxiety, while 12 (38.7) respondents had moderate anxiety, 3 people (9.7) had severe anxiety and 3 other people (9.7) had no anxiety.

### 1. Bivariate Analysis

This analysis was conducted to determine the relationship between the independent variable (knowledge of pregnant women in the third trimester) and the dependent variable (anxiety level in dealing with childbirth) by using Chi Square analysis. To determine the evenness of the relationship, the Contingency Coefficient (C).

Table 3. The relationship between knowledge of pregnant women in the third trimester with the level of anxiety in facing childbirth in the Work Area of the Pasar Ikan Puskesmas, Bengkulu City

Knowledge Level	Anxiety Level				Total	$\chi^2$	C	
	Heavy	Moderate	Light	Not Anxious				
Good	3	8	16	2	29	5,226	0,156	0,380
Enough	0	1	0	1	2			
Total	3	9	16	3	31			

Based on Table 3 above, it is known that 31 respondents were in the working area of the Pasar Ikan Health Center in Bengkulu City, 29 respondents have good knowledge, 3 people with severe anxiety, 16 people have mild anxiety, while 8 people have moderate anxiety, while 2 more mothers were not anxious about childbirth, and 2 of them had sufficient knowledge, there is 1 mother with moderate anxiety level and 1 mother is not anxious. Due to the 2x4 contingency table the Pearson Chi-Square test was used.

The results of the Perason Chi Square analysis showed that the value  $\chi^2 = 5.226$  with  $p\text{-value} = 0.156 > 0.05$  was not significant, so  $H_0$  was accepted and  $H_a$  was rejected. So there is no relationship between the knowledge of pregnant women in the third trimester with the level of anxiety in dealing with childbirth in the Pasar Ikan Puskesmas Work Area, Bengkulu City. The results of statistical tests showed that there was no relationship between the knowledge of third trimester pregnant women and the level of anxiety in facing childbirth.

#### 4.DISCUSSION

Based on the research in table 2, it was found that 31 respondents of pregnant women in the third trimester who were in the working area of Pasar Ikan Puskesmas, Bengkulu City. Most of the respondents with good knowledge were 29 people (93.5%) and respondents who had sufficient knowledge were 2 people (6.5%). These results indicate that the knowledge of pregnant women in the third trimester of preparation before childbirth is very good, seen from the knowledge of the mother when filling out the questionnaire about preparation before delivery. In addition, mothers often find out information about preparation for delivery, both from health workers at the Puskesmas and in the mass media, and mothers can answer correctly about what preparations are needed and carried out ahead of later delivery.

Knowledge is the property or content of the human mind which is the result of the human effort to know. The knowledge of pregnant women about preparation for labor is the result of a pregnant woman's knowledge of nursing care that is concerned with labor preparation which consists of the definition of childbirth, time of delivery, place of delivery, preparation of babies and mothers before and after delivery and readiness of mothers to face childbirth (Nashrulloh, 2009).

Based on the results of the research in table 3 it can be seen that of the 31 respondents of pregnant women in the third trimester who were in the working area of the Pasar Ikan Puskesmas, Bengkulu City, only a small proportion of respondents who have a severe level of anxiety are 3 people (9.7%), Almost half of the respondents who had moderate anxiety level were 9 people (29.0%) and most of the respondents had a mild level of anxiety totaling 16 people (51.6%) and only a small proportion of respondents who did not experience anxiety when facing anxious childbirth amounted to 3 people (9.7%). This shows that only a small proportion of respondents have severe anxiety and most respondents have mild anxiety.

This is in line with research conducted by Usman, (2019) in the Jombang Community Health Center, which explains that the 123 respondents studied were all pregnant women who experienced anxiety when they were about to face childbirth. The majority of pregnant women experienced mild anxiety, 107 (87.0) respondents but there were 16 people (13%) who experienced moderate anxiety.

These results indicate that the level of maternal anxiety in facing childbirth is on average with a mild level of anxiety and only a small proportion of respondents do not experience anxiety when facing childbirth. There are many factors that can influence maternal anxiety besides the level of knowledge, namely abnormal pregnancy conditions or the presence of comorbidities during pregnancy, the mother's age is too young or too old, the pregnancy of the first child, or unwanted pregnancy, inadequate economy, Lack of support from people closest to and acceptance of the environment, this can increase the anxiety of pregnant women when facing childbirth.

According to Linawati (2013) in Nurlailiyah (2015), explains that the anxiety experienced by pregnant women in facing childbirth can be influenced by several factors including the economic level, knowledge, education and family support. The low level of economy,

knowledge, education and family support will certainly cause anxiety for pregnant women in facing childbirth. So it can be concluded that the level of anxiety of pregnant women cannot be measured through knowledge alone. There are many factors that can cause pregnant women to feel anxious when facing childbirth.

The results of research conducted in the working area of Puskesmas Bengkulu City showed that out of 31 respondents in table 4 who had good knowledge, 29 people had good knowledge, 3 of them (10.3%) mothers experienced severe anxiety. This shows that there are still mothers who have good knowledge but still experience severe anxiety. This can be because mothers only receive information from outside, such as from friends, neighbors and family not from direct health workers, This is what causes the mother to feel anxious because many stories or news that are conveyed and heard give the impression that childbirth is terrible and very painful, especially for primiparous pregnant women.

As for several other factors that can cause anxiety in the third trimester of pregnant women in facing childbirth, are the level of economy, education and family support. According to Aina, (2013) the economic level is proven to be very influential on the physical and psychological conditions of pregnant women. If the mother's economic condition is good, then the mother will get good physical and psychological well-being and vice versa if the mother has a bad economic condition, the pregnant woman will not get physical and psychological well-being. Apart from these factors, anxiety during pregnancy can be caused by physical changes, fear of childbirth and the transition to parenting.

Anxiety in pregnant women is an emotional reaction that occurs in pregnant women related to the concern of the mother with the welfare of herself and her fetus, the continuity of pregnancy, childbirth, the period after childbirth and when she has been a mother (Stuart, G, 2012). In addition, there were 8 (27.6%) mothers who had good knowledge and experienced moderate anxiety. This is because the mother has been exposed to information from mass media such as social media, Facebook, Instagram, Twitter and others so that the mother has a good level of knowledge but still experiences moderate anxiety. This could be because mothers rarely do ANC examinations or mothers rarely attend posyandu so that mothers are less exposed to direct information from health personnel, such as midwives and nurses.



In addition, there were 16 (55.2%) well-informed mothers who experienced mild anxiety. This is because the mother has received information about what labor preparations will be prepared later, besides the support from the husband, the mother's anxiety will decrease and the mother will feel more relaxed. The more relaxed a person is, the lower the level of anxiety the mother will be at labor. These results are in line with research conducted by Retnowati, (2016), which states that the husband's support can reduce the level of anxiety during childbirth, especially for primigravida mothers in facing childbirth.

In addition, there were 2 (6.9%) well-informed mothers who were not anxious at all in the face of childbirth. This is because some mothers who do not feel anxious have experienced a normal delivery without complications and abortion, so the mother has had previous experiences and already feels that the labor was not as bad as previously imagined.

Furthermore, from 2 mothers with sufficient knowledge, there was 1 person (50.0%) who had moderate anxiety levels. This is because mothers are less exposed to information from the mass media and health workers and the lack of support from their husbands is caused by mothers experiencing moderate anxiety. In addition, 1 of them did not experience anxiety at all but had a sufficient level of knowledge, this could be due to lack of information, but the mother had had previous birth experiences so that the mother did not feel anxious at all in the next pregnancy.

The results of the Contingency Coefficient test showed that the value of  $p\text{-value} = 0.156 > 0.05$  and  $C = 0.380$  showed that there was no significant relationship between the knowledge of third trimester pregnant women with anxiety levels in dealing with childbirth in the work area of the fish market health center in Bengkulu City.

The results of this study are in line with research conducted by Nurlaliyah (2015), which states that there is no relationship between the level of knowledge of risk factors for childbirth with the level of anxiety facing childbirth in third trimester pregnant women at Puskesmas Sleman Yogyakarta with a  $p\text{-value} < 0.566$ , it is stated that there is no significant relationship.

The results of this study are different from the results of research conducted by Safitri, (2018) which states that there is a relationship between knowledge and anxiety levels of

primigravida pregnant women at Sundari General Hospital Medan where the correlation value of knowledge with the anxiety level of primigravida pregnant women is -0.843 with p Value  $<\alpha$  (0.000  $<$ 0.50) with a significance level of 5%.

The results of this study are also different from the results of research conducted by Harmia, (2015) based on statistical tests, it is found that  $\chi^2 = 13,971$  with p value  $<\alpha$  (0.05) or 0.00  $<$ 0.05 so that it was found that there was a significant relationship between the knowledge of pregnant women in the third trimester of the delivery process with the level of anxiety of mothers facing childbirth.

According to Kusumawati, (2010) that the better the mother's knowledge, the lower the level of anxiety felt by the mother and vice versa, the lower the mother's knowledge, the higher the level of anxiety felt by the mother when facing childbirth. This is certainly very different from the results of this study which show there is no relationship between the level of knowledge of pregnant women in the third trimester with the level of anxiety in facing childbirth.

The results of this study are in line with what was done by Shodiqoh, (2014) that there is a relationship between the psychology of pregnant women and the mental readiness to face childbirth in Kalisdia Village, Uangan Barat District with a P-Value = 0.005  $<$ 0.05, then  $H_a$  is accepted. The family support can affect the mother's anxiety level.

As for the mother's income, it can have an impact on the level of anxiety where if the mother has enough income or income, the mother has a great opportunity to get better facilities in childbirth and prepare everything needed for the delivery process and welcome the birth of the baby to the fullest. Unlike mothers with low incomes, even though the mother already knows what to prepare for the delivery process, however, due to economic constraints, the preparations will be even less.

Pregnant women with high family support will change their response to sources of anxiety, on the other hand, the lack of family support can increase the anxiety of pregnant women which will affect themselves, their pregnancy and their fetus. This is in line with research conducted by Arifin, (2015) It is known that there is a relationship between family support and anxiety of pregnant women in facing the delivery process at Budilatama Public Health

Center, Building District, Buol Regency, Central Sulawesi Province with a *P Value*= 0,036<0,05.

In this study, the researchers did not analyze the differences or not controlling for maternal parity so that both primigravida and multigravida maternal parity conditions carried out the same assessment of anxiety in dealing with childbirth. Even though in the face of childbirth, the level of anxiety experienced by primigravida and multigravida is very different, such as a primigravida mother who is about to give birth for the first time does not have enough experience about childbirth, the mother will experience greater anxiety than multigravida mothers who already have previous birth experiences. According to Linawati, (2013) explained that the anxiety experienced by primigravida occurs due to various factors, including tension, insecurity and worry that arise due to something uncomfortable and pleasant that is felt by the mother.

According to Kaplan and Sadock's research (2011) in Metasari (2016), that the anxiety experienced by primigravida mothers is because the mother experiences something new that she has never experienced and the new experience makes the mother feel uncomfortable. Meanwhile, a multigravida mother has had previous labor experiences so that the mother tends to feel less anxious. The anxiety that can arise in multigravida mothers can be caused by previous experiences of childbirth, for example, difficulty in childbirth caused by the physical condition of the mother or the narrow pelvis, lack of social support, or economic problems (Jeyanthi dan Kevitha, 2008).

Although the results of the study show that the results are not related, it can be seen that the majority of mothers experience anxiety in dealing with childbirth, although at different levels and only a small proportion of mothers are not anxious in facing childbirth. This is because the level of anxiety in the mother in dealing with childbirth is a natural thing to happen because the delivery process is related to the life of the mother and the life of the baby. To overcome anxiety in dealing with childbirth, health workers need to provide education and information needed before childbirth so that mothers have a picture of childbirth so that it will reduce anxiety when facing childbirth. To overcome anxiety in facing childbirth, mothers are expected to seek more information related to the delivery process and what things must be prepared in the face of childbirth.

## 5.CONCLUSION

1. 1 Out of 31 pregnant women, 29 (93.5%) had good knowledge.
2. Out of 31 pregnant women, 16 (51.6%) had mild anxiety.
3. There is no relationship between the knowledge of third trimester pregnant women with the level of anxiety in dealing with childbirth.

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**ASSESSMENT AND HAZARDS IDENTIFICATION ANALYSIS  
RISK CONTROL IN WELDING WORKSHOP  
SMK NEGERI 2 PEKANBARU**

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**ABSTRACT**

*Hazard identification is a stage that can provide comprehensive and detailed information about the risks found by explaining the consequences of the lightest to the most severe. The purpose of this study was to determine the danger, assessment and control of risk in the Welding Workshop of SMK Negeri 2 Pekanbaru. The type and design used in this study were descriptive qualitative research with an observational approach with 4 informants. The results of the study were 13 cases that had the potential to cause danger with a high risk level of 7 cases with a percentage of 54%, moderate risk level of 2 cases with a percentage of 15%, a low risk level of 4 cases with a percentage of 31%.*

**Keyword :** *Hazard Identification, Risk Assessment and Risk Control*

**1.INTRODUCTION**

Occupational safety and health are urgently needed in the world of work to create a workplace that is safe, healthy and free from environmental pollution by maintaining and protecting workforce health, security and safety so as to prevent or reduce the occurrence of occupational accidents and diseases, and ultimately increase work efficiency and productivity systems. Work accidents are defined as work-related events that can cause injury or illness (depending on the severity), death events, or events that can cause death (OHSAS 18001: 2007). Based on BPJS Ketenagakerjaan data in Isafety Magazine for the period of December 2018, the number of work accident cases in 2017 experienced a significant increase of 123,000 cases of work accidents with 3000 workers who died, from the data on work accident cases then some were stated, total disabilities, partial disabilities , have a functional disability and are declared cured after receiving medical treatment.

In 2018, temporary data obtained until the first quarter of 2018 work accidents reported were 5,318 work accidents with 87 workers who died, 52 disabled workers and 1,361 other workers were declared cured after receiving medical treatment. In accordance with the requirements of OHSAS 18001, the organization shall establish procedures regarding hazard identification identification) risk assessment (risk assessment), and determine the control (risk control) or abbreviated as HIRARC. Hazard identification is carried out with the aim of describing the risk that can be caused by hazardous factors in the work environment, then conducting a risk assessment with probability and severity parameters, then describing how big the impact of the identified hazard potential is with a risk rating to evaluate the magnitude of the risk and scenario of the impact.

Based on the results of the research, conducted by Hazyiyah Ghaisani and Erwin Dyah Nawawinetu in 2014 at PT Cibaliung Sumberdaya Banten regarding Hazard Identification, Risk Assessment and Risk Control in the Blasting Process, it shows that there are 14 identified hazards, the results of the risk assessment are 3 hazards with moderate risk and 11 hazards with low risk. Types of hazard control that have been carried out include technical, administrative and provision of personal protective equipment. Based on the results of the research, which was conducted by Murdiyono in 2016 at the Welding Workshop of SMK Negeri 2 Pengasih regarding Hazard Identification, Assessment and Risk Control, it is known that the research results show that the hazards identified in the welding workshop are 45 hazards, the risk assessment in the welding workshop consists of low risks. a total of 38 hazards and a moderate risk of 7 hazards, the existing risk control in the workshop consists of 26 planned risk control actions and 19 unplanned risk control actions.

Occupational safety and health does not only lead to companies but also in a vocational education institution that requires occupational safety and health in carrying out a practical lesson, in contrast to high schools (SMA) which do not specifically teach students about certain fields. SMK provides teaching that is more applicable and more focused on certain fields and prepares students to enter certain job fields, such as technology and industry, business and management, tourism, and so on. (Ministry of Education and Culture, 2016). Educational institutions such as Vocational High Schools are a form of formal educational institutions that prioritize the development of knowledge, abilities and preparation of students to enter the workforce and carry out certain types of work. Therefore, the field of expertise in SMK must be adjusted to the areas of expertise needed by the industry, one of the Skills and



Competency Study Programs at SMK Negeri 2 Pekanbaru, namely the Mechanical Engineering Skills Study Program with Welding Engineering Expertise Competencies.

Based on observations made by researchers at the SMK Negeri 2 Pekanbaru workshop on Wednesday, January 23, 2019, there were some students who did not pay maximum attention to occupational safety and health aspects such as not wearing complete Personal Protective Equipment (PPE), not complying with Standard Operating Procedures (SOP) for the use of machines and practical tools, besides that there is still a lack of supervision of teachers and technicians when students practice, the school has provided PPE but limited procurement of equipment is not appropriate with the number of students. If this is left unchecked, it can create a potential hazard which in turn can result in a work accident. Considering the above problems, the researcher is interested in carrying out research at the school with the research title Analysis of Hazard Identification, Assessment and Risk Control at Welding Workshop at SMK Negeri 2 Pekanbaru City.

## **2.MATERIALS AND METHODS**

The type and design used in this study is a qualitative descriptive study with an observational approach. This research was conducted at SMK Negeri 2 Pekanbaru, which is located at Jalan Pattimura No.14, Cinta Raja, Sail, Pekanbaru City, Riau. Qualitative research does not use population, the determination of the sample is carried out when the researcher starts to enter the field and during the study (emergent sampling design). In this study, the samples were 4 teachers and instructors. The media used in this study were stationery, laptops, cellphones, and notebooks. Data collection in this study was carried out in natural settings (natural conditions), primary data sources, and data collection techniques more on participant observation, in-depth interviews and documentation. The operational definition in this research is Hazard Identification, Risk Assessment, and Risk Control at Welding Workshop at SMK Negeri 2 Pekanbaru. Data analysis is performed by reducing data (data reduction), presenting data (display data), interview matrix, conclusion and verification (conclusion drawing and verifying).

## **3. RESULTS AND DISCUSSION**

The results of the research analysis of Hazard Identification, Assessment and Risk Control at Welding Workshop at SMK Negeri 2 Pekanbaru are divided into two, namely the results of observations and the results of interviews. The results of the observation, namely the Welding Workshop Conditions, use an observation sheet which includes 9 indicators to identify the hazards that occur in the workshop, then the results of these observations are assessed using the HIRA (Hazard Identification & Risk Assessment) form.

**Table 4.1 Results of the Observation Sheet (Check List)**

	Indicator	Number of grains	Answer	
			Yes	No
1.	Material Handling and Storage	12	12	0
2.	Use of Hand Tools	11	11	0
3.	Machine Safety	17	14	3
4.	Workplace/ Workshop Design	26	24	2
5.	Lighting	6	4	2
6.	Working Weather	7	5	2
7.	Noise and Vibration	3	1	2
8.	Worker Facilities	11	10	1
9.	Workshop Organization	8	7	1
<b>Total</b>		<b>101</b>	<b>88</b>	<b>13</b>

From the table above, it is known that the answer "YES" is a statement that does not have the potential to cause harm and the answer "NO" is a statement that has the potential to cause danger. The results of the interview are the results of obtaining information or data regarding research problems that have been compiled according to the interview guidelines and arranged using a triangulation matrix of the results of the interview which includes 9 indicators as follows:

### **Material Handling and Storage**

Based on field research, researchers conducted interviews with informants to obtain more accurate information regarding the handling and storage of materials at the Welding Workshop at SMK Negeri 2 Pekanbaru. Interview with Informant I, who said:

“The Welding Workshop at SMK Negeri 2 Pekanbaru does not have a material storage process due to limited space in the workshop area, so it does not have a special warehouse for storing materials, materials join the practice area, which often results in students stumbling due to work materials. (Source: Interview, 17 June 2019) ”.

From the results of the interview above, it is known that the welding workshop of SMK Negeri 2 Pekanbaru does not have a material storage process, this is not in line with what has been said that material handling activities are very important activities and cannot be separated in activities or production processes. Management the workshop does not or is less aware of the extent and magnitude of the influence of the material storage process which will interfere with practical activities in the welding workshop and will find it difficult to coordinate material handling such as: product design, plant layout, production planning, and packaging.

### **Hand Tools**

Based on field research, researchers interviewed informants to get more accurate information about the use of hand tools at the Welding Workshop at SMK Negeri 2 Pekanbaru. Interview with Informant I, which reads

**“The Welding Workshop at SMK Negeri 2 Pekanbaru teaches students how to use hand tools before they go down to do the practice, otherwise how can they do practical**

**activities, of course they have to use how to use tools properly. (Source: Interview, 17 June 2019) ”.**

From the results of the interview above, it is known that the welding workshop of SMK Negeri 2 Pekanbaru has tools that are used to assist and facilitate the implementation of practical activities, such as marking, sculpting, scraping and so on. The condition of the welding workshop is in accordance with the hand tool working equipment, which utilizes hand strength or human power without the help of machine power, such as: vise, file, hand chisel, hammer, screwdriver, hand saw, and others.

### **Machine Guard**

Based on field research, researchers conducted interviews with informants to obtain more accurate information about machine safety at the Welding Workshop at SMK Negeri 2 Pekanbaru. Interview with Informant III, who said:

**“The Welding Workshop at SMK Negeri 2 Pekanbaru has powerful machines with a large electric current, and rules of use for user safety must be made, such as making access lines to machines, use soup and K3 posters. (Source: Interview, 17 June 2019) ”.**

From the results of the interview above, it is known that the welding workshop of SMK Negeri 2 Pekanbaru has a machine that is used to contain various potential hazards that can threaten the safety and health of students during practice. Therefore, the potential hazards that exist in welding workshops must be controlled or eliminated by eliminating or reducing risks by installing guards on machines and protecting students with personal protective equipment (PPE) for certain risks.

### **Workshop / Workplace Design**

Based on field research, researchers conducted interviews with informants to obtain more accurate information about the design of the workshop at the Welding Workshop at SMK Negeri 2 Pekanbaru. Interview with Informant IV, who said:

**"The welding workshop of SMK Negeri 2 Pekanbaru is still in the development stage and adjusting to the existing curriculumnew and school operational funds because funds are very limited. (Source: Interview, 17 June 2019) ”.**

From the results of the interview above, it is known that the welding workshop of SMK Negeri 2 Pekanbaru has been designed and made in such a way as to make it easier for workshop users to practice. The welding workshop has an adequate place for teaching and learning activities, the distance between the class and the workshop is not too close, easy to access, and there is a tool room and a practice room.

### **Lightin**

Based on field research, researchers conducted interviews with informants to obtain more accurate information about the lighting at the Welding Workshop at SMK Negeri 2 Pekanbaru. Interview with Informant III, who said

**"The welding workshop of SMK Negeri 2 Pekanbaru only uses sunlight as a source of light to illuminate the workshop area. (Source: Interview, 17 June 2019) "**

From the results of the interview above, it is known that the welding workshop of SMK Negeri 2 Pekanbaru uses natural lighting which is a source of lighting that comes from sunlight, for natural lighting, large windows, glass walls, and a lot of holes are required. Welding workshops rely on outside light because it has the advantage of using sunlight as a light source, which is a reduction in electrical energy. Natural light source sometimes considered less effective than the use of artificial lighting, apart from the light intensity that is not fixed, natural sources generate heat, especially during the day.

### **Working Weather**

Based on field research, researchers conducted interviews with informants to get more accurate information about the working weather at the Welding Workshop at SMK Negeri 2 Pekanbaru. Interview with Informant III, who said:

**"The welding workshop of SMK Negeri 2 Pekanbaru has a machine that produces outputs that can impact the health of students, such as welding radiation and welding dust friction. (Source: Interview, 17 June 2019) "**

From the results of the interview above, it is known that the welding workshop of SMK Negeri 2 Pekanbaru carries out welding process activities when the practices carried out by students in general, which often occur incidents such as radiation, welding rays, dust, welding

fumes, electric shocks and fires. The welding workshop has adequate ventilation in the practice space which is used to maintain and create air according to needs and comfort. The human body always produces heat as a result of the process of burning nutrients with oxygen (metabolism). If the process of removing body heat is disturbed, the body temperature will increase. The work environment with the body always exchanges heat, this heat exchange depends on the temperature of the environment (working climate)

### **Noise and Vibration**

Based on field research, researchers conducted interviews with informants to obtain more accurate information about noise and vibration at the Welding Workshop at SMK Negeri 2 Pekanbaru. Interview with Informant I, who said:

**"The welding workshop of SMK Negeri 2 Pekanbaru did not escape the noise, especially when using the grinding tool, which resulted in students speaking never being slow. That is a crucial factor .. (Source: Interview, 17 June 2019)".**

From the results of the interview above, it is known that the welding workshop of SMK Negeri 2 Pekanbaru is a workshop that does practice with machines that produce high sound and pressure and noise and vibration are familiar occurrences in welding workshop

### **Work Facilities**

Based on field research, researchers conducted interviews with informants to obtain more accurate information about the work facilities at the Welding Workshop at SMK Negeri 2 Pekanbaru. Interview with Informant III, who said:

**"The welding workshop of SMK Negeri 2 Pekanbaru is still in the development stage, for example, there is still a lack of supporting facilities to support the effectiveness of student practices, but what the school has been trying to do, especially the workshop, is the location of the bag, the study room in the workshop and, importantly, the place of practice. (Source: Interview, 17 June 2019) ”.**

From the results of the interview above, it is known that the welding workshop of SMK Negeri 2 Pekanbaru provides work facilities for students that can be used to facilitate students in carrying out their practice. These facilities include: changing rooms, hand washing rooms, lockers for easy access to first aid kits, health services (UKS), rest rooms and briefing or

training rooms. However, the workshop is not equipped with drinking and eating facilities in a hygienic area, for this situation the school provides a canteen to provide a proper place to eat. Work facilities are very important for students, because they can support student performance during practice, such as in completing more productive practical work.

### **Work Organization**

Based on field research, researchers conducted interviews with informants to obtain more accurate information about the work organization at the Welding Workshop at SMK Negeri 2 Pekanbaru. Interview with Informant II, who said:

**“The welding workshop of SMK Negeri 2 Pekanbaru is managed by several teaching staff, such as teachers and technicians. (Source: Interview, 17 June 2019) ”.**

From the results of the interview above, it is known that the welding workshop of SMK Negeri 2 Pekanbaru has a work organization consisting of teachers and instructors who work together in educating students in welding techniques. The results of work that have been completed by students, are always informed about the results of their work by the teacher concerned, the teachers also maintain communication with students to build two-way communication by coordinating with students about the maintenance and cleaning schedule of the workshop. The assignments given to students always hone students' skills by making various products, such as: tables, infaq boxes, and so on, this makes assignments more interesting by forming collective and responsible working group

### **4.CONCLUSION**

Based on the research results of the Hazard Identification Analysis, Assessment and Risk Control at Welding Workshop at SMK Negeri 2 Pekanbaru, it can be concluded as follows:

The hazards identified in the Welding Workshop at SMK Negeri 2 Pekanbaru are 13 cases, including: 3 cases of machine safety, 2 cases of workshop / workplace design, 2 cases of lighting, 2 cases of working weather, 2 cases of noise and vibration, work facilities there is 1 case and work organization there is 1 case.

The risk assessment at the Welding Workshop of SMK Negeri 2 Pekanbaru, there were 7 cases with a high risk level, 2 cases with a moderate level and 4 cases with a low risk level.

Risk control at the Welding Workshop of SMK Negeri 2 Pekanbaru consists of 13 actions, including: security, there are 3 actions, 2 cases of workshop / workplace design, 2 actions of lighting, 2 actions of working weather, 2 noise and vibration, work facilities there is 1 action and work organization there is 1 action.

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# SYSTEMATIC REVIEW: INTERVENTION FOR PREVENTION HIV/AIDS ON ADOLESCENCE

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## **ABSTRACT**

*Background: The number of sufferers of human immunodeficiency Virus (HIV)/ AIDS continues to increase every year. Prevention speared HIV/ AIDS on adolescence were needed. Purpose: The purposed this review was to identified intervention for prevention HIV/ AIDS on Adolescence population. Methods: This study used systematic review design. Search engine with Google Scholar, Pubmed, Proquest, and Ebscho host. Article published between 2019 until 2021. Inclusion criteria: English language, and program can applicated for adolescents (12-19 years old), adolescent without HIV/ AIDS. Exclusion criteria: adolescent with disorder or mental health, uncomplete project research, qualitative design, critical appraisal value under 50. Findings: There are no studies that focus on HIV / AIDS prevention intervention during the Covid-19 pandemic. However, there are 6 articles that discuss HIV / AIDS prevention in adolescents that can be adopted during the Covid-19 pandemic. Conclusion and Recommendation: The use of methods that pay attention to physical distancing such as telemedicine / tele-health can be adopted during a pandemic. However, what needs to be researched is the effectiveness of these interventions during the Covid-19 pandemic.*

**Keywords: HIV prevention in covid-19 AND adolescent prevention HIV**

## **1.INTRODUCTION**

Acquired Immunodeficiency Syndrome (AIDS) is an infectious disease caused by infection with the Human Immunodeficiency Virus which attacks the immune system. This infection causes sufferers to experience a decrease in body resistance so that they are easily infected with various diseases. The number of people living with HIV in the world is increasing every year. These sufferers spread all over the world. In 2013, there were 35 million people living with HIV / AIDS in the world. Meanwhile, 1.5 million deaths due to AIDS, consisting of 1.3 million adults and 190,000 children aged <15 years (Infodatin, 2014).

Person-to-person transmission is one of the causes of the massive development of HIV / AIDS. HIV / AIDS sufferers do not look at their age and the younger people diagnosed with HIV / AIDS. Sexual behavior at risk is one of the causes of transmission of this disease in the community (Aziz, 2019). Sexual transmission adolescent have implication on health and

well-being, teenage pregnancy is significant cause of school drop-out, which limits girls future potential and employment opportunities (Glassman, et.al, 2012).

Prevention HIV from sexual at risk in a pandemic COVID-19 is complicated. COVID-19 presents a local and global challenge. Key consideration for “safer sex” must address the immediate risk of new coronavirus (SARS-CoV-2) transmission and potential exacerbation of risk for HIV transmission (Newman, et al, 2020).The Covid-19 pandemic is impacting the delivery of health care services everywhere, and although in the early stages, the results of disruptions are becoming clearer (Deurado et, .all, 2020). The Purposed this study to identified intervention for prevention HIV/ AIDS on adolescent in Covid-19 pandemic era.

## **2.METHODS**

The method of this study is systematic review. Searching article used 4 electronic source engine journal pro quest, ebscho host, PubMed, and Google scholar. The study followed the preferred reporting items for systematic reviews and meta-analysis (PRISMA) model. Selection article using *crow assessment tools* 11. Therefore, for this review, only published research articles related. All procedure can apply in pandemic covid-19. Summary of finding article presented on scheme and result of systematic review finding presented on table 1.

### **Phase 1: Identified all smoking cessation use smartphone on adolescent or teenagers**

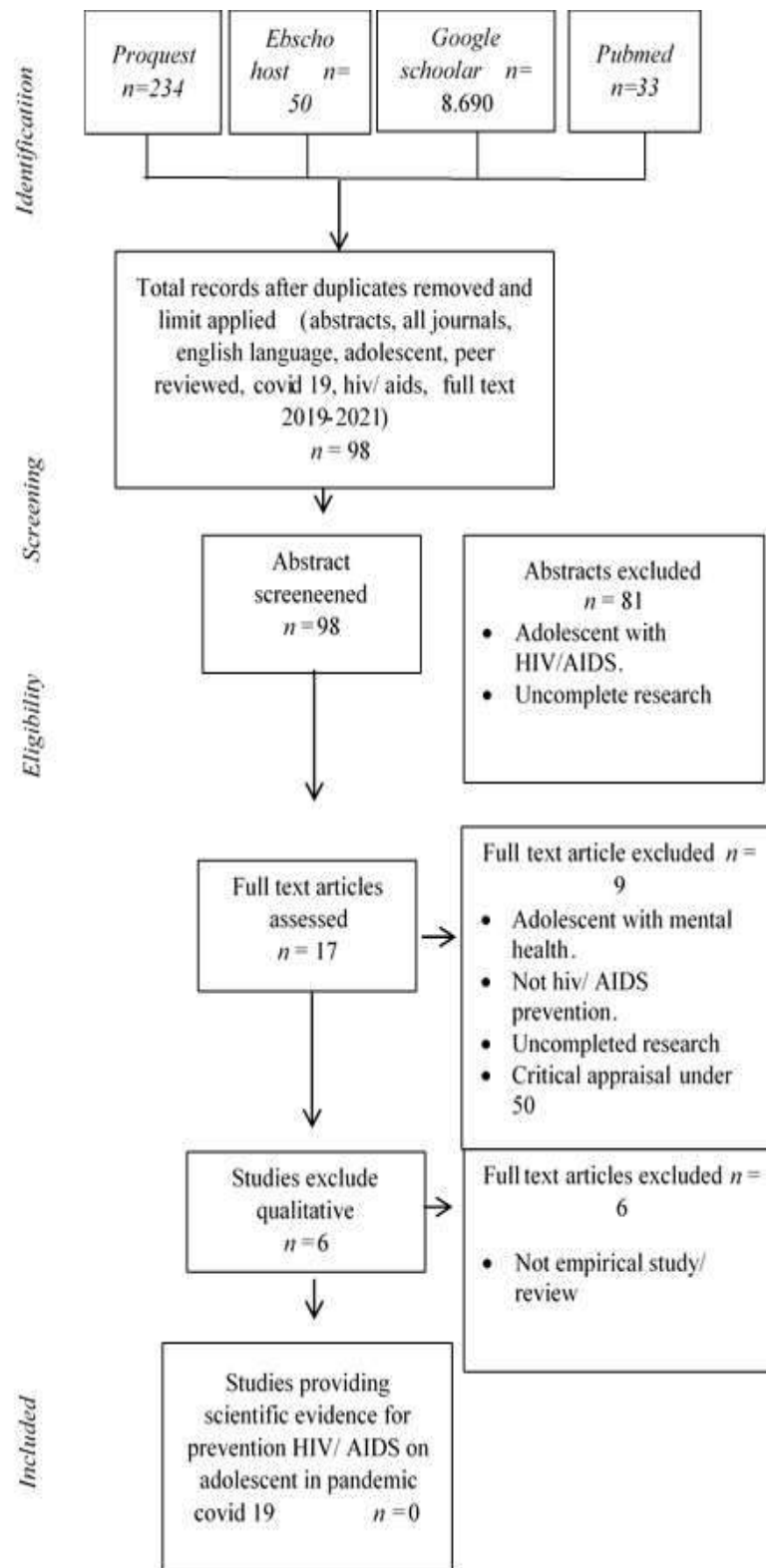
A literature search was conducted using the databases Google scholar, PubMed, ebscohost, and pro quest. Broad search term was intervention for prevention HIV/ AIDS on Adolescence in Covid-19 pandemic. The search term used were as follows: adolescent AND prevention HIV AND covid-19. Peer reviewed articles on the topic of HIV/ AIDS prevention used were published between 2019 and 2021 include for review. Inclusion criteria: English language, experiment/ quasi experimental design, and program can applicants for adolescents (12-19 years old). Exclusion criteria: adolescent with disorder or mental health, incomplete project research, qualitative design, critical appraisal value under 50.

### **Phase 2: Critical appraisal value**

Critical appraisal for article found use *crow critical appraisal tools* 11. The articles which are relevant with inclusion and exclusion criteria will be rated abstract and others components. The article value must be upper than 50.

**Phase 3: Identified which programs from the literature review were available.**

Identification is done by assessing the possibility of implementing the intervention. All procedures can be applied in pandemic Covid-19.



**3.RESULTS**

**Phase 1: Identified all intervention for prevention HIV/ AIDS on adolescent.**

There are no articles studied provided scientific evidence for intervention for prevention HIV/ AIDS on adolescent in pandemic Covid-19. Majority prevention HIV/ AIDS on adolescent before Covid-19 pandemic and look like review from research before covid-19. Researches on adolescent are 2 themes. The themes are:

1. Online approach.
2. Face to face approach

Following careful review of the 234 articles from proquest, 50 ebscohost, 33 articles PubMed, and 8.690 article from Google scholar. Only 5 articles may be adopted in covid-19 pandemic era but its need to research the effect of the intervention.

**Phase 2: Critical appraisal value**

Five articles were appraisal with crow appraisal tools. No one article found can appraisal.

**Phase 3: Identified which interventions from the literature review were available in Covid-19 pandemic.**

**1. Online Media**

Mobile technologies and social media offer powerful tools to reach, engage, and retain youth in HIV prevention and care interventions and deliver personalized, theory-based health content. Technology use is ubiquitous among youth, from a variety of backgrounds and offers many opportunities for connecting youth to digital health intervention, including those that address HIV prevention and care behaviors. Overview and current status of iTech randomized controlled trials possible adopted in Covid 19 pandemic (Lisa et all, 2020):

Study Number Name	Priority Population	Primary Outcome	Planned Covid-19 Adjustment
ATN 138 Youthrive	Youth living with HIV	HIV viral load	All visits virtual, home based lab collection
ATN 142 P3	Young men who have sex with men	PrEP adherence by DBS	All visits virtual, home-based lab collection

ATN 143 compare (LYNX and Mychoices)	HIV negative young men sex with men	HIV testing, PrEP uptake	All visits virtual, home-based lab collection
ATN158 LifeSteps	YMSM newly initiating PrEP	PrEP adherence by DBS	All visits virtual, home-based lab collection
ATN 160 TechStep	HIV- negative transgender youth	Sexual risk behaviors, PrEP uptake	All visits virtual, home-based lab collection

Telemedicine is feasible and acceptable for use in HIV-infected persons and is an effective way to expand HIV care. Telemedicine can reduce transportation barriers in urban areas, including traffic, long travel distance, or limited transportation (Roger, 2020). Whether telemedicine for HIV services will be sustained may be determined by whether payers continue reimbursement parity after the COVID-19 crisis ends. Open door health now uses zoom for healthcare for patient encounters, but also offers telephone visits when patients have technological challenges with videoconferencing. Patients are scheduled over the phone, receive a text message with a zoom link prior to their visit, check in with front desk staff on zoom, and then meet with providers in a private zoom room.

In fact there is health promotion online on adolescents in pandemic covid-19 has a chance. All activity from work makes online activity higher than before pandemic. Online activity on adolescents used for formal education and others.

## 2. Face to face approach

Face to face method must be aware with health protocol COvid-19 such us physical distancing and used mask. Most clinical services in-person appointment was reserved only for those deemed medically necessary (Roger, 2020). Providing testing of outside facilities to the extent possible to reduce exposure risk to COVID-19.

## 4.DISCUSSION

The aim of this systematic review was to identify intervention for prevention HIV/ AIDS on Adolescent in pandemic Covid-19 era. Recruitment process based on activities of peer-educators in social media platforms and hook up apps only.

Promotion follow –up is only online through social media platforms and smartphone text messages. Peer navigators helps to schedule face to face appointments and/or Tele-health. The organizational of the reception chairs respects the distance of least two and half meters, and all spaces have hand sanitizer.

Table 1. Research adoptable review finding

Researcher	Participant	Duration	Method	Result
Ines Dourado, lalo Magno, Fabiane Soares, Paula Massa, Amy Nunn, Shona Dalal, Alexandre Grangeiro. Brazil (2020)	Recruitment based on the activities of peer- educators in social media platforms and hook up apps only.		Telemonitoring	Promotional video on social platform, radio programs on spotify and, “lives” and IGTV in instagram, led by peer-educators featuring as drag queens and digital influences
Lisa Hightow-Weldman, kate muessig, kristina Claude, Jessica Roberts, Maria Zlotorzynska, Travis Sanchez.(2020)			iTech	Overview and current status of iTech randomized controlled trials.
Peter A. Newman, Adrian Guta. (2020).	113 respondent aged 18-29 years.			Marginalized communities tend to experience lack of confidence and mistrust in the face of public health responses develop without community representation. Combination HIV prevention in the new pandemic must expand not only to address COVID-19, but to foreground social determinant of health, including intersectional discrimination and syndetic burden.
Brooke G rogers, Cassie, S.C, Emily Adams, Matthew murphy, Cynthia stewart, Trisha Arnold, Philip A. Chan. Amy Nunn (2020).	Respondent with HIV		Telemedicine, zoom, telephone, and text messaging	Both patients and providers report high levels of satisfaction with telemedicine, and providers can overcome most obstacles to providing clinical services.
Stuart Rennie, Wairimu Chege, Leah, et.all (2021)				Additional consideration should be given to appropriately balancing

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Alexandra, vrazo,  
Rachel G., et al  
(2020)

domain of risk (eq. physical versus social), addressing the vulnerability of research staff and community partners. And responding to unanticipatable ancillary care needs of partisipants and community.

Providing testing of outside facilities to the extent possible to reduce exposure risk to COVID-19.

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## 5.CONCLUSIONS

This systematic review was identified there are no interventions for prevention transmission HIV/ AID on adolescents during Covid-19 pandemic (2019 - 2021). According from systematic review there are some method can adopted in pandemic covid-19 era such us used social media and face to face method with health protocol covid-19. Combining HIV prevention in the new pandemic must expand not only to address Covid-19, but to foreground social determinants of Health (Newman, et al, 2020).

Lessons learned from successful HIV behavioral and policy responses developed. These necessary actions and the circumstances due to the covid-19 pandemic involve both long and short-term ethical implications for HIV prevention. Protecting adolescents from acquiring SARS- COv-2 while sustaining essential HIV services is an immense global health challenge. Tailored family friendly program me adaptation for case finding for these populations have the potential to limit SARS-cov-2 transmission while ensuring the continuity of live saving HIV case identification and treatment efforts.

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# RELATIONSHIP BETWEEN NURSE CARING BEHAVIOR AND SPIRITUAL NEEDS OF INPATIENTS AT SYAFIRA HOSPITAL PEKANBARU, RIAU PROVINCE IN 2020

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## ***Abstract***

*A nurse in facilitating the needs of patients towards the implementation of religion, nurses need to know about the spiritual needs of patients. Patients in terminal conditions, nurses facilitate to meet the spiritual needs of patients for example by asking anyone who wants to be brought to meet with clients and discussed with his family. The population is 150 hospitalized patients and the sample is Purposive Sampling. The research instrument was a questionnaire sheet. The types of data are primary data, data collection includes editing, coding, scoring and tabulating. Data analysis uses univariate and bivariate. Univariate results found that most respondents in the caring behavior category were less, and in the category of fulfilling a good patient's spiritual needs that. Bivariate results obtained there is a relationship between nurses caring behavior with the fulfillment of the spiritual needs of class III inpatients at Syafira Hospital Pekanbaru, with a p value =  $0.001 < 0.05$ . It is expected that Syafira Hospital can improve training for nurses in hospitals, especially in implementing caring to increase spiritual needs of patients.*

**Keywords** : *Caring Caring Behavior By Meeting the Spiritual Needs of Patients*

## **1. INTRODUCTION**

Nurse is a profession that requires patience and calmness in providing care to patients. For this reason, every nurse is required to pay attention to others, have intellectual, technical and interpersonal skills that are reflected in caring or affectionate behavior. Caring in nursing is very important for growth and development, improving and improving the condition or way of life of humans (Balqis, 2011).

Caring is a universal phenomenon that affects the way people think, feel, and have relationships with others. Caring is specific and depends on the nurse-client relationship. Caring also facilitates the nurse's ability to recognize clients, make nurses know and implement solutions. Caring is not something that can be taught, but is the result of culture, values, experiences and relationships with other people. Nursing attitudes related to caring

are presence, touch of affection, listening, understanding clients, spiritual caring, and family care (Perry & Potter, 2012).

Nurse caring behavior can be done in meeting the spiritual needs of patients. Spiritual needs are basic needs needed by every human being. Spiritual guidance services for patients are increasingly being recognized as having an effective role and benefits for healing. Even in the hands of professional hospital nurses, spiritual care, especially spiritual guidance, contributes to the patient's healing process by 20-25% (Purwanto, 2011).

Religious therapy is given in the form of guidance on the concept of health and the concept of illness from a religious point of view, guidance for dhikr and prayer, with the correct religion, life becomes more sincere or surrender to everything given by God, resulting in a process of homeostasis (balance ). All protectors in the human body work in obedience to worship, get closer to God Almighty and are good at being grateful so as to create an atmosphere of balance from the neurotransmitters in the brain (Sholeh, 2014).

According to Sambudi, (2010), the patient is in a terminal state, the nurse facilitates to fulfill the patient's spiritual needs, for example by asking who wants to be brought to meet with clients and discuss with their families. Exploring the client's feelings regarding the pain. Maintain the appearance of the client during visits by giving or helping clients to clean and tidy up. Help meet spiritual needs, for example by asking clients about their life expectancy and plans for the next client before death. Ask clients to bring in religious leaders in matters to meet spiritual needs.

If spiritual needs are not fulfilled, the patient cannot overcome his health problems and prevent new health problems, even slowing the patient's healing process. The application of nursing care in fulfilling the spiritual needs given aims to make clients feel balanced and have a spirit of life so that clients can achieve peace of mind, stability, serenity in worship, decrease anxiety and recovery (Potter & Perry, 2014).

The impact of not fulfilling spiritual needs is spiritual distress and a person may be much more susceptible to depression, stress, anxiety, loss of self-confidence, and loss of motivation. If supported by physical conditions such as disturbed appetite, difficulty sleeping,

and increased blood pressure, this condition if it occurs continuously can result in despair and there are signs such as crying, anxiety, anger and even suicide (Craven & Hirnle, 2012).

According to research by Mahmoodisan (2010), several hospitals abroad have carried out spiritual care, conducted research in three hospitals in Gorgan, Iran, on 20 nurses, from the results of this study, it was found that nurses had a positive attitude towards spiritual care. with the research of Wong et al (2014), of 429 nurses in Hong Kong hospitals, 91% of nurses showed a satisfying understanding of spiritual care.

Syafira Hospital Pekanbaru is one of the referral hospitals in Riau Province, with 211 nurses in the room. Based on the initial survey conducted by the author in the inpatient room with interviews with 2 nurses and they stated that they always apply caring behavior to patients in both composmentis (conscious) conditions and in terminal conditions, and interviews with 5 patients in the inpatient room Information was obtained, including 2 people who were asked by the nurse to pray for the patient's recovery and 1 other person was asked to make dhikr by the nurse in enduring pain. In addition, there is also an inadequate room for patients to perform worship, especially for Muslim patients, there is no Qibla direction for praying for patients who are able to mobilize.

Based on the above phenomena, researchers are interested in conducting a study entitled *The Relationship between Nurse Caring Behavior and Spiritual Needs Fulfillment of Inpatients at Syafira Hospital Pekanbaru, Riau Province in 2020.*

## **2.METHOD**

This type of research is quantitative with cross sectional design. The population was inpatients and a sample of 150 people, taking the sample by means of propoitive sampling. The research instrument was a questionnaire sheet. The data was processed by editing, coding, scoring and tabulating. By using the SPSS system. Data analysis using univariate and bivariate.

## **3.RESULT**

### **Univariat Analysis**

#### **1. Carring behavior**

No	Nurse Caring Behavior	f	%
1	Good	73	48,7
2	Less	77	51,3
<b>Total</b>		150	100

Based on the table above, it is known that of the 150 respondents the majority in the category of nurse caring behavior is lacking, namely 51.3%.

## 2. Fulfillment of Patient Spiritual Needs

No	Fulfillment of Spiritual Needs	f	%
1	Good	81	54,0
2	Less	69	46,0
<b>Total</b>		150	100

Based on the table above, it is known that of the 150 respondents the majority are in the category of meeting the spiritual needs of patients who are good at 54.0%.

### Bivariat Analysis

#### 1. The Relationship between Nurse Caring Behavior and Spiritual Needs Fulfillment of Inpatients at Syafira Hospital Pekanbaru, Riau Province in 2020

Nurse Caring Behaviour	Fulfillment of the Patient's Spiritual Needs			n	%	p Value	POR (95%) CI	
	Good n	(%)	Less n					
Good	50	68,5	23	31,5	73	100	0,001	3,226 (1,648 - 6,315)
Less	31	40,3	46	59,7	77	100		
<b>Total</b>	81	54,0	69	46,0	150	100		

Based on the table above, it shows that of the 150 respondents the caring behavior of nurses is good with meeting the spiritual needs of the patient well higher than the fulfillment of the spiritual needs of the patient is less (68.5%: 37.5%). While the caring behavior of nurses is

less with the fulfillment of the patient's spiritual needs more or less higher than the fulfillment of the patient's spiritual needs well (59.7%: 10.3%) Chi square test results obtained p value = 0.001 <0.05, this means that there is a relationship between the caring behavior of nurses and the spiritual needs of inpatients class III at Syafira Hospital Pekanbaru. Analysis of the closeness of the relationship between the two variables obtained the value of Prevalence Odds Ratio (POR) = 3.226 (1,648-6,315), which means that patients who state nurse caring behavior are less, 3 times the risk of not getting spiritual needs met by nurses.

### **3.DISCUSSION**

Based on the results of the chi square test, it was found that pvalue = 0.001 <0.05, this means that there is a relationship between the caring behavior of nurses and the fulfillment of the spiritual needs of class III inpatients at Syafira Hospital Pekanbaru. This is in line with the research of Purwaningsih (2011), which reports that there is a relationship between the caring behavior of nurses and the fulfillment of the spiritual needs of inpatients at Kaliwates Hospital PT. According to research by Ardina (2015), reports that there is an influence between nurses' caring behavior and meeting the spiritual needs of inpatients.

Caring of nurses can affect the spiritual needs of inpatients. This is because spiritual needs are the basic needs needed by every human being. Nurses who provide spiritual guidance to patients are increasingly recognized as having an effective role and benefit for healing. Even in the hands of professional hospital nurses, spiritual care, especially spiritual guidance, contributes to the patient's healing process (Purwanto, 2011).

Based on the explanation above, the researchers assume that respondents who have less caring behavior by nurses will affect their spiritual needs. The lack of caring behavior of nurses is due to the fact that many nurses are new to work and inexperienced, so this condition makes nurses not optimal in providing caring to patients. In addition, there are some respondents whose spiritual needs are not fulfilled, so they will not be able to overcome their health problems so this can slow down the healing process of these patients. Therefore, nurses are expected to be able to apply nursing care in fulfilling the spiritual needs given in order for clients to feel balanced and have a zest for life so that clients can achieve peace of mind, stability, serenity of worship, decreased anxiety and healing.

### **4.CONCLUSION**

For the caring behavior variable, it was found that the majority of respondents were in the caring behavior category which was lacking, namely 77 people (51.3%) and in the good caring behavior category, namely 73 people (48.7%). For the patient's spiritual needs variable, it was found that the majority of respondents were in the category of meeting the spiritual needs of the patient which was good, namely 81 people (54.0%) and in the category of fulfilling the spiritual needs of patients who were lacking, namely 69 people (46.0%). There is a relationship between the caring behavior of nurses and the spiritual needs of inpatients at Syafira Hospital Pekanbaru, with a p-value = 0.001 <0.05.

### **Suggestion**

It is hoped that the STIKes Al Insyirah Pekanbaru educational institution can add teaching materials to support lectures, especially regarding caring for nurses and fulfilling spiritual needs. It is hoped that Syafira Hospital can improve training for nurses in the hospital, especially in applying caring to increase the spiritual needs of patients.

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# COMPARISON OF STRENGTHENING EXERCISE AND RANGE OF MOTION (ROM) TO DECREASE THE INTENSITY OF PAIN IN THE ELDERLY WITH OSTEOARTHRITIS IN SIMPANG TIGA PEKABARU HEALTH CENTER.

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## **ABSTRACT**

*Osteoarthritis is a degenerative disease, which is experienced by elderly that characterized by pain in the lower extremities and its prevalence increases by getting older. Non-pharmacological management is a very important component to solved pain with Strengthening Exercise and Range of Motion (ROM) exercises. This study aims to determine the comparison of Strengthening Exercise and Range of Motion (ROM) to decrease the intensity of pain in the elderly with Osteoarthritis in Simpang Tiga Pekanbaru Health Center. This type of quantitative research, quasy experiment design with pre-test and post-test design. The number of respondents was 28 people, Strengthening Exercise 14 people and Range of Mation (ROM) 14 people. This research used Purposive sampling technique. Data analysis by dependent T-test and Independent T-test. The results showed that there was a significant comparison between Strengthening Exercise and Range of Mation (ROM) to decrease pain intensity with  $p < 0.05$  ( $p = 0.000$ ). In conclusion Strengthening Exercise is more effective in reducing pain intensity in the elderly with osteoarthritis. Suggestion Strengthening Exercise is more recommended as a treatment for mild and moderate pain intensity in osteoarthritis than in Range of Mation (ROM)*

**Keyword** : *Strengthening Exercise, Range Of Mation, Osteoarthritis, elderly*

## **1.INTRODUCTION**

Osteoarthritis is the most common joint disease and its prevalence increases with age. By 2030, the prevalence of osteoarthritis in the United States is estimated to increase to 67 million cases (Hacken, 2014). In Thailand, the prevalence of osteoarthritis in 2010 was 19.8% (WHO, 2014). According to WHO in 2007, the population experiencing osteoarthritis in Indonesia was 8.1% of the total population. As many as 29% of them conducted a doctor's examination and 71% took over-the-counter pain relievers (Lestari, 2014).

Pain is a symptom most often found in osteoarthritis (Helmi, 2014). Osteoarthritis refers to a clinical syndrome of joint pain accompanied by varying degrees of functional limitations and

decreased quality of life and is one of the leading causes of pain and disability worldwide (National Clinical Guideline Center (UK), 2014). Several actions can be recommended for patients to do at home, one of which is non-pharmacological therapy which is a very important component in overcoming pain, namely Strengthening Exercise and ROM (Warsito, 2012).

Gamit (2014) states that Strengthening Exercise is a type of exercise that is useful for improving balance, improving posture as well as providing stability to the arms and legs to develop movement coordination skills which are the basis of balance skills. ROM is a range of motion exercise in the joints, the effect of ROM training on joint flexibility of the elderly. ROM exercises can be used as a non-pharmacological therapy in reducing knee pain in elderly people with osteoarthritis (Bell, 2014).

According to Nurus (2013) about the effect of ROM training on increasing muscle strength of the elderly at the UPT elderly social services (Pasuruan) kec. Most of the respondents (58%) of respondents experienced an increase in muscle strength, almost half (26%) of respondents did not experience an increase in muscle strength, and a small proportion (16%) experienced a decrease in muscle strength after being given ROM exercises. According to Irma (2017), about the effect of ROM on muscle strength in elderly bedrest at PSTW Budhi Mulia 3 Margaguna, South Jakarta, namely an increase in muscle strength after being given ROM exercises.

The results of a preliminary study on February 4, 2019 at the Simpang Tiga Health Center, obtained data on the number of respondents from osteoarthritis from October to December 2018 totaling 311 patients, the results of interviews conducted by researchers with 10 clients with osteoarthritis, 4 elderly people said they often felt pain in the leg that made them unable to do activities, 3 elderly said they had never tried to do ROM and Strengthening Exercise movements to reduce pain and usually only took medication to reduce pain and 3 elderly said they did not know what ROM and Strengthening Exercise were. Respondents interview results said that if the pain they felt was too great they only took it to the Puskesmas and took the medicine that had been given. The formulation of the problem in this study is which one is better between Strengthening Exercise and ROM to reduce pain intensity in the elderly with osteoarthritis at the Simpang Tiga Puskesmas, Pekanbaru. By looking at the phenomenon and the importance of how to reduce pain intensity in the elderly with osteoarthritis, the researchers were interested in conducting a study entitled Comparison of

Strengthening Exercise and ROM on reducing joint pain intensity in the elderly with osteoarthritis at the Simpang Tiga Puskesmas, Pekanbaru.

## 2.METHOD

The type of research used in this research is quantitative with a quasy experimental design with a pre-test and post-test design, namely by making preliminary observations before being given intervention after which intervention is given then a post test is carried out. The sampling technique was purposive sampling with inclusion criteria for the elderly with a diagnosis of osteoarthritis aged 45-59 years. The sample in this study was 28 elderly with osteoarthritis at the Simpang Tiga Public Health Center Pekanbaru, which were divided into two groups of strengthening exercise, 14 people and the ROM group of 14 people. The study was conducted for 3 weeks with a frequency of action 2 times a week. Collecting data in this study using primary and secondary data. Primary data is obtained directly from respondents through interviews, questionnaires, focus groups, or interview data from researchers with informants. Secondary data were obtained from the internet in the form of journals and articles, as well as data from the Simpang Tiga Pekanbaru Health Center in the form of data on the overall elderly and the total number of elderly who experienced osteoarthritis. The data analysis used in this research is univariate analysis and bivariate analysis.

## 3.RESULTS

### 1. Univariate Analysis

**Table 1 Distribution of Frequency Percentage of Pain Intensity in Osteoarthritis**

No	Pain intensity	Strengthening exercise				Range of mation (ROM)			
		Pre test		Post test		Pre test		Post test	
		f	%	f	%	f	%	F	%
1	There is no pain (0)	0	0	1	7,14	0	0	0	0
2	Mild pain (1-3)	2	14,28	13	92,85	2	14,28	6	42,85
3	Moderate pain (4-6)	12	85,71	0	0	12	85,71	8	57,14

Based on table 1, it shows that there is no pain intensity (0) before Strengthening Exercise is 0% and after it is 7.14%. Mild pain intensity (1-3) before Strengthening Exercise was 14.28%, and after was 92.85%, moderate pain intensity (4-6) before Strengthening Exercise was 85.71% and after was 0%. While the pain intensity without pain (0) before ROM was 0% and after 0%, mild pain intensity (1-3) before ROM was 14.28% and after 42.85%, moderate pain intensity (4-6) before ROM of 85.71% and after 57.14%.

### Bivariate Analysis

**Table 2 Comparison of Average Pain Intensity Before and After Strengthening Exercise Therapy is given**

Strengthening Exercise	N	Mean	Std . Deviation	CI 95%		P Value
				Lower	Upper	
Pre Test	14	4,64	,745	2,842	4,015	0,00
Post Test	14	1,21	,802			

Based on table 2, it was found that the pain intensity of the Strengthening Exercise group, the pre test was 4.64 and the post test after being given Strengthening Exercise therapy was 1.21. The statistical test results obtained p value = 0.000 which is smaller than alpha ( $p < 0.05$ ). This shows that there is a significant decrease between the pre test and post test after being given Strengthening Exercise therapy

**Tabel 3 Perbandingan Intensitas Nyeri Rata-Rata Sebelum Dan Sesudah Diberikan Terapi**

#### Range of mation (ROM)

Range Of Mation (ROM)	N	Mean	Std . Deviation	CI 95%		P Value
				Lower	Upper	
Pre Test	14	4,21	,699	-0,43	1,043	0,68
Post Test	14	3,71	,825			

Based on table 3, it was found that the pain intensity of the pre-test ROM group was 4.21 and the post-test group was 3.71. The statistical test results obtained p value = 0.68 which is greater than alpha ( $p > 0.05$ ). This shows that there is no significant decrease between pre-test and post-test after being given ROM therapy

**Tabel 4 Perbedaan Efektifitas Strengthening Exercise dan Range Of Mation (ROM)**

Kelompok	N	Mean	Std . Deviation	CI 95%		P Value
				Lower	Upper	
Strengthening Exercise	14	1,21	,802	-3,132	1,868	0.000
Range Of Mation (ROM)	14	3,71	,825			

Table 4 shows that the mean pain intensity after the Strengthening Exercise is 1.21 SD, 802 and in the ROM group the mean value is 3.71 with SD, 825. The statistical test results obtained p value = 0.000 which is smaller than alpha ( $p < 0.05$ ). This shows that there is a comparison between Strengthening Exercise and ROM, it is found that Strengthening Exercise is more effective in reducing pain intensity with osteoarthritis than ROM.

#### 4.DISCUSSION

Gamit (2014) argues that Strengthening Exercise is a type of exercise that is useful for improving balance, improving posture, providing stability to the arms and legs to develop movement coordination skills which are the basis of balance skills. The results of Setiarini's (2017) study obtained significant results with a value of  $p = 0.000$  where  $p < 0.05$ , which means that  $H_a$  is accepted and  $H_o$  is rejected, meaning that there is an effect of adding strengthening exercise to TENS on increasing the functional ability of knee osteoarthritis in the elderly. This research is in line with Nasirudin (2017), where the results of the Wilcoxon test are  $p = 0,000$  where ( $p < 0.05$ ), this means that  $H_o$  is rejected, so it can be concluded that giving Strengthening Exercise can improve the balance of erector spine muscle performance in players. beginner futsal. ROM is a range of motion exercise in the joints, the effect of ROM training on joint flexibility of the elderly. ROM exercise can be used as a non-pharmacological therapy in reducing pain in elderly people with osteoarthritis (Bell, 2014). Research by Iversen et al, (2013) explained that ROM exercise is effective if it is done for 8 meetings in 4 weeks. This study is in line with Marlina (2015) that ROM is effective in reducing pain intensity in osteoarthritis patients if it is done 2 times a day for 4 weeks and according to Tsai et al. (2013) also said that 55 respondents exercise activity in the form of ROM 3 times per week (20). -40 minutes each exercise) is effective if 20 weeks. According to Bella (2014) Physical activity in the form of ROM, which is proven to reduce joint pain, 70% of respondents have a joint pain scale 3 (mild pain) and 30% of respondents have a joint pain scale 2 (mild pain) after intervention in the form of ROM during 4 weeks. Based on the results of research and related journals, the authors assume that Strengthening Exercise

therapy is more effective in reducing pain intensity in elderly people with osteoarthritis than ROM.

## **5.CONCLUSION**

1. The results showed that the strengthening exercise experienced a significant reduction in pain intensity in the elderly with osteoarthritis with a P value = 0.000. While there was no ROM exercise action, there was a significant decrease in pain intensity with p value = 0.68.

2. The results showed that there was a comparison of the effectiveness of Strengthening Exercise and ROM on reducing pain intensity in the elderly with osteoarthritis at the Simpang Tiga Puskesmas, Pekanbaru with p value = 0.000 <0.05.

## **6.SUGGESTION**

It is hoped that the next researchers will conduct further research on the benefits of Strengthening Exercise and ROM on reducing pain intensity in elderly people with osteoarthritis, with a longer study time and a larger sample.

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**OVERVIEW OF THE NURSE'S KNOWLEDGE ABOUT BUNDLE  
VENTILATOR ASSOCIATED PNEUMONIA IN INTENSIVE  
CARE UNIT ROOM  
PUBLIC HOSPITAL IN THE CITY OF DUMAI**

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**ABSTRACT**

*Ventilator Associated Pneumonia (VAP) is Healthcare Associated Infections (HAIs) found in the hospital and it's a pneumonia infection that occur after 48 hours of mechanical ventilation both endotracheal tubes and tracheostomy. The risk of nosocomial infection increases 6-21 times through the use of a ventilator and the mortality rate is 24-70% resulting in an increase in ICU admission time and increase in medical cost. Data from the Infection Control Prevention Committee of the Dumai City general hospital in 2018 there were 107 patients on ventilators and 3 patients were experiencing VAP and 50% of nurses did not fully know about the VAP bundle and all nurses didn't received training on the VAP bundle. The type of this study was a quantitative research with descriptive design to know the knowledge of nurses about VAP bundle. The research was done on August 2020 in the ICU room of the Dumai City general hospital with a total sampling 20 nurses. The data were collected using a questionnaire sheet about nurses knowledge of the VAP bundle. The results showed that the level of knowledge of nurses about the VAP bundle was 60% having sufficient knowledge, so the conclusion is more ICU nurses having sufficient knowledge about the VAP bundle. knowledge does not always guarantee implementation and compliance, but lack of knowledge can be barrier to nurse implementation and compliance. It is expected to the hospital to provide nursing training based on standardization procedure of the VAP bundle to patients on ventilators and to carry out monitoring and evaluation such as nursing audits especially on apply the VAP bundle and implementation a reward and punishment system in order to create nurse discipline in implementation the VAP bundle.*

**Keywords:** Knowledge, Nurses, VAP bundle, ICU

## 1. INTRODUCTION

Ventilator Associated Pneumonia (VAP) is one of the HAIs that is often found in hospitals / health care facilities and it is a pneumonia infection that occurs after 48 hours of using mechanical ventilation either endotracheal tube or tracheostomy (Permenkes number 27, 2017). Patients who are put on a ventilator have the potential for nosocomial infection to be in the form of VAP. The mortality rate for patients who experience VAP is 30% and can increase to 70% along with other comorbidities such as age, medical history and other chronic Diseases (Purnama and Fikri, 2020).

The results of research on HAIs by the Center for Disease and Control (CDC) stated that there were 721,800 cases of HAIs in the world and 39% of them had VAP, amounting to 157,000 cases (CDC, 2016). 543 patients in UK hospitals die each year from VAP (Saxby et al., 2013). In Thailand, there were 621 VAP during 6 years with a high mortality rate (Inchai, et al, 2015). Then it was found that several Type A hospitals that have complex intensive care experienced VAP incidents, such as Cipto Mangunkusumo Hospital, as many as 201 patients experienced VAP from 2003 - 2012 (Saragih, et al, 2014). The medical data of the Friendship Hospital Jakarta were 45 patients from 2012 - 2016 (PPI Committee of Friendship Hospital, 2017), 15 patients in Sanglah Hospital in Bali in 2011 (Azis, et al, 2013). Based on data at Arifin Achmad Hospital Pekanbaru, showed that the number of patients installed on a ventilator in 2010 were 176 patients, in 2011 there were 324 patients and there were 11 patients experiencing VAP and from January to June 2012 there were 102 patients and there were 14 patients experiencing VAP. (Yanti, et al, 2012). Data from the Infection Control Prevention Committee (PPI) Dumai City Hospital in 2018 there were 107 patients on ventilators and there were 3 patients experiencing VAP.

Nursalam (2014) explained that the role of health workers in infection control must maintain the health or safety of themselves and others by being responsible for implementing policies set by the hospital. Health workers are also responsible for using the facilities and infrastructure, which have been provided properly and correctly, as well as maintaining the facilities and infrastructure so that they are always ready to be used as long as possible. Especially nurses, because nurses are one of the health service providers, whose role cannot be excluded from the forefront when providing hospital services, besides that nurses are also health workers who have the longest contact with patients, even up to 24 full hours in providing care, then the nurse also plays a role in contributing to the significant incidence of HAIs.

Knowledge is one of the indicators of the success of the VAP bundle, because knowledge affects the formation of nurses' behavior in implementing the VAP bundle. Knowledge needs to be possessed by nurses so that what is done, has a basis and can be accounted for. Good knowledge will underlie good skills, but skills without knowledge or with low knowledge will result in less than optimal quality of nursing services. The success of the VAP bundle in intensive care by nurses depends on the standard operating procedures, the level of knowledge of the nurses on the VAP bundle, and compliance with nursing actions. A person's

behavior is formed from knowledge, attitudes and actions that influence each other, where knowledge is an important condition for the formation of one's actions. In other words, the knowledge of nurses is very important in maintaining mechanical ventilation which affects the behavior of nurses in implementing good mechanical ventilation measures (Notoatmodjo, 2010). Through high knowledge, updated information about the VAP bundle with the holding of trainings related to the management of patients on ventilators, it is hoped that it can provide a good implementation of critical nursing, so it is imperative to implement the VAP bundle properly in the ICU room.

Until now, there has been no data or research on VAP bundles by nurses in the ICU room at the Dumai City Hospital. With the description and background and phenomena mentioned above, researchers are interested in conducting research on the description of nurses' knowledge about the application of the VAP bundle in the ICU Room at the Duami City Hospital in 2020 as an effort to prevent HAIs.

## 2.MATERIAL AND METHOD

This research uses quantitative research with descriptive design with the aim of describing or describing important events that occur in the present. The sampling technique used was total sampling, with a total sample of 20 ICU nurses at the Dumai City Hospital. The instrument used for data collection was a questionnaire sheet about the nurse's knowledge of the VAP bundle. The research was conducted in August 2020 in the ICU Room at the Dumai City Hospital.

## 3.RESULTS

### RESPONDENT CHARACTERISTICS

Table 1: Respondent Characteristics

No	Respondent Characteristics	f	%
1	Age (25-35 years) Early Adult	14	70
	(36-45 years) Late Adulthood	6	30
2	Gender Man	5	25
	Women	15	75

3	Education		
	DIII Nursing	15	75
	S1 Nursing	5	25
4	Length of working		
	0-8 tahun	8	40
	9-16 tahun	12	60

Based on the table above, it can be seen that the majority of respondents are in the early adult age group (25-35 years) as many as 14 people (70%). The dominant gender of the respondent is female as many as 15 people (75%), most of the respondents' education is 15 people (75%) who are D III graduates (75%), the most respondents are in the 9-16 year group, namely 12 people (60%).

## RESPONDENT VAP BUNDLE KNOWLEDGE

Table 2

Variable	Category	f	%
Knowledge	Less	0	0
	Intermediet	12	60
	Good	8	40
Jumlah		20	100

Based on the table above, it shows that most of the respondents' knowledge about the VAP bundle is in the sufficient knowledge category, namely as many as 12 people (60%).

## 4.DISCUSSION

### Description of Nurse Characteristics

#### 1. Age

From the results of the research analysis, it was found that the majority of nurses were in the early adult age group (26-35 years), as many as 14 people (70%). The same results were shown by research by Sadli et al. (2017) who found that the age of nurses in the ICU was in the range of 30 years as much as 74%. Likewise, Saodah's research (2019) showed that

the majority of nurses in the ICU were nurses in the early adult age group.

Knowledge is influenced by one of the factors, including age. Age describes the physical, psychological and social maturity that affects the teaching and learning process. In the sense that age is one of the factors that influence information retrieval which ultimately affects a person's knowledge (Cahyaningrum and Masruroh, 2020).

## **2. Gender**

From the results of the research analysis, it was found that the majority of nurses were female at 75%. Sadli, et al (2017) also show the same results, namely the characteristics of nurse respondents are dominated by female gender by 74%. This is also supported by the results of Saodah's research (2019) which found that the majority of nurses in the ICU were female (52%).

According to Moehijat (2009) in Wahyudi (2016) which states that female nurses have instincts and have a gentle nature because the initial concept of nursing in its history was a mother's instinct. Therefore, female nurses tend to be more caring for patients. Actually there is no relationship between gender and the ability to carry out nursing care, but women tend to analyze a problem more deeply and thoroughly before making decisions than men, so that they will behave ethically better than male nurses..

## **3. Education**

From the results of the research analysis, it was found that most of the respondents' education was 15 people (75%) who graduated from DIII Nursing. This is in line with the results of research by Sadli et al. (2017) who also obtained research results regarding the characteristics of the latest ICU nurse education, the majority of which were Diploma III of Nursing as much as 65%. Aryani & Durhayati (2018) obtained the same result that the most nursing education in the ICU room was Diploma III of Nursing with a percentage of 86.7%.

Rivai (2010) explains that a person's education level can affect his or her ability level. The ability that can be improved with the level of education is through intellectual ability, with the increased intellectual ability of a person, it is hoped that he can make the right decisions including the decision to act.

## **4. Length of Work**

From the results of the research analysis, it is known that the most respondents working in the ICU room were in the 9-16 years group, namely 12 people (60%). Sadli, et al (2017) also showed the same research results, namely 76% of nurses in the ICU, the majority were over 5 years old. Likewise with the results of research by Rahma and Ismail (2019) which showed that most nurses had a work period of more than five years, namely 51%.

According to Notoatmodjo (2010), who argues that the length of work related to one's experience greatly affects knowledge, the more someone experiences about something, the

more one's knowledge of it will be. Furthermore, Rifai (2016) states that the length of work is one of the factors related to knowledge. Nurses who have a lot of field experience, both positive and negative experiences, will increase their sensitivity to problems in their fields, so that the longer the work, the more experience they get, the better the knowledge gained.

## **2. Nurse Knowledge Overview**

Based on the results of the research analysis, it is known that most of the nurses' knowledge in the ICU room about the VAP bundle is in the sufficient category, namely 12 people (60%). The results of this study are in line with the research of Rahma and Ismail (2019) which showed that 65% of nurses in the ICU had moderate or sufficient knowledge. This is also strengthened by the research of Aryani and Durhayati (2018) which obtained results that the knowledge of the majority of nurses 42.22% was at a moderate / sufficient level. A 2014 study in Yemen aimed at evaluating the knowledge of nurses in the ICU as a prevention strategy for VAP illustrated that the average score for the questionnaire was only 47.3% regarding the general standard of VAP prevention. A 2015 study in Lebanon described that less than 50% of ICU nurses were aware of the definition and diagnosis of VAP as well as the mechanical ventilator complications associated with VAP. The success of the VAP bundle in the intensive care room by nurses depends on standard operating procedures, the level of nurse's knowledge of the VAP bundle, and compliance with nursing actions (Sadli, et al, 2017). Moderate / sufficient knowledge of ICU nurses is due to the fact that the research sample is HIPERCCI nurses who always upgrade their knowledge through training or member discussion at meetings held regularly. This is in accordance with the theory that the environment affects the process of entering knowledge (Budiman & Riyanto, 2013). The moderate / sufficient knowledge that ICU nurses have about the VAP bundle is also due to the fact that treating patients with mechanical ventilation is a competency that ICU nurses must have. ICU nurses will try to meet these competency standards to qualify as ICU nurses, so that nurses will be encouraged to try to learn the VAP bundle in order to prevent infection in patients with mechanical ventilation to the maximum in accordance with the standard of care for patients with mechanical ventilation. Constraints in the field are that ICU nurses do not fully know about the VAP bundle and its application to patients who have ventilators installed and not all ICU nurses have received training on VAP bundles as well as the cause of sufficient knowledge of nurses.

A higher level of education and knowledge will make it easier for someone, especially nurses to absorb information and implement it in the behavior and implementation of daily nursing care to patients. The higher the level of education, it is hoped that it will be easier to absorb information and also quickly implement the knowledge possessed by nurses, especially to prevent pneumonia in bed rest patients. A person's behavior towards health is largely formed by intellectual variables consisting of knowledge. This knowledge will influence a person's mindset and use the knowledge he has in an effort to provide nursing action in the form of pneumonia prevention (Marlina and Hairanisa, 2013).

The importance of training related to VAP and the application of VAP bundles to prevent pneumonie cases in the ICU is one of the main efforts in increasing the knowledge of nurses apart from obtaining a higher education level than the previous one, but if this is not possible then training is a short and fast way. to achieve it. Knowledge is the principal asset that is useful in determining the success or failure of preventive efforts in the form of implementing a VAP bundle by nurses in the ICU, so that it can contribute directly to recognizing patients on a ventilator who have a high risk of suffering from pneumonia. Through the knowledge or cognitive abilities of a nurse it is hoped that it can become the right factor according to the needs of the patient, so that every action of nurses in the ICU room based on knowledge and experience can improve the application of standardized VAP bundles to be even better in the future.

## **5.CONCLUSION**

The results of this study indicate that the level of knowledge of nurses about the VAP bundle is 60% sufficient, so it can be concluded that there are more ICU nurses who have sedang knowledge than nurses who have less knowledge about the VAP bundle. Knowledge does not always guarantee implementation and compliance, but lack of knowledge can be a barrier to nurse implementation and compliance.

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# THE EFFECTIVENESS OF HEALTH EDUCATION BASED ON HEALTH BELIEF MODEL ON KNOWLEDGE PATIENT PULMONARY DISEASES

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## **ABSTRACT**

*Tuberculosis is still the most dangerous infectious disease in the world. Influencing Factors to increase of pulmonary tuberculosis disease are age, sex, nutritional status, diabetes mellitus, immunity status, smoking, alcohol and the environment. The purpose of this study was to determine the effectiveness of health education based on the Health Belief Model on knowledge patients of pulmonary disease. This type of research was a quasi experiment with one group design research design with pre-test and post test. The sample was 16 respondents with a total sampling technique. The results showed that there was a difference in knowledge of pre and post pulmonary tuberculosis patients who were given health education based on Health belief model (p value = 0,000). It is recommended to Puskesmas to apply Health belief model in health education in order to improve the quality of community nursing care.*

**Keywords: Health Belief Model, Health Education, Knowledge, Pulmonary TB**

## **1. INTRODUCTION**

Pulmonary tuberculosis (TB) is an infectious disease caused by Mycobacterium Tuberculosis. Until now, tuberculosis is still the most dangerous infectious disease in the world. The World Health Organization (WHO) reports that as many as 1.5 million people died by TB (1.1 million HIV negative and 0.4 million HIV positive), with details of 89,000 men, 480,000 women and 140,000 children. In 2014, TB cases were estimated to

occur in 9.6 million people and 12% of them were HIV-positive (WHO, 2015).

Based on the 2015 Global Tuberculosis Report released by WHO, as many as 58% of pulmonary TB cases occurred in Southeast Asia and the West Pacific region in 2014. India, Indonesia and China are the countries with the highest number of TB cases in the world, respectively 23%, 10 % and 10% of total incidence in the world, Indonesia ranked second place with Tiongkok. One million new cases per year are estimated to occur in Indonesia (WHO, 2015).

Data from the Basic Health Research (Riskesdas) in 2018 stated that the incidence of TB was 321 per 100,000 population. The number of TB cases has increased compared to 2013, namely 135 per 100,000 population and 124 per 100,000 population in 2015 (Ministry of Health, 2016). Other data from the Ministry of Health of the Republic of Indonesia (2018), shows that the success rate of TB treatment for all types of cases at this time has only reached 77.57% with a percentage of a cure rate of 49.01%.

Based on data from the Dumai City Health Office (2019), the prevalence of TB patients in Dumai City has increased every year, it was recorded that in 2019 there were 504 cases of TB suspects who received treatment according to standards. As for the Bukit Timah Health Center, TB patient data in 2018 were recorded at 18 cases and in 2019 it increased to 28 cases. (Profile of Bukit Timah Health Center 2019).

Zein, et al. (2017) in Rahmawati (2019) states that the health behavior adopted by each individual is based on the knowledge they have. Knowledge of TB by sufferers will have an impact on disease prevention behavior. Lack of knowledge that is owned will have negative effects such as lack of motivation to take preventive action, less opportunity to seek treatment, long delay in treatment and higher social stigma. The community

began to realize that they needed to go to health care facilities when they received direction and encouragement from local health workers. The behavior and mindset of the people that are still ancient can affect the patient's attitude in undergoing treatment so that it can have an impact on the success of the patient's treatment.

One of the efforts that can be made to increase the knowledge of patients with pulmonary tuberculosis is to provide health education using the theory of the Health Belief Model (HBM). Health education and health promotion developed in the 1950s as a way of explaining medical screening programs especially for pulmonary TB patients who had used the HBM approach.

HBM has been widely used by previous studies given to various types of diseases such as Aprida (2012) regarding the effectiveness of health education based on HBM theory on the knowledge level of clients with Pulmonary Tuberculosis at Arifin Achmad Hospital Pekanbaru. The results show that there is a significant difference between the level of knowledge of pulmonary TB before and after being given health education based on HBM theory with  $p \text{ value} = 0.000 < \alpha (0.05)$ .

A preliminary study conducted on 3 TB patients who were undergoing control treatment at the Bukit Timah Health Center obtained the following interview results; these patients stated that they initially did not realize that they had pulmonary tuberculosis, all this time before being examined they only thought it was a normal cough and finally bled. In addition, they also do not know how TB disease is transmitted and how long it will take for treatment and what complications will occur if TB disease is not immediately handled by health workers at the health center or hospital. These patients also asked about the possibility of a cure for their disease and what they should do so that their family would not experience the same illness and asked whether TB disease was dangerous because people immediately walked away after knowing that they were diagnosed with

pulmonary TB. Patients do not know the side effects of the drugs given in large quantities and for a long time (6 months). The patient said that he had never received health education / health education about pulmonary tuberculosis directly from puskesmas officers and only received knowledge through the media of posters posted on the walls of the polyclinic waiting room.

Based on the explanation of the background of the problem that has been stated above, the research problem can be formulated, namely as follows: How is the Effectiveness of Health Education Based on the Effective Health Belief Model on Knowledge of Pulmonary TB Patients at Bukit Timah Health Center, Dumai City.

## **2. MATERIALS AND METHODS**

This study uses the type used in this study using a quasi experiment with one group with a research design using a pretest and post-test design which only intervenes in one group without a comparison group. This research was conducted in the working area of the Bukit Timah Health Center, Dumai City.

The research activities started from the preparation of proposals to the results seminar, namely from March-August 2020. The population in this study was the population of this study were all pulmonary TB patients who were treated at the Bukit Timah Health Center as many as 16 people and a sample of 16 respondents. The data collection technique was using total sampling technique. The data collection technique used a questionnaire conducted by researchers to measure patient knowledge of pulmonary tuberculosis through health education based on the Health Belief Model. Giving a questionnaire was carried out before and after being given treatment. Data analysis consisted of univariate analysis of respondent

knowledge before and after health education was carried out based on HBM on pulmonary tuberculosis and bivariate analysis carried out on two variables that were suspected to be related or correlated (Notoatmodjo, 2010). The test used in the data analysis of the results of this study is the Two Differences Test Mean Paired t-test.

### 3. RESULTS

Table 1  
Distribution Frequence of Knowledge responden before test in Bukit Timah Health Center Dumai City

Variable	Category	f	Percentage
Knowledge	Low	2	12,5
	Intermediate	10	62,5
Pretest	Good	4	25
	Total	16	100

Based on the table. 1 above we can see that the majority of respondents have sufficient pre-test knowledge, namely as many as 10 respondents (62.5%).

Table. 2  
Difference in the mean of knowledge before the test and after the test of respondents at the Bukit Timah Health Center, Dumai City

Knowledge	Mean	N	SD
Pretest	22,69	16	3,737
Posttest	28,63	16	1,857

Based on the table. 2 above, it can be seen that there was a difference in the mean level, namely before health education was carried out based on the

Health Belief Model on knowledge of pulmonary tuberculosis obtained a mean value of 22.69 and after health education the mean value was 28.63. The value of Standard Deviation (SD) before health education was carried out was 3,737 and after health education the value of Standard Deviation was 1.857.

Table. 3

Mean of Knowledge Before Test and After Test of Respondents at Bukit Timah Health Center, Dumai City

Knowledge	Mean	SD	P Value
Pretest	5,938	3,087	0,000
Posttest			

Based on the results of the Paired T-Test analysis in this study with an error rate of 5%, the table above shows the mean value before and after being given health education based on the Health Belief Model about knowledge of pulmonary tuberculosis is -5,938, and p Value 0,000

#### 4. DISCUSSION

The results of the Paired T-Test analysis in this study showed that there was a significant difference between knowledge about pulmonary tuberculosis before and after being given health education based on the Health Belief Model at the Bukit Timah Health Center, Dumai City. So it can be concluded that there is an increase in knowledge before the provision of health education and after health education.

The results of the study are in line with the research of Buang et al. (2015) which states that audio-visual health education is more effective in increasing family knowledge about the prevention of transmission of pulmonary tuberculosis, with the statistical test results obtained with a p-



value of 0,000. Likewise with the results of research by Sumiyati, et al. (2018) entitled "The Effectiveness of Health Counseling on Knowledge and Attitudes of Mothers of Toddlers About Pulmonary TB in Children in Banyumas Regency" which states that health education using guidance and counseling methods through flipcharts and leaflets has proven to be effective. towards increasing knowledge of mothers under five about pulmonary tuberculosis (p value = 0.0001).

The same opinion according to Notoatmodjo (2010) explains that knowledge is the result of "knowing" after sensing a certain object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch. Knowledge about health includes what a person knows about ways to maintain health. Good knowledge can motivate positive changes in attitudes, perceptions and healthy behavior of individuals or communities (Notoatmodjo, 2010).

The perception of pulmonary TB patients who think that pulmonary TB disease can be cured through traditional medicine must be changed slowly and systematically through health education based on HBM so that a significant increase in knowledge about pulmonary TB can change the behavior of pulmonary TB patients to be able to consistently consume drugs in the a long period of time, namely 6 months.

HBM provides a strong relevance between health education and behavior change. With HBM, you can maintain individual characteristics to form behaviors that can be obtained through health education in a persuasive way if you have a relatively similar social status background. Therefore, it will enable patients to improve their quality of life in a better direction than before.

Efendi & Makhfudli (2010) suggest that the main focus of community health nursing service activities is to improve nursing knowledge and skills, guide and educate individuals, families, groups, communities to instill understanding, habits and healthy living behaviors so that they are able to maintain and improve their health status. Pulmonary TB patients are an individual target in Community Health Nursing.

According to the researchers' assumptions, the difference in knowledge of pulmonary TB patients is due to several factors. These factors include external and internal. Internal factors include: level of education, gender, occupation, education. And external factors include: experience, interests, environment, and information. By providing health education based on HBM, it can shape the behavior of pulmonary TB patients to prevent disease transmission and even prevent complications that can worsen the patient's treatment prognosis.

## **5. CONCLUSION**

Based on the results of the analysis of research that has been carried out along with a discussion of the effectiveness of health education based on the Health Belief Model on knowledge of pulmonary tuberculosis at the Bukit Timah Health Center, Dumai City, the conclusions are:

1. Most of the respondents are in the productive age group (15-64 years) as many as 11 people (68.7%)
2. The majority of respondents were male, as many as 10 people (62.5%).
3. The most recent education of respondents is elementary school (SD), amounting to 8 people (50%).
4. The respondent's occupation is evenly distributed, namely the highest is housewives as many as 4 people (25%).
5. Pre-test knowledge of respondents before being given health education based on the Health Belief Model about pulmonary tuberculosis at the Bukit

Timah Health Center, Dumai City at most, namely in the moderate category as many as 10 people (62.5%).

6. Post-test knowledge after being given health education based on the Health Belief Model on Pulmonary TB at the Bukit Timah Health Center, Dumai City in the good category, namely 15 people (93.8%).

7. There are differences in knowledge about pulmonary tuberculosis before and after health education is given based on the Health Belief Model at the Bukit Timah Health Center, Dumai City.

8. There was an increase in respondents' knowledge after being given health education based on the Health Belief Model on Pulmonary TB at the Bukit Timah Health Center, Dumai City.

## **6. SUGGESTION**

1. For the Bukit Timah Health Center: It is hoped that the party in charge of the pulmonary TB program can apply health education methods based on the Health Belief Model to increase knowledge about pulmonary tuberculosis and other diseases.

2. For Respondents: Can be used as a reference for respondents in understanding problems related to pulmonary TB disease.

3. For Stikes Al Insyirah: So that institutions can develop health promotion through effective health education for field practice students by applying the Health Belief Model theory to the community.

4. For Further Researchers: It is hoped that the next researchers will conduct research related to the implementation of HBM health education using the two group technique.

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**RESPONSE TIME OF NURSES WITH COMPLAINT  
HANDLING FROM THE FAMILIES OF TRAFFIC ACCIDENT  
PATIENTS AT THE EMERGENCY INSTALLATION AT THE  
DUMAI CITY HOSPITAL IN 2020**

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**ABSTRACT**

*Complaint handling is one of the factors that affect the quality and satisfaction of clients. The purpose of this study was to determine the relationship between nurse response time and complaint handling from the family of traffic accidents in nursing services at the emergency Installation in Dumai city Hospital. The research design was a correlational study with 98 respondents. The sampling technique was purposive sampling. The results of the univariate analysis of respondents had good complaint handling with a total of 60 people (75.9%) and respondents thought the response time of nurses was fast enough with a total of 61 people (77.2%). The results of the Spearman rank test analysis showed that there was a relationship between the response time of nurses and complaint handling in the emergency room at the Dumai city Hospital ( $p = 0.000 < \alpha$ ). It is hoped that the management of Dumai city Hospital can provide input in making nursing service policies in meeting to fulfill patient needs.*

*Keywords: complaint handling, Emergency Room, Nurse Response Time*

## **1. INTRODUCTION**

Nursing service is a form of professional nursing service that is based on nursing knowledge and tips aimed at individuals, families, groups and communities both in good health and sickness (Kemenkes RI, 2014). Characteristics of emergency patients quickly be life threatening include respiratory arrest and cardiac arrest, so it takes the form of services or management of patients traffic accidents like unblock airways ( airway ),

provide and a respirator ( breathing ) and provide circulation ( circulation ) (Yanti, 2013).

If the services provided are not in accordance with the desires of consumers, then consumers are not satisfied and result in disloyalty to the hospital. Consumer dissatisfaction can be caused by a variety of things and will later lead to a complaint to the hospital. As a service company that is better than the hospital shall handle the complaint well, so that consumers feel there is improvement of consumer dissatisfaction towards services (Nugraha, 2012). According to Anggraini (2011) there were some patients who complained because the services provided by nurses and patients complained that the nurse's response in handling patient complaints was not good. Handling complaints can affect patient satisfaction and perceptions of service quality, handling complaints can be identified by how to handle complaints from patients.

Based on the Decree of the Ministry of Health of the Republic of Indonesia number 856 / Menkes / SK / IX / 2009, it is stated that "emergency patients must be treated no later than 5 (five) minutes after arriving at the ER". In addition, according to Kartikawati (2012) "the Canadian triage scale describes the response time in patients with the resuscitation category, namely directly handled by doctors and nurses, emergency category patients directly handled by nurses and <15 minutes time to be handled by doctors, emergency category patients time to be handled. doctors and nurses <30 minutes, while patients in the normal category of time to be handled by doctors and nurses <60 minutes and patients in the non-emergency category, the time to be handled by doctors and nurses was <120 minutes ".

Based on the preliminary study conducted by the authors on March 5th, 2020 at Dumai City Hospital by asking directly or interviews related to customer satisfaction in nursing services, it is known that Dumai City Hospital has a standard service time ( response time ) based on patient

classification. However, from the results of interviews conducted by the authors, it was found that 4 out of 6 patient families expressed dissatisfaction with the emergency services at the Dumai City Hospital. Therefore, the authors are interested to conduct a research entitled "The relationship between nurse response time and handling complaints in nursing services at the Dumai City Hospital.

## **2. MATERIALS AND METHODS**

This research was quantitative research with the correlation study which is an examination of the relationship between two variables (Notoatmodjo, 2010).

The research activity was started from March-August 2020. The population in this study were the families of traffic accident patients who were treated at the Emergency Room at the Dumai City Hospital in 2020, totally 98 cases and the sample of 79 respondents. The data collection technique was using purposive sampling technique. The research instrument was a questionnaire. Data analysis consisted of univariate analysis with response time and complaint handling variables in traffic accident patient nursing services at the Dumai City Hospital Emergency Room in 2020 and bivariate analysis was used to determine the relationship between nurse response time and complaint handling in patient nursing services. traffic accident at the Dumai City Hospital Emergency Room. To determine whether the relationship between two variables is significant or not, it was used in the Spearman rank test.

## **3. RESULTS**

Table 1

Distribution of Frequency and Percentage of Handling Complain in the  
Emergency room at the Dumai City Hospital in 2020



No	Complaint Handling	F	Percentage
1	Good	60	75,9
2	Not Good	19	24,1
Total		79	100,0

Based on the table. 1 above it can be seen that as many as 60 people (75.9%) of respondents had handled complaints was good.

Table. 2  
Distribution of Frequency and Percentage of Response Time in the  
Emergency room at the Dumai City Hospital in 2020

No	Response Time	f	Percentage
1	Fast	61	75,2
2	Slow	15	19,0
3	Very slow	3	3,8
Total		79	100,0

Based on the table. 2 above, it can be seen that there were 61 people (77.2%) of respondents thought the nurse's response time was fast enough.

Table. 3  
Response Time Relationship with Complaint Handling in the ER Dumai City  
Hospital in 2020

Response Time	Complaint Handling						p value
	Good		Not good		Total		
	f	%	F	%	F	%	

Fast	53	86.9	8	13.1	61	100	0,000
Slow	7	46.7	8	53.3	15	100	
Very slow	0	0	3	100.0	3	100	
Amount	60	75.9	19	24.1	79	100	

Based on table 3 above, it was found that of the 61 respondents who felt that the response time was fast with good complaint handling amounted to 53 people (86.9%), while 8 people had poor complaint handling (13.1%). As for the 15 respondents who felt that the response time was slow with good complaint handling, there were 7 people (46.7%), while 8 people (53.3%) had poor complaint handling. As for the 3 people who felt that their response time was very slow, all of them had poor complaint handling .

The statistical test results show that the r value is 0.488, which means that the level of relationship strength (correlation) between the response time and complaint handling variables is 0.5 or very strong. The significance value is 0.000, because the Sig value <0.05, it means that there is a significant relationship between the response time and complaint handling variables.

#### 4. DISCUSSION

##### 1. Overview of Complaint Handling in the Emergency Room at the Dumai City Hospital

Based on the complaint handling variable , nearly 30% of respondents said they were satisfied with the nursing services in the Emergency room at the Dumai City Hospital. Patient satisfaction is defined as the response of service recipients to the mismatch between the level of importance and perceived performance. Satisfied customers will share their tastes and experiences with friends, family and neighbors .

The results of this study are in line with the results of the study by Simandalahi (2019) which conducted research on the relationship between response time and patient satisfaction levels in the Puskesmas emergency department. It was found that 32 patients expressed dissatisfaction (43.2%).

According to the assumptions of researchers, services in the Emergency Room Dumai City Hospital have not been carried out optimally. It is known that 53.3% of respondents felt that there was slow response time in getting service. This is reinforced by interviews conducted by researchers with the patient's family, the patient's family answered that the response time was quite slow in service in the Emergency Room. Furthermore, according to researchers, excellent service is the right of all patients who come to the Emergency Room, be it a clinic, health center or hospital. The better the service provided, the more satisfied customers are and increase the number of visits and income for the hospital

## 2. Overview of Response Time in the Emergency Room at the Dumai City Hospital

Based on the response time variables of nurses in the emergency room at the Dumai City Hospital, more than 50% of respondents said the nurse's response time was quite slow.

The results of this study are in line with the results of research by Mufidah (2018) which conducted research on the relationship between nurse response time and complaint handling in nursing services in the Dahlia Room at Jombang Hospital, it is known that 29 patients (64.4%) stated that the response time was slow.

According to the researchers' assumptions, the achievement of nurse response time standards in emergency services is influenced by the availability of infrastructure, human resources and a good emergency room management system.

### 3. Relationship between Response Time and Complaint Handling in the Emergency Room at the Dumai City Hospital

Based on the results of the study, it was found that of the 61 respondents who felt that the response time was fast with good complaint handling amounted to 53 people (86.9%), while the complaint handling that was not good was 8 people (13.1%). As for the 15 respondents who felt that the response time was slow with good complaint handling, there were 7 people (46.7%), while 8 people (53.3%) had poor complaint handling . As for the 3 people who felt that their response time was very slow, all of them had poor complaint handling .

The results of this study are in line with the results of research conducted by Mufidah (2018) which conducted research on the relationship between nurse response time and complaint handling in nursing services in the Dahlia Room at Jombang Hospital, it is known that there is a relationship between nurse response time and complaint handling with a p value of 0.039.

This research is in line with the research conducted by Dewi Efasusanti (2015) entitled the relationship between response time and family satisfaction of emergency patients in the red triage at ER RSUP Prof. Dr. RD Kandou Manado ". The results of the chi-square statistical test obtained p value = 0.017 and statistical testing using the Fisher's Exact which indicates a relationship between response time and patient's family satisfaction where the p value is  $<0.05$ , namely 0.017. This indicates that  $H_0$  is rejected. Based on the results of statistical tests, it shows that there is a relationship between response time and patient's family satisfaction. Where the response time is slow or prolonged ( $> 5$  minutes) from 15 respondents, there are still 6 respondents (40%) who feel less satisfied with the services received from health workers, in this case nurses.

The assumption of the researchers is that the cause of the respondents who still complained to hospital services was due to the patient's feeling of dissatisfaction so that it could cause a complaint. Nursing services that are

not performed properly can affect patient satisfaction and can cause complaints from patients

## **5. CONCLUSION**

Results of research conducted in emergency room at Dumai City Hospital to the 79 respondents about the relationship Response Time Nurse With Grievance ( Complaint Handling ) Family Patient Traffic Accidents In Nursing Services Hospital Emergency Room in Dumai found that was 75.9% of respondents stating complaint handling was good in Dumai City Hospital emergency room , around 77.2% of respondents stated response time nurses were quite fast in emergency room at Dumai City Hospital and there is relationship between response time with complaint handling nursing care in emergency room at Dumai City Hospital. It is hoped can give input for the hospital in making nursing service policies in meeting patient needs, besides that the hospital determines the rules related to greetings, smiles and greetings to patients to create a sense of satisfaction from patients.

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# RELATIONSHIP BETWEEN FAMILY SUPPORT AND QUALITY OF LIFE PATIENTS WITH CHRONIC RENAL FAILURE UNDERGOING HEMODIALYSIS THERAPY IN BANGKINANG HOSPITAL

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## ABSTRACT

*Hemodialysis is performed to improve the quality of life of people with chronic renal failure, but during the hemodialysis process the patient experiences various psychosocial problems, such as depression, feels useless and becomes a burden to his family. The purpose of this study was to determine the relationship between family support and quality of life in patients with chronic renal failure undergoing hemodialysis therapy. This study used a descriptive correlation research design with a cross sectional approach. The population in the study of all patients undergoing hemodialysis therapy at Bangkinang General Hospital was 60 total sampling techniques. Data analysis used univariate and bivariate analysis. The results showed that the majority of respondents received good family support as many as 31 respondents (51.7%), had a good quality of life as many as 55 respondents (91.7%), there was a relationship between family support and the quality of life of patients undergoing hemodialysis therapy. statistical test obtained  $p\text{-value} = 0.001 < \alpha$  ( $\alpha = 0.05$ ). It is hoped that the family will increase awareness about the importance of providing support to patients by more often accompanying patients while undergoing hemodialysis therapy.*

*Keywords : Chronic Kidney Failure, Family Support, Quality of Life*

## 1. INTRODUCTION

Chronic Renal Failure (CRF) is a condition of kidney damage that occurs for 3 months or more in the form of structural or functional abnormalities of the kidneys with decreased glomerular filtration rate (GFR). Kidney failure is a disorder of kidney function in regulating fluid and electrolyte balance and loss of metabolic processes that can cause uremia (Permenkes, 2010). The number of sufferers of chronic kidney failure in Indonesia has increased significantly. In 2016, 17,193 new patients underwent hemodialysis to 21,050 patients in 2017, with 11,689 patients who were active or routinely

undergoing hemodialysis therapy in 2016 to 30,554 patients in 2017. (Indonesian Renal Registry IRR, 2017).

Hemodialysis is performed to improve the quality of life of people with chronic renal failure, but during the hemodialysis process the patient experiences various psychosocial problems, such as depression, feels useless and becomes a burden to his family. Quality of life is closely related to the existence of family support because family support is the attitude, action and acceptance of the family towards sick sufferers, where the family carries out its function as a supportive system, always ready to provide help if needed (Friedman, 2014).

Forms of family support in the form of verbal and non-verbal support, can be in the form of suggestions, direct assistance or attitudes given by people who have closeness to the subject in their social environment. There are five dimensions of family support provided by family members, namely emotional support, appreciation support, information support, instrumental support, and social network support, which all form one form of family support (House and Kahn in Friedman, 2010).

According to Shahgholian and Yousefi (2015), the family's lack of understanding will have an effect on the enthusiasm of patients undergoing hemodialysis therapy. Hemodialysis patients often feel alone and sometimes their families do not understand the patient's condition, as well as a lack of emotional support from the family in helping to tolerate the disease, actions and complications faced by patients.

The results of a preliminary study conducted at Bangkinang General Hospital showed that 60 chronic kidney failure patients undergoing hemodialysis therapy. (Medical Record Data of Bangkinang Hospital, 2019). The results of interviews with 6 chronic kidney failure patients



undergoing hemodialysis therapy accompanied by their families. Often encountered patients who come alone for therapy starting from registration to hemodialysis.

Of the six chronic kidney failure patients, 3 (three) of them came by themselves because they were busy with family members, and did not receive support from their families, so that they came to the hemodialysis schedule by themselves. Meanwhile, others always receive assistance from family members during hemodialysis. Hemodialysis that is carried out for 4 - 5 hours is always monitored to anticipate complications in the patient during and after hemodialysis.

## 2. METHODS

This type of research is a descriptive correlation with a cross sectional approach. The population of this study were all patients undergoing hemodialysis therapy at Bangkinang General Hospital with a total sampling technique of 60 respondents. Data were collected through a questionnaire given to respondents.

## 3.RESULT

### 1. Univariate Analysis

#### Frequency Distribution of Respondent Characteristics Based on Family Support at Bangkinang Regional Hospital

No.	Family Support	f	%
1.	Good	31	51,7
2.	Moderate	18	30,0

3	Bad	11	18,3
Total		60	100

Based on table 1. that the majority of respondents have good family support with a total of 31 respondents (51.7%), and a minority of less family support as many as 11 respondents (18.3%).

Frequency Distribution of Quality of Life for Patients with Chronic Kidney Failure at Bangkinang Hospital

No.	Quality of life	F	%
1.	Bad	5	8,3
2.	Good	55	91,7
Total		60	100

Table 2 shows that the majority of respondents have a good quality of life with a number of 55 respondents (91.3%) and a minority of respondents have a bad quality of life, namely 5 respondents (8.3).

## 2. Analisa Bivariat

Relationship between Family Support and Quality of Life for Chronic kidney failure patients undergoing hemodialysis therapy at Bangkinang Regional Hospital

Family support	Quality of life	Total
_____	_____	_____

Pvalue

	Good		Bad				Pvalue
	n	%	N	%	n	%	
Good	31	56,4	0	0	31	100	0,001
Moderate	17	31,9	1	20	18	100	
Less	7	12,7	4	80	11	100	
Total	55	100	5	100	60	100	

Good category family support with the quality of life of patients with chronic renal failure who undergo good hemodialysis therapy, higher than the quality of life of patients with poor chronic kidney failure (56.4%: 0%), moderate family support with the quality of life of patients with chronic renal failure who undergo hemodialysis therapy was higher than moderate quality of life (31.9%: 20%), and poor family support with poor quality of life for chronic renal failure patients undergoing hemodialysis therapy was higher than good quality of life (80%: 12.7%) .

The statistical test results obtained pvalue = 0.001 (<0.05) there is a relationship between family support and the quality of life of patients with chronic renal failure undergoing hemodialysis therapy.

### 3. DISCUSSION

#### 1. Family Support

Based on the research results, it can be seen that the majority of respondents have good family support with a total of 31 respondents (51.7%). The results of this study are in accordance with the opinions of the hali, namely

according to Maryam (2018) who said that family is the main support system in maintaining health. Each family member has a very important role in providing care. There are several things that can be done by family members in carrying out their role towards the family, namely holding focused talks, maintaining family warmth, helping to prepare food for the elderly, helping to meet financial resources, respecting and appreciating, being patient and wise in dealing with the elderly. providing affection, providing time and attention, providing opportunities to live together, encouraging them to continue to participate in activities outside the home including developing hobbies and regular health checks. recovered so that by providing support to respondents can make respondents enthusiastic about undergoing treatment

## 2. Quality of Life

Based on the results of the study showed that the majority of respondents had a good quality of life with a total of 55 respondents (91.3%). Patients who have just undergone hemodialysis tended to have higher levels of anxiety and stress than patients who had undergone multiple hemodialysis therapy. The psychological problems experienced by patients who have just undergone hemodialysis have actually been shown since the first time the patient was diagnosed with chronic kidney failure. Feelings of loss of control, guilt and frustration also play a role in the patient's emotional reactions. CRF disease makes patients feel helpless (Mariyanti, 2013). Patients who have been undergoing hemodialysis for a long time tend to perceive their quality of life to decline. This decreased quality of life is associated with changes in economic life, the high costs that must be incurred for one hemodialysis process. The assumption of the researchers that most respondents get a good quality of life is because patients undergoing hemodialysis perceive their quality of life at a high level with physical conditions that can sleep and rest comfortably, do not feel restless

and do not easily get tired, on the psychological aspects the patient still has high motivation to recover

### 3. The Relationship between Family Support and Quality of Life of Patients with Chronic Kidney Failure who Underwent Hemodialysis Therapy at Bangkinang Hospital.

The results showed that there was a significant relationship between family support and the quality of life of patients with chronic kidney failure undergoing hemodialysis therapy with a p value of 0.001. Family support is closely related to supporting one's quality of life. This is because quality of life is a perception that is present in the abilities, limitations, symptoms and psychosocial characteristics of an individual's life both in the context of the cultural environment and its value in carrying out its role and function as it should be (Zadeh, Koople & Block, 2013). This is in accordance with Friedman's (2010) theory, which states that quality of life is closely related to family support, because family support is the attitude, action and acceptance of the family for sick sufferers, where the family carries out its function as a supportive system, always ready to give help if needed.

According to the assumptions of the researchers, respondents who experience chronic kidney failure who get family support can live a good quality of life because a good relationship between CKD patients who undergo hemodialysis therapy and their families can indirectly motivate patients to be better. From the observations of the researchers during the study, there was a good relationship between the patient and the patient's family. Some respondents said the support provided by their families made patients more enthusiastic about undergoing hemodialysis and motivated to recover from their illnesses. The form of family support at home to CKD patients undergoing hemodialysis therapy is limiting the patient to drink at home and maintaining fluid intake at home to avoid edema and congestion,

besides that the family also controls what foods should be limited to consumption such as fruits that contain lots of fluids. On the psychosocial aspect, the family provides support such as reminding CRF patients on the hemodialysis therapy schedule and delivering it

#### **4. CONCLUSION**

There is a relationship between family support and the quality of life of patients undergoing hemodialysis therapy. The majority get good family support, namely 80% and chronic kidney failure patients lead a life with a good quality of life, namely 91.7%.

#### **5. SUGGESTION**

It is hoped that families will increase awareness about the importance of providing support to patients by assisting patients more frequently while undergoing hemodialysis therapy so that the patient's quality of life can be better.

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# KNOWLEDGE INFLUENCES WOMEN IN RESPONDING THE CLIMACTERIC SYNDROME

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## **ABSTRACT**

*Menopause is a natural thing that will be experienced for every woman, good knowledge will certainly be able to help self-accept that, the climacteric is one of the normal phases of life that all women will go through. The purpose of this study was to determine the correlation between knowledge and attitudes of women aged 45-60 years in facing climacteric syndrome in Pamengkang village, Kramatwatu sub-district, Serang, Banten, which was conducted in July 2018. This study is a type of quantitative research. The population in this study were all women aged 45-60 years in Pamengkang village, Kramatwatu sub-district, Serang Banten, samples in this study were 71 respondents. Sampling technique was used simple random sampling. This study used a cross-sectional design with bivariate data analysis. Analysis of result was done using chi square. Based on the results showed there was correlation between knowledge and attitudes of women in dealing with climacteric syndrome with a value of  $p = 0.000$  ( $p < 0.05$ ). Good knowledge about menopause will help a women to prepare herself and be positive so that she can self-accept and reduce anxiety. Knowledge is very influential on the attitude of women in facing of the climacteric period.*

**Keywords:** Attitudes, climacteric syndrome, knowledge

## **1. INTRODUCTION**

Climacteric is an intermediate period between the reproductive period and the senium period. The period before menopause is called pre-menopause and the period after menopause is called post-menopause. It is difficult to determine the beginning of climacteric, but based on endocrine state (the decreased level of estrogen hormone and the increased level of gonadotropin hormone) and it is usually followed by clinical symptoms, it



can be said that the climacteric in began about six years before menopause. Climacteric ends about 6-7 years after menopause. The level of the estrogen hormone will have been low in *senium* period (Arafat & Widaryati, 2014; Pinem, 2009).

Climacteric is part of pre-menopause, which is before the onset of menopause, when the menstrual cycle tends to be irregular and during that time women may experience climacteric symptoms of hot flushes (redness that feels hot) on the scalp, chest, face and neck. After the menopause phase, it moves to the post-menopause phase which is termed an end point that is not well defined until the symptoms disappear or after the cessation of menstruation (Varney et al., 2008).

The most important sign of middle age in women aged 40 to 60 is menopause. Menopause is characterized by the cessation of menstruation. Before women experience the menopause, there are several stages that must be passed. They are the pre-menopause, menopause and post-menopause. This period is more accurately called the climacteric period (Llewellyn & Jones, 2006; Pinem, 2009).

In endocrinology term, the climacteric period is marked by a decreasing in estrogen levels and an increasing in gonadotropin secretion (Prawirohardjo, 2014). This deficiency of the hormone estrogen causes a decrease in various de- generative or endocrinology functions of the ovaries which causes anxiety in most women. The complaints at this time are caused by climacteric syndrome. This syndrome is experienced by all people in the world. Recorded in European countries around 70-80%, America around 60%, Malaysia around 57%, China 18% and in Japan and Indonesia around 10% (Boschitsch et al., 2017; Wigati & Kulsum, 2017)

Most of women will through menopause at the age of 49-52 years. According to the results of the population census, the life expectancy of Indonesian women increases to an average of 71 years (Central Statistics Agency, 2016). So, about 20-30 years or a third of the length of her life, a woman is in menopause (Kasdu, 2007). Most of the research results show that the knowledge of mothers about the climacteric period and menopause is still low so that it will increase anxiety and anxiety in mothers during menopause (Ardianti G & Sarita, 2018; Ermawati, 2011; Sipahutar & Nengah, 2016).

Menopause is a natural thing and naturally that will be experienced by every woman. What is felt by menopause women also varies, this is due to the socio-economic conditions, culture, knowledge and acceptance of women. Symptoms that may occur during menopause such as face felt hot and redness, vaginal dryness and mood swings. Most of women, these symptoms are barely visible, while in others, these symptoms can feel heavy and troublesome (Indriani, 2007).

All of these things really depend on the concept of self-acceptance of the woman. Self-acceptance is not easy, therefore the process of self-acceptance of the current condition needs to be based on a deep knowledge of oneself. A person before receiving something usually tries to find out things related to something he wants to receive. After knowing then someone will accept it. The higher or better a woman's knowledge is, she can face the climacteric period she is experiencing with full acceptance (not anxious), so that the climacteric period she experiences is full of happiness. A good knowledge of course for a woman will be able to understand that the climax is one of the normal phases of life that all women will go through. (Arafat & Widaryati, 2014; Ardianti G & Sarita, 2018; Aziza, 2017).

Based on the results of a previous study conducted on 10 women of climacteric age in Pamengkang village, Kramatwatu sub-district, Serang, Banten, it was found that women who had good knowledge tended to be more prepared to face menopause and could accept the changes that occurred. Seeing this phenomenon, it is necessary to explore the extent of knowledge and attitudes of women aged 45-60 years in facing the climacteric syndrome.

## **2.MATERIALS AND METHODS**

This study is an analytic study with a *cross sectional* approach to determine the correlation between knowledge and attitudes of women aged 45-60 years in facing the climacteric syndrome. The research was conducted in July 2017 in the village of Pamengkang, Kramatwatu Sub-district, Serang, Banten . The population in this study were all women aged 45–60 years in Pamengkang village, Kramatwatu subdistrict, Serang Banten, total 244 people. The sample in this study was a half of the population that met the inclusion criteria, the sample size was calculated using the *Slovin* formula as many as 71 people. The sampling technique in this study by simple random sampling.

The data in this study are primary data obtained through interviews using an instrument in the form of a questionnaire to assess knowledge and attitudes about the climacteric of the syndrome. The using of questionnaire is made by the researcher and have tested the validity and reliability of the 25 respondents, each of the questions have value *product moment Pearson*  $> 0.3$  ( $\geq 0.3$ ) and reliability test values obtained *Cronbach's Alpha* 0, 835 ( $> 0, 7$ ), so that the instrument is suitable for use . Data analysis in this study was carried out unvaried way using frequency distribution to determine the description of each independent and static variable, while bivariate analysis

aims to analyze. Attitude based on knowledge. Bivariate analysis used the *chi square* test with a significance level of 95%.

### 3.RESULTS

The results of the study are described in table below;

#### 1. Characteristics

**Table 1 Characteristic Frequency Distribution**

Variable	Frequency	Percentage
Age		
<b>40-50 year</b>	47	66,2
<b>50-60 year</b>	24	33,8
Pendidikan		
<b>No school</b>	6	8,4
<b>Elementary school-junior high school</b>	46	64,8
<b>Senior high school</b>	19	26,8
<b>Diploma-post graduate</b>	0	0
Occupation		
<b>Housewife</b>	41	57,7
<b>Farm workers</b>	27	38,1
<b>Civil Servant</b>	3	4,2
<b>Private employee</b>	0	0
<b>Total</b>	<b>71</b>	<b>100</b>

Based on table 1, it can be seen from 71 respondents that most of the respondents were 40-50 years old (66.2%), as many as 46 respondents (64.8%) had low education (elementary school-junior high school), and most of the respondents' jobs were housewives as much as 41 respondents (57.7%).

#### 2. Knowledge

**Table 2 Distribution of Knowledge Frequency of Mother Age 45-60 years About Climacteric Syndrome**

Knowledge	Frequency	Percentage
<b>Good</b>	23	32,4

<b>Poor</b>	48	67,6
<b>Total</b>	<b>71</b>	<b>100</b>

According to the table 2 can be seen from 71 respondents most respondents had knowledge of the less well on the climacteric syndrome, 48 respondents (67.6%).

### 3. Attitude

**Table 3 Distribution of Frequency of Attitude of Mother Age 45-60 years About Climacteric Syndrome**

Attitude	Frequency	Percentage
<b>Positive</b>	25	35,2
<b>Negative</b>	46	64,8
<b>Total</b>	<b>71</b>	<b>100</b>

According to table 3 can be seen from 71 respondents most respondents have a negative attitude about the climacteric syndrome as many as 46 respondents (64,8 %).

### 4. Knowledge Relationship with Attitude

**Table 4 Distribution of Attitude Frequency of Women Age 45-60 years in the face of the Climacteric Syndrome Based on Knowledge**

Knowledge	Sikap				Total	P value
	Positive		Negative			
	f	%	f	%		
Good	16	69,6	7	30,4	23	0,000
Poor	9	18,8	39	81,2	48	

Based on table 4, it can be seen from 48 respondents who have poor knowledge of the climacteric of the syndrome, most of the respondents have negative attitudes as many as 39 respondents (81,2%) . Based on the results of the *Chi-Square* test, the *P value* was 0,000. When compared with the significant level  $\alpha = 0.05$  the *P value*

*value* (0.000)  $< \alpha$  (0.05), it means that there is a significant relationship between attitudes and knowledge of the mother's climacteric syndrome.

#### **4.DISCUSSION**

Climacteric is characterized by a decrease in the hormone estrogen and an increase in the hormone gonadotropin which causes a decrease in the function of the reproductive organs (Ermawati, 2011; Hermawati, 2011; Mulyani, 2013). This deficiency of the estrogen hormone causes a decrease in various degenerative or endocrinology functions of the ovaries which causes anxiety in most women. Complaints during this period are caused by climacteric syndrome (Boschitsch et al., 2017; Wigati & Kulsum, 2017). Based on the results of the study, it is known that from 71 respondents, 66.2% were aged 40-50 years. These results indicate that most of the women in Pamengkang village are in the early climacteric period where several complaints have appeared from climacteric syndrome. Along with the increasing age of a person the ability in his memory also be decreased, and this will lead to difficult late in remembering and receive information that ever obtained before. Information is very important because it is a means to increase one's knowledge (Notoatmodjo, 2010). Most of the 64,8 % education respondents low (elementary school-junior high school), where education is one important factor in improving the knowledge and insight. Education is a process of delivering information material to someone which is useful for achieving changes in behavior or goals (Notoatmodjo, 2012). The higher one's education then it will be easier or receive, select and adapt to all the information and something in gain.

Most of women in the village Pamengkang, Kramatwatu sub-district are housewives 57.7%, so that access to information is not as easy as the working women, someone who works will socialize with many people that allows to more easily obtain information that can increase the knowledge about climacteric syndrome. Economic factors in the family also greatly influence a person's level of knowledge, because the higher or better the socioeconomic status, the availability of facilities or information means will allow a person to get information that can increase his/her knowledge. (Notoatmodjo, 2012). The involvement of women in activities in the

village, one of which is a health agents helps a lot in obtaining the information about climacteric syndrome that is obtained from health workers.

The knowledge of respondents about the syndrome climacteric was mostly 67.6% poor, as well as most of respondents also had negative attitudes as much as 64.8%, of the 48 respondents who had poor knowledge, it turned out that 39 respondents had negative attitudes or acceptance related to the climacteric syndrome as 39 respondents. (81.2%) with p value = 0.000 (<0.05). This study shows that knowledge has very great influence the women's attitude in facing the climacteric period. Most of the climacteric women do not know that the changes that occur at the climacteric period are a natural process. In line with Hermawati's (2011) research that knowledge is influenced by several factors including age, occupation, and education. They also feel worried and confused about these symptoms so that being active in finding help is needed to be able to identify and get treatment (Hermawati, 2011) .

There is misunderstanding about menopause period and the changes that occur in it makes some middle-aged women react with anxiety. (Ardianti G & Sarita, 2018; Indriani, 2007; Sipahutar & Nengah, 2016). Good knowledge about menopause will help a woman to prepare herself and be positive. A positive attitude indicates that a woman is ready to face the climactic period, whereas a negative attitude indicates that she is not ready to face the climax period. Readiness and self-acceptance in facing the climacteric period will greatly assist women in living this period better (Bloch, 2002; Widiastuti & Rohani, 2020). A good knowledge and acceptance of positive affect a woman's self-concept, so that will help a woman to prepare themselves in undergo menopause better and can reduce anxiety.

Menopause is a natural process of life cycle of a woman who cannot be rejected by every woman who through the age of middle age. Various complaints both physical and psychological that occur are the result of decreased reproductive function. Considering that the life expectancy of women in Indonesia is quite high, middle - aged women must have their quality of life preserved. According to the results of the population census, the life expectancy of Indonesian women increases to an average of 71 years (Central Bureau of Statistics,

2016). Increasing age life expectancy also increased the proportion of middle-aged women. Therefore their quality of life must be improved by good knowledge.

Most of women do not know the impact of menopause and how to react to it, women who entered menopause tend to surrender without any attempt to find information in order to improve their quality of life. Women themselves have diverse perceptions about menopause, some argue menopause is the beginning of the decline of the overall reproductive function, menopause even assume that there is a "disaster" in old age. (Bloch, 2002; Indriani, 2007). Increasing age cannot be avoided, menopause will certainly be experienced by all women. Therefore, it is necessary to have self-acceptance in the process of going through this period. The concept acceptance themselves and how to transfer the complaint to the climacteric require sufficient knowledge to be able to change the view if climacteric is something natural and not scary so it does not need to be sad or anxious are excessive when to deal with it .

Suppose that every woman will face old age, it needs to be implanted in order to not have to worry in case of menopause. In addition, to prevent diseases during climacteric times such as osteoporosis and heart disease, you must be diligent doing the exercise and consuming milk or foods that contain lots of calcium, it is hoped that women will not only be oriented towards physical problems but can also keep themselves busy by participating in religious activities or social activities of other (Hermawati, 2011). A person who cannot accept changes in the climacteric period and cannot be realistic about these changes will tend to feel afraid, worried and even more anxious with the arrival of old age (Ismiyati, 2010; Mangoenprasodjo, 2004).

A woman who experiences anxiety, will experience a climacteric period with discomfort over the changes that her body.. Knowing the various kinds of menopause symptoms can certainly make a woman anxious, ranging from the threat of discomfort in sex to various health problems such as the threat of heart disease, and osteoporosis. No wonder this can make women afraid and even anxious in the face of menopause. (Aqila, 2010; Indriani, 2007; Sipahutar & Nengah, 2016).



## 5.CONCLUSION

Respondents who had a poor knowledge proved to have a negative attitude or acceptance that related with the climacteric syndrome, a total of 39 respondents (81 , 2 %) with a value of  $p = 0.000 (<0.05)$ . This research shows that knowledge affects the attitude of women in facing the climacteric period. It is hoped that women at the climacteric age can be proactive in finding the information about changes and problems that occur during the climacteric period so that it can help reduce anxiety and complaints that are felt.

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**THE EFFECT OF OCCUPATIONAL SAFETY AND HEALTH PROMOTION  
RELATED TO PREVENTION OF THE SPREAD OF VIRUSCORONA (COVID-  
19) ON PANDAI IRON HOME INDUSTRY WORKERS IN PANGUR-ACEH  
TAHUN 2020**

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**ABSTRACT**

*Coronavirus (Covid-19) is a large family of viruses that cause diseases ranging from mild to severe symptoms. Up to 15 Mei 2020 in Aceh there were 17 positif cases of Covid-19 with the dead 1 person and recovery of 13 people, therefore health promotion needed to increase the knowledge of blacksmith officers about Covid-19. Blacksmith workers work without using PPE, do not routinely wash their hands and there is no health promotion from local health center regarding how to prevent Covid-19. The purpose of the research is to know the effect of health promotion to the knowledge of Covid-19 on home industry workers in Pangur Village. The research method used was pre eksperimental with one group pretest – posttest without control design. The sample in this research is 25 workers blacksmith home industry with technical total sampling. The data analysis used was univariate and bivariate analysis (Dependent t Test). Univariate analysis using frequency distribution, before health promotion there is 6 (24,0%) respondents who have good knowledge about Covid-19 and after health promotion there is 21 (84%) respondents who have good knowledge about Covid-19. Bivariate analysis using t-dependent test with  $p\text{-value}=0,0001$  ( $p\text{-value} \leq \alpha$ ) so there is an effect of health promotion on the knowledge of Covid-19 workers blacksmith home industry in the Pangur village. Home industry owners suggested doing a health promotion program for the workers blacksmith related to increased knowledge about Covid-19 during the pandemic*

*Keywords : Knowledge, covid-19, health promotion, pre-eksperimen*

**1. INTRODUCTION**

The world is currently witnessing a new coronavirus outbreak that is spreading rapidly across China, and now China is a Public Health Emergency for International Concern. WHO says there is a high risk of the 2019 coronavirus (COVID-19) spreading to other countries around the world. WHO and public health authorities around the world are taking action to control the COVID-19 outbreak. However, long-term success cannot be taken for granted. All sections of society, including businesses and entrepreneurs must play a role if we are to stop the spread of this disease (WHO, 2020a).

Coronavirus (CoV) is a large family of viruses that cause diseases ranging from mild to severe symptoms (Ministry of Health, 2020). In December 2019, cases of mysterious pneumonia were first reported in Wuhan, Hubei Province. The source of the transmission of this case is not certain, but the first case was linked to a fish market in Wuhan. From 18 December to 29 December 2019, five patients were treated with Acute Respiratory Distress Syndrome (ARDS). From December 31, 2019 to January 3, 2020, this case increased rapidly, marked by the reporting of 44 cases. In less than a month, the disease has spread to various other provinces in China, Thailand, Japan and South Korea (Susilo et al., 2020).

This virus can be transmitted from person to person and has spread widely in China and more than 190 other countries and territories. On 12 March 2020, WHO declared COVID-19 a pandemic. As of May 15, 2020, there were 4,307,287 cases and 295,101 deaths worldwide. Meanwhile, in Indonesia there have been 16,006 positive cases of COVID-19 and 1,043 cases of death with 215 affected countries (WHO, 2020b). On May 15, 2020, there were 17 confirmed cases of COVID-19 in Aceh with 1 death and 13 recovering. Gayo Lues Regency is one of the areas in Aceh Province which is the spread of COVID-19 with an incidence of 2 positive people for COVID-19 (Aceh Health Office, 2020).

Health promotion is an effort to market or introduce health to the public so that they are willing and able to maintain and improve their health independently. In health promotion, there are five structures, namely household arrangements, school arrangements, workplace

arrangements, public places arrangements, and health facilities arrangements (Notoatmodjo, 2018).

Law No. 1 of 1970 states that the workplace is any room or field that is closed or open, mobile or permanent where workers work, or that workers often enter for business purposes and there are various sources of danger. Health promotion efforts carried out in the workplace, besides being able to overcome, maintain, improve and protect one's own health. By implementing health promotion in the workplace this will increase work productivity and create a healthy work environment. Implementing health promotion in the workplace can have a positive impact on the work environment and society. Broadly speaking, health promotion in the workplace must be able to provide individual protection, both inside and outside the workplace environment to create a sustainable health process (Ministry of Health, 2016). Health promotion in the workplace is a process that allows workers to increase control over their health, namely controlling for determinants or factors that affect their health (Gustiana, 2017).

Home industry or commonly referred to as small industry is an effort to seek benefits or benefits of the physical form of an item so that it can be used to meet needs and be done at home. In this sense it includes handicraft activities. So that small industry can be interpreted as an effort to produce in which there is a change in the shape or physical of an item. Small industrial activities or household handicrafts are generally secondary jobs of farmers and village residents, which have the meaning of being a source of additional income (Central Bureau of Statistic, 2020).

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Promotion of K3 is very important to do during the Covid-19 pandemic, such as promoting ways to prevent Covid-19 transmission in the workplace, washing hands regularly with soap and running water, wearing masks and maintaining a minimum distance of 1 meter between one worker and another during the pandemic. the chain of the spread of Covid-19.

Based on the results of the study (Restiyani et al., 2017) it shows that there are behaviors of respondents who have implemented a clean and healthy lifestyle at work well (82.9%) because all production workers do not smoke at work (100%), buy and consume food. hygienic workers from the workplace (91%), buying and consuming nutritious food from the workplace (91%), washing hands with soap with clean running water (100%), washing hands before and after doing work (100%) , eradicating mosquito larvae (0%), using clean water (74%), using latrines (100%), disposing of garbage in its place (100%), using PPE (100%), doing sports / physical activity (50%).

Home industry Pandai Besi is a place for processing iron into a machete. Parang is a sharp weapon made of ordinary iron and is used as a cutting tool or slashing tool, machetes are also commonly used for agricultural tools by the community, where this home industry has been established since 1990 until now and has begun to become a Occupational Health Unit (ukk). in 2017. This blacksmith business is a hereditary business and the workers are the neighbors and the local community.

The results of a preliminary study conducted in May 2020 at the Home Industry of Pandai Besi, conducted interviews with 7 workers and found that during work they did not use masks because there was no PPE subsidy from the government, they also did not routinely wash their hands with soap and running water or use their hands. sanitizer due to the unavailability of soap and a place to wash hands in the workplace, workers also do not pay much attention to health protocols because the Covid-19 cases are not too high in the Gayo Lues area, this industrial home also only gets health checks and health promotions every three months even during the pandemic they did not get any health promotion from the local Public Health Center.

Education of workers is still low. 3 workers do not graduate from elementary school, 3 graduate from elementary school, and 1 graduate from junior high school. Based on the results of interviews from 7 workers, they said that they were not too concerned about the spread of Covid-19 because according to them Covid-19 only existed in big cities like what they saw on television. The low level of workers' knowledge about how to prevent Covid-19 is one of the factors causing unwilling behavior about the importance of paying attention to health protocols in preventing the spread or transmission of Covid-19 in the workplace.

## 2. MATERIAL AND METHODS

The design in this study was a pre-experimental design with one group pretest-test without control, namely the researcher made previous observations, then saw the changes that occurred after the treatment. The sample in this study was blacksmith workers who worked in the blacksmith home industry, namely 25 people. Sampling was done by total sampling technique. Prior to the intervention, respondents were given a questionnaire to measure their initial knowledge (pretest), then the respondents were given an intervention in the form of health promotion. Health promotion lasts 60 minutes consisting of lectures and also 30 minutes consisting of group discussions. After being given the intervention, the respondent was given another questionnaire to measure the final knowledge (posttest).

## 3. RESULTS

Table 1. Description of knowledge of blacksmith workers before being given health promotion

<b>Knowledge Workers Before Given Health Promotion</b>	<b>F</b>	<b>%</b>
Less	6	24,0
Enough	13	52,0
Good	6	24,0



Total	25	100
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Table 1 shows that before being given health promotion, there were only 6 respondents (24.0%) who had good knowledge about how to prevent Covid-19.

Table 2. Description of knowledge of blacksmith workers after health promotion

Knowledge Workers After Given Health Promotion	F	%
Less	4	16,0
Enough	21	84,0
Total	25	100

Based on Table 2, it is found that after being given health promotion there were 21 respondents (84.0%) who had good knowledge about how to prevent Covid-19

Table 3. The Effect of Health Promotion on Knowledge of How to Prevent Covid-19 Transmission at Home Industry Blacksmith Workers

Variabel	Mean	SD	SE	p Value	n
Knowledge before	11,92	2,51	0,50	0,0001	25

Knowledge after	15,52	2,05	0,42
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Based on table 4.3, it is found that the average knowledge score of the blacksmith home industry workers before health promotion is 11.92 with a standard deviation of 2.51 and the average score of knowledge of blacksmith workers after health promotion is 12.52 with a standard deviation of 2.05. , it can be seen that the mean difference in knowledge of blacksmith workers before and after health promotion is 3.60 with a standard deviation of 1.87. The results of the statistical test P value = 0.0001, it can be concluded that there is a significant difference, namely an increase in the average knowledge of blacksmith workers before and after being given health promotion

#### **4. DISCUSSION**

The results of the univariate analysis of the knowledge of the blacksmith home industry workers on how to prevent Covid-19 transmission before health promotion, there were only 6 respondents (24.0%) who had good knowledge about how to prevent Covid-19. Respondents can be said to have good knowledge when respondents can answer correctly  $\geq 75\%$  of the total question items. The workers tended to have sufficient knowledge, namely as many as 13 respondents (52.0%) because workers had a low level of education, and there was no information or health promotion from the local health center during the Covid-19 pandemic so that workers had sufficient knowledge of how to prevent Covid-19. This was admitted by the home industry owner of the blacksmith in Pangur

Village who said that previously no one had provided information or health promotion regarding how to prevent Covid-19. One of the factors that can affect knowledge is education and information, it cannot be denied that the higher a person's education the easier it is for them to receive information and vice versa if a person's education level is low it will hinder the development of one's attitude towards receiving information (Mubarok, 2007).

Before health promotion was carried out, the question of knowledge that was the least answered correctly was question item number 9, which is about how to protect workers from Covid-19, this question can only be answered correctly by 7 out of 25 respondents, however, after health promotion the number of respondents who answered correctly increased from 7 respondents who answered correctly to 12 respondents who answered correctly.

The next knowledge question that was the least answered correctly was question item number 2, which is about the meaning of Covid-19, this question can only be answered correctly by 8 of the 25 respondents, however, after health promotion the number of respondents who answered correctly increased from 8 respondents who answered correctly to 17 respondents who answered correctly.

The results of the univariate analysis of iron panda workers' knowledge about how to prevent Covid-19 transmission after daily promotion, there were 21 respondents (84.0%) who had good knowledge about how to prevent Covid-19. An increase in the number of respondents who have good knowledge from 6 respondents (24.0%) to 21 respondents (84.0%) can occur because of the provision of information through health promotion and health promotion methods used as needed so that the purpose of health promotion is to increase knowledge occurs optimally (Notoatmodjo, 2018)

The health promotion method used in this research is the mass method with public lectures and the group method with group discussions, the mass health promotion method is used to communicate health messages aimed at the public (Notoatmodjo, 2018) so that researchers use the promotional method. this health because the respondents numbered 25 people. Researchers explain the meaning of the coronavirus (Covid-19), the symptoms of Covid-19, the mode of transmission of Covid-19, clinical symptoms of Covid-19, prevention of Covid-19, treatment of Covid-19 and Covid-19 prevention measures for all workplaces using media slides for 60 minutes followed by group discussion.

Group discussions are used with the consideration that the goals of health promotion can be achieved effectively. Respondents were divided into 5 groups which in one group consisted of 5 respondents and was accompanied by one discussion leader. The discussion was arranged so that each group sat in a circle and faced each other, including the discussion leader, this was made so as not to give the impression that there was a higher level between the discussion leader and the respondent (Notoatmodjo, 2018).

The media used in group discussions is print media. According to (Notoatmodjo, 2018) print media has a main function, namely to provide information. The printed media used in this study were in the form of leaflets to help guide discussions in providing information and also to facilitate respondents' understanding of ways to prevent Covid-19 transmission. Print media was also used in Sugandi's research, Wahyuni (2015) and resulted in an increase in the number of well-informed respondents from 14 respondents (37.8%) to 27 respondents (73%)

Respondents who have good knowledge after health promotion are 21 out of a total of 25 respondents, this can happen that not all respondents at the same time have good knowledge because at the time of sensing to produce knowledge it is strongly influenced by the intensity of attention and different perceptions of respondents on the object. (Notoatmodjo, 2018).

Based on the results of the analysis of the effect of health promotion on knowledge about how to prevent Covid-19 transmission in blacksmith workers, there was an increase in the number of respondents who had knowledge both before and after health promotion. Before health

promotion there were 6 respondents (24.0%) who had good knowledge and after health promotion the number of respondents who had good knowledge increased to 21 respondents (84.0%).

The results of the bivariate test showed that the average score of knowledge of blacksmith workers before health promotion was 11.92 with a standard deviation of 2.51 and the knowledge score of blacksmith workers after health promotion was 15.52 with a standard deviation of 2.05.  $p = 0.0001$ , it can be concluded that there is a significant difference, namely an increase in the average knowledge of blacksmith workers before and after being given health promotion. The results of this study are in accordance with the results of research conducted by Sugandi, Wahyuni, (2015) which shows that there is a significant effect of health promotion using printed media (stickers) on increasing knowledge of bird traders with  $p$ -value = 0.002.

This research conducted by Syatiawati et al, (2017) shows that health promotion through lectures and discussion methods is effective in increasing reproductive health knowledge in grade 7 junior high school students with  $p$ -value = 0.001 Research conducted by Stauri (2015) also shows that there is an increase in the average knowledge of using PPE after being given health education. The average level of knowledge before being given health education, namely 7.40 (30.4%) was included in the category of poor knowledge and after being given health education the average level of knowledge was 17.67 (78.2%) into the knowledge category. well,  $p$ -value = 0.0001 which means there is a significant difference in knowledge of Personal Protective Equipment before and after being given health education.

Another study conducted by Siregar (2014) also showed that there was an increase in the average knowledge of welding workers before and after health promotion regarding Personal Protective Equipment with the lecture method, namely 11.05 before health promotion was carried out to 15.71 after health promotion,  $p$ -value = 0.0001, which means that there is a significant difference in the knowledge of Personal Protective Equipment before and after counseling with the lecture and group discussion methods.

A person's knowledge is mostly obtained through the sense of hearing and the sense of sight (Notoatmodjo, 2018) so that, with the two health promotion methods carried out by researchers, the lecture method uses slide media and videos and the group discussion method with leaflet media that relies on the use of the hearing and senses vision greatly allows the garbage collector's knowledge to increase after being given health promotion.

According to Silberman in Bahruddin, (2015) explains that learning requires mental involvement. Learning by listening alone will make someone forget, seeing will make someone remember a little, and by having discussions will make someone remember also understands what is being said, the method used in this research is the lecture method and group discussion which is a form of learning. by listening, seeing and conducting discussions and based on the existing theory, this research can make someone remember the material or new knowledge given and understand it so that this can be a factor that makes the knowledge of blacksmith workers increase after being given health promotion.

## **5. CONCLUSION**

1. Knowledge of blacksmith home industry workers about how to prevent Covid-19 transmission before being given health promotion, there were 6 respondents (24.0) who had good knowledge.

2. Knowledge of blacksmith home industry workers about how to prevent Covid-19 transmission after being given health promotion, there were 21 respondents (84.0%) who had good knowledge.

3. There is a significant difference in the average knowledge of blacksmith home industry workers before and after being given health promotion with P value = 0.0001.

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# THE INFLUENCE HEALTH EDUCATION ON THE LEVEL KNOWLEDGE OF LOW BACK PAIN PATIENTS ABOUT HOW TO LOAD

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## **ABSTRACT**

*Low back pain (LBP) or low back pain is one of the musculoskeletal disorders caused by low body activity. LBP is one of the complaints felt by some workers, increasing at the age of 50. Health education is a general health education activity aiming to awaken and change people's attitudes and behaviour to achieve the desired level of health and increase public knowledge of an object through their senses. This study aimed to determine the effect of health education on the level of knowledge of low back pain patients about how to lift weights. The research design used a quasi-experimental study using One Group Pretest-Posttest Design. This study's sample was all 31 patients with low back pain in the Polyclinic of Kabanjahe Hospital. The study results with the Paired T-Test, with  $P = 0.000$ , showed a clear difference regarding weight lifting techniques in patients with low back pain before and after health education. Health education advice on weight lifting techniques for low back pain patients is more often done to increase insight and understanding about disease prevention, shallow back pain.*

**Keywords** : *Health Education, Knowledge, Low Back Pain*

## **1. INTRODUCTION**

Low Back Pain (LBP) is one of the musculoskeletal disorders caused by low body activity. LBP is one of the complaints felt by most workers, which usually begins at the age of 25 and increases at 50 (Yunus, 2008). Data from the World Health Organization (WHO), low back pain is often complained of by office employees. Apart from LBP, other complaints include eye fatigue, shoulder pain and soreness, and wrist pain. These work activities require office employees to sit for long periods and maintain their positions (Sakinah, 2013).

Research in Spain by Fernandez et al. (2011) in adults obtained LBP prevalence was 19.9%. LBP was more common in women (67.5%) than men (33.5%). There were 1.5 times more LBP sufferers from the 31-50 year group than the 16-30 year age group. Research conducted by the pain study group of the Indonesian Neurologists Association (PERDOSSI) at 14 teaching

hospitals in Indonesia in May 2012 showed that the number of pain sufferers was 4,456 people (25% of total visits), of which 1,589 people (35,86 %) people with low back pain (PERDOSSI, 2007)

Based on research conducted on 742 samples that were treated at the RSCM Neurology polyclinic during May 2002, it is known that from the 742 samples of pain, polyclinic visitors found 116 people with LBP with a percentage of 15.6%. Of this number, 76 represent the female sex group, 65.5% and 40 people (34.5%) male sufferers. Of the LBP sufferers, it turns out that the 41-60 year age group occupies the highest percentage compared to other age groups (Purba, J.S, 2004).

Based on the research, the length and attitude of sitting are risk factors for LBP. Prolonged sitting is one of the most common causes of LBP, with an incidence rate of 39.7% -60% in adults. Sitting for a long time results in tension and tension of the ligaments and spinal muscles, resulting in LBP (Samara, 2004)

The correct way to lift items includes wearing stable shoes, making sure feet are firm and stable, in a state of 90° and keeping feet close to the item you are trying to lift, bend knees and lower body, make sure your waist is straight, lift things to the abdomen and lift things. Slowly, if the item is a little heavy, lean on leg muscles, make sure knees are bent when lifting an item, get help if the item is too heavy for someone to lift and use a trolley or other equipment to divert too heavy an item.

Based on the preliminary survey conducted at Kabanjahe Hospital, 31 people were suffering from Low Back Pain in 2020. In a survey of 10 patients on lifting weights, as many as seven people said they lift weights as usual and stop when their waist hurts. Three patients said that they did not know the correct way to lift weights for LBP sufferers. Based on the above background, it encourages the author to research, "The effect of health education on the level of knowledge of low back pain patients about how to lift weights".

## **2. METHODOLOGY**

This research's design is quasi-experimental using One Group Pre Test-Post Test Design to know the effect of health education on the level of knowledge of low back pain patients about how to lift weights. This research was conducted in the Polyclinic Room of Kabanjahe Hospital in February 2020 using a total sampling technique so that the number of samples in this study was known as 31 people.

The instruments in this study were questionnaires and leaflets. The questionnaire for knowledge about low back pain was given using ten questions. Measurement of knowledge using the Guttman scale model with two alternative answers, yes and no. The score given is 1 for Yes and 0 for No.

Data collection was carried out in stages: after the proposal was approved, the researcher submitted a letter of application for permission to the Kabanjahe Hospital to conduct research. Once approved, the researcher meets the potential respondent to explain the aims and objectives of the study. Prospective respondents are given Informed Consent and the width of the questionnaire and sign the agreement sheet. The questionnaires that have been filled in are collected to the researcher and checked again for data processing. Then the respondent was given, in this case, health education about LBP. In providing treatment, researchers used leaflets as a tool.

Furthermore, the respondents were again given a questionnaire, in this case, the post-test. After all the data is complete, the researcher goes to the hospital education and training section to report that the research has been completed. The data processing procedure was carried out through the editing, coding, scoring and tabulating stages, and the data were analyzed through univariate and bivariate analysis procedures using the paired T-test with a significance level of 95%.

## **3. RESULT**

Table 1. Distribution of respondents based on education

No.	Education	Amount	Percentage
1.	SD	2	6.5
2.	Junior High	8	25.8
3.	High school	10	32.3
4.	Bachelor	11	35.5
Total		31	100

Table 2. Distribution of frequency of knowledge before health education

No.	Pre Test	Amount	Percentage
1.	Good	6	19.4
2.	Enough	10	32.3
3.	Less	15	48.4
Total		31	100

Table 3. The distribution of the frequency of knowledge is as easy as health education

No.	Post Test	Amount	Percentage
1.	Good	16	51.6
2.	Enough	12	38.7
3.	Less	3	9.7

Total 31 100

Table 4. Health education analysis of low back pain on the level of knowledge

No.	Variabel	Max	Min	Mean	Std. Dev	P Value	N
1.	Befor health education	3	1	2.29	0.783		31
2.	After health education	2	1	1.58	0.672	0.000	

#### 4. DISCUSSION

The results of statistical tests using the paired t-test show that the effect of health education on the level of knowledge of patients with low back pain about how to lift weights obtained a P-value of 0.000, which is smaller than  $\alpha = 0.05$ , which means that health education significantly affects patient knowledge about low back pain. Thus, the hypothesis states that the effect of health education on low back pain on the level of patient knowledge in lifting weights at Kabanjahe Hospital is accepted.

Several other factors influence weight lifting techniques, namely anthropometry (human body size), load height, work environment, work equipment, work skills, body weight, transport distance, muscle strength, body weight, height, size of transport, muscle strength, weight, height, size of the goods to be transported.

This research is in line with the stated by WHO in Notoatmodjo (2012), one of the strategies for behaviour change is providing information to increase knowledge so that awareness arises that people will behave according to their knowledge. One of the efforts to provide information that can be done in counselling. Knowledge occurs after someone senses an object or stimulus.

After a person knows the object or stimulus, the next process is to behave towards the stimulus or object (Notoatmodjo, 2012). In this study, the extension with the lecture and demonstration method is a stimulus or object expected to influence respondents to behave following the message or content of the lecture.

## 5. CONCLUSION

- a. The knowledge of low back pain patients about how to lift weights before health education is held in the Polyclinic room of Kabanjahe Hospital; most of the respondents have less knowledge
- b. Knowledge of low back pain patients about how to lift weights after health education was held in the Polyclinic room of Kabanjahe Hospital, most of them had good knowledge.
- c. There is an effect of health education on patient knowledge—low back pain about how to lift weights.

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## **COPING MECHANISM RELATED TO BODY IMAGE IN GGK PATIENTS UNDERGOING HEMODIALYSIS**

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### **ABSTRACT**

*Coping mechanism is one of the ways that is done to adapt to stress. Coping mechanisms used by hemodialysis patients are problem-centered coping i.e. confrontation and problem solving, emotionally centered coping such as seeking social support, acceptance, distance keeping, self-control. The research design to be used is descriptive. With the technique of sampling is a purposive sample where the number of sam is as many as 78 people. The results of the study known coping mechanism Coping mechanism chronic renal failure patients who followed hemodialysis therapy majority maladaptive as many as 49 people (62.8%) adaptive 29 people (37.2%). It is recommended that nurses educate new patients or older patients to continue to provide education to maintain adaptive individual coping, and to be able to change the perception of maladaptive individuals.*

**Keywords : Coping Mechanism, Chronic Renal Failure Patients**

### **1. Introduction**

Kidney failure patients are patients with kidney conditions losing their ability to filter fluids and food waste. To be able to maintain the quality of life of kidney failure patients must undergo kidney replacement therapy commonly called hemodialysis (Irna, 2015).

In the United States, the incidence and prevalence of kidney failure is increasing, and the number of people with kidney failure treated with dialysis and transplantation is projected to increase from 340,000 in 1999 and 651,000 in 2015 (Cinar, 2009 in Hirmawaty, 2016). In Indonesia alone according to *the Indonesian Renal Registry (IRR)* in 2016 about 15,353 kidney failure patients undergoing hemodialysis. In North Sumatra, 1-3 of its 10,000 inhabitants suffer from chronic renal failure.

Who mentioned that 2,622,000 people had undergone *End – Stage Renal Disease (ESRD)* treatment at the end of 2015, as many as 2,029,000 people (77%) of them underwent dialysis treatment and 593,000 people (23%) undergoing kidney transplantation while cases of kidney

failure in Indonesia, every year is still fairly high because there are still many Indonesian people do not maintain their diet and health. A survey conducted by PERNEFRI (Indonesian Society of Nephrology) in 2015, the prevalence of chronic renal failure in Indonesia is about 12.5% meaning that about 18 million adults in Indonesia suffer from chronic kidney failure disease (Neliya, 2016).

In Indonesia, patients who have chronic chronic failure and who undergo hemodialysis therapy have increased, from a survey conducted by the Indonesian Society of Nephrology (Wurara, Kanine & Wowiling, 2015) there were 18 million people in Indonesia suffering from chronic kidney disease, *Indonesia Renal Regetry* data in 2015 the number of hemodialysis patients 2148 inhabitants while in 2008 the number of hemodialysis patients increased by 2260 inhabitants. In East Java, according to data dinkes East Java ranges from 1-4 out of 10,000 residents have chronic renal failure and for Ponorogo slightly higher, 2-4 out of 10,000 residents have chronic renal failure.

Hemodialysis is a process that functionally replaces impaired renal function by removing excess fluid and/or accumulation of endogenous or exogenous toxins (Suharyanto, 2014). According to Sudoyo (2015), hemodialysis is carried out by draining blood in an artificial kidney tube (dialiser) consisting of two separate components.

Coping mechanism is one way to adapt to stress (Saam & Wahyuni in Taluta, Mulyadi & Hamel, 2014). One can overcome stress and anxiety by moving the source of coping in an environment of economic capital, problem solving capabilities, social support and cultural beliefs (Stuart in Taluta, Mulyadi& Hamel, 2014). The phenomenon occurs in patients undergoing regular hemodialysis treatment or therapy, most patients feel anxious because of the long and long dialysis process, so the patient needs an effective coping or problem solving mechanism to be able to reduce or overcome anxiety.

The coping mechanism used by hemodialysis patients at Hasan Sadikin Hospital Bandung in 2015 according to Herwina is a problem-centered coping of 26.8% namely confrontation and

problem solving, emotionally centered coping as much as 19.5% such as seeking social support, acceptance, distance keeping, self-control.

From the results of interviews with several families and hemodialysis patients at Rasyida Hospital, they were able to use different coping mechanisms. Some patients and their families have been questioned about their condition and received support from the family, as seen from the way the family asks and seeks as much information as possible about matters related to hemodialysis patients, but there are some patients who still deny and remain silent to deal with the problems they are facing with a lack of family knowledge and curiosity and tend to follow the wishes and ignore the advice of doctors and nurses. Other factors that cause changes in coping in patients are problems of the patient's perception of the condition of his body, problems of the patient's self-image

## **2. Methodology**

The design of this research is descriptive. This research was conducted in the Hemodialysis Unit of the University Hospital of North Sumatra. The technique of sampling in this study is using *purposive sampling* techniques with a total of 78 samples.

The instruments in this study were questionnaires. The coping mechanism questionnaire was given using 20 statements with a choice of answers using the Likert scale with alternative answers Strongly Agreed scored 4, Agree score 3, Disagree score 2 and Strongly disagree score 1.

Data collection is done through stages: after the proposal is approved, researchers submit a letter of application for permission to the University Hospital of North Sumatra to conduct research. Once approved, the researchers met with prospective respondents to provide an explanation of the purpose and purpose of the study. Prospective respondents are given Informed Consent and questionnaire sheets and sign the consent sheet. Questionnaires that have been filled out are collected to researchers and rechecked for data processing. After all

the data is complete the researchers face the hospital training section to report that the research has been completed. Data processing procedures are carried out through the stages of editing, coding, scoring and tabulating and the data is analyzed so that the results obtained in the form of frequency distribution.

### 3. RESULTS

<b>№.</b>	<b>Age</b>	<b>Amount</b>	<b>Percentage</b>
1.	15-25 Years Old	6	7.7
2.	25-35 Years Old	18	23.1
3.	35 Years	54	69.2
	Total	78	100.0

Table 1. Age Frequency Distribution

<b>№.</b>	<b>Gender</b>	<b>Amount</b>	<b>Percentage</b>
1.	Male	47	60.3
2.	Women	31	39.7
	Total	78	100.0

Table 2. Gender Frequency Distribution

<b>№.</b>	<b>Old Hemodialysis</b>	<b>Amount</b>	<b>Percentage</b>
1.	<1 Year	11	14.1

2.	1-2 Years Old	20	25.6
3.	2 Years	47	60.3
	Total	78	100.0

Table 3. Hemodialysis Old Frequency Distribution

<b>№.</b>	<b>Characteristics of Respondents</b>	<b>Amount</b>	<b>Percentage</b>
1.	Civil Servants	16	20.5
2.	TNI/POLRI	6	7.7
3.	Self employed	26	33.3
4.	Private Employees	11	14.1
5.	Housewives	19	24.4
	Total	78	100.0

Table 4. Working Frequency Distribution

<b>№.</b>	<b>Coping Mechanism</b>	<b>Amount</b>	<b>Percentage</b>
1.	Adaptive	29	37.2
2.	Maladaptive	49	62.8
	Total	78	100.0

Table 5. Frequency Distribution of Coping Mechanism of Hemodialysis Patients

#### **4.DISCUSSION**

Coping mechanism is one way to adapt to stress (Saam & Wahyuni in Taluta, Mulyadi & Hamel, 2014). One can overcome stress and anxiety by moving the source of coping in an environment of economic capital, problem solving capabilities, social support and cultural beliefs (Stuart in Taluta, Mulyadi& Hamel, 2014). The results of the study known coping mechanism Coping mechanism chronic renal failure patients who followed hemodialysis therapy majority maladaptive as many as 49 people (62.8%) adaptive 29 people (37.2%).

The coping mechanism used by hemodialysis patients at Hasan Sadikin Hospital Bandung in 2015 according to Herwina is a problem-centered coping as much as 26.8% namely confrontation and problem solving, emotionally centered coping as much as 19.5% such as seeking social support, acceptance, keeping distance, self-control.

According to Stuart & Sundeen (2014) The characteristics of adaptive coping mechanism is being able to control emotions in him by talking to others, doing constructive activities, having a wide perception, being able to receive the support of others, and being able to solve problems effectively. While the characteristics of maladaptive coping are behaviors tend to be destructive, perform unhealthy activities such as drugs, alcohol, not being able to think anything or disorientation, behavior tends to avoid or withdraw, and can not solve problems.

In this study if it is linked to demographic data then adaptive respondents are respondents with female gender and male respondents are the majority maldaptive. According to the assumption female researchers use feelings more when it will be associated with a problem, are better able to hold emotions and tend to want to find out solutions from others, or ask the opinions of others, whereas men tend to be emotional, feel if there is a problem that afflicts feel very emotional and feel themselves weak and afraid of being considered inferior by others.

## 5. CONCLUSION

Coping mechanism Coping mechanism of Chronic Renal Failure patients who follow hemodialysis therapy the majority of maladaptive as many as 49 people (62.8%) adaptive 29 people (37.2%).

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# RELATIONSHIP OF THE QUALITY OF SERVICE TO PATIENT SATISFACTION FOR USERS OF HEALTH SOCIAL INSURANCE ADMINISTRATOR AGENCY (SIAA)/BPJS AT THE MIDWIFERY POLYCLINIC OF THE KEPULAUAN MERANTI DISTRICT GENERAL HOSPITAL

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## ABSTRACT

*The quality of service is a form of the patient assessment of the level of service received. Good service is the service provided to meet the needs or expectations of patients which can lead to patient satisfaction. This study aims to determine the relationship of quality of service to patient satisfaction for users of the Health Social Insurance Administrator Agency (SIAA)/BPJS at the Midwifery Polyclinic of the Kepulauan Meranti District General Hospital which was held from December 2020 to January 2021. The type of research is a quantitative study with a cross-sectional approach. The number of samples is 98 respondents with the purposive sampling technique. The results of univariate and bivariate data analysis with the Kolmogorov-Smirnov Z test obtained a P-value of 0.111 ( $P > 0.005$ ). It shows that there is no relationship between quality of service and patient satisfaction. It is hoped that the results of this study can be a reference for improving the quality of the Health Social Insurance Administrator Agency (SIAA)/BPJS at the Kepulauan Meranti District General Hospital.*

*Key Words* : *Quality of Service, Patient Satisfaction*

## 1. INTRODUCTION

Service quality is a form of patient assessment of the level of service received with the expected service level. Health development is part of development aimed at increasing awareness, willingness, and ability to live a healthy life for everyone in order to realize the highest degree of public health, which is an effort of all the potential of the Indonesian nation,

both public, private and government (Depkes RI, 2015). To improve public health status, there are many things that need to be considered, one of which is considered to have an important role, namely the implementation of health services. What is meant by health service is every effort made alone or jointly in an organization to maintain and improve health, prevent and cure diseases both for individual, family, group and community health (Saifudin, 2010).

The high cost of health makes it difficult for people to get health services, therefore it requires financing from the government and the community to provide health services. Insurance is a method that can be used to ease the burden of health financing and one of the efforts that have been made by the government in providing health insurance, namely through the National Health Insurance (JKN) which is regulated in Law Number 24 of 2011 concerning the Health Social Security Administering Body. (BPJS Health).

Since 2014 the government has implemented the JKN program through BPJS Health as the health program organizer. This government program aims to improve hospital services to the maximum so that BPJS patient satisfaction with health services can be fulfilled properly (Law of the Republic of Indonesia No.40 of 2014). The existence of BPJS Kesehatan is expected to be able to achieve the Universal Health Coverage target in 2019 so that all Indonesian citizens have national health insurance to benefit from health care and protection in meeting their basic health needs (BPJS Kesehatan, 2010)

The purpose of holding BPJS Kesehatan is to provide general health insurance by making it easier for people to access quality health services. The implementation of national health insurance through BPJS Kesehatan is a milestone in starting a comprehensive change in health services for the Indonesian people, but there are still complaints from the public about hospital services because of the bad perception of services using BPJS Kesehatan. These complaints include administrative services, nurses, doctors, facilities and infrastructure, drugs, costs and other hospital services obtained from the results of the report on the level of satisfaction of BPJS Kesehatan user patients with the quality of health services carried out by hospital management (Trisna, A ., 2019).

Satisfaction reflects a person's assessment of product performance in relation to expectations. If the product's performance does not meet expectations, the customer will be dissatisfied, but if the product performance is in accordance with the expectation, the customer will be satisfied. In order to create customer satisfaction, the products offered must be of high quality. Quality reflects all dimensions of product offerings that generate benefits for customers, including satisfaction with the services provided by the hospital (Kotler, 2014).

The quality of health services is very important because it will affect patient satisfaction which is assessed from 5 aspects, namely reliability, responsiveness, tangibles, assurance, and empathy. These five dimensions of service quality are the concept of service quality which is a measure of the quality of health services (Muninjaya, 2011).

Good quality health services can lead to a feeling of satisfaction in each patient, on the other hand, low customer satisfaction will have an impact on decreasing the number of patient visits which will affect the profitability of health facilities (Azwar, 2012). Patients' satisfaction with the services provided, they will reuse the service and encourage others to use the service and defend if other people vilify the service (Supriyanto, 2010).

RSUD Kepulauan Meranti is a government-owned hospital that is obliged to implement every policy set by the government. One of them is the policy of implementing the JKN program through BPJS Kesehatan. RSUD Kepulauan Meranti is the only hospital located in the Meranti Islands Regency, which is a type C regional public hospital that provides services for BPJS Kesehatan patients where nearly 90% of the population of Meranti has become BPJS Kesehatan participants. Until now, there has never been any research at the Kepulauan Meranti Regional Hospital that assesses the relationship between service quality and patient satisfaction with BPJS Kesehatan users.

## **2.DISCUSSION**

Based on the results of data analysis and hypothesis testing that has been carried out, it was found that patients who stated that the service was lacking and felt dissatisfied with the services provided were 2 people (100%), there were no patients who stated that the service was lacking and were satisfied with the service. There were 19 people (28.8%) who stated that the service was adequate and felt dissatisfied with the services provided and there were 47 people (71.2%) who stated that the service was adequate and were satisfied with the services provided. In this study also showed that there were 2 people (6.7%) who stated that the service was good but were not satisfied with the services provided and there were 28 people (93.3%) who stated that the service was good and were satisfied with the services provided.

So the results of the study were dominated by the patient group who expressed satisfaction with the services provided with adequate service quality of 71.2% and good service quality of 93.3%. However, on the other hand, it was found that the patient group expressed dissatisfaction with the services provided even though they rated the quality of service as good at 6.7%. Based on the test results, there is a value of p value 0.111 ( $> 0.05$ ), which means that the results of the study are not significant, meaning that there is no relationship between service quality and patient satisfaction or  $H_a$  is rejected and  $H_o$  is accepted.

Based on the attribution theory, this theory explains that a customer who has received an unsatisfactory product or service is less likely to make a purchase or reuse the product or service received.

## **6. CONCLUSION**

Based on the results of the study, there was no relationship between service quality and patient satisfaction of BPJS Kesehatan users in the Midwifery Polyclinic of Kepulauan Meranti Hospital.

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# CERTIFICATE OF APPRECIATION



THIS CERTIFICATE IS PROUDLY PRESENTED TO

**Mizna Sabilla**

*As Oral Presentation*

The 2<sup>nd</sup> Al Insyirah International Scientific Conference on Health (AISCH)  
**Elaboration and Collaboration in Efforts to Improve the Quality of Human  
Life During the Pandemic Period February 26 - 27<sup>th</sup>, 2021  
Pekanbaru, Indonesia**

Chairman of Al Insyirah School of  
Health Science Pekanbaru



Dr. Ns. Hj. Rifa Yanti, S. Kep, M. Biomed

The 2<sup>nd</sup> AISCH  
Committee Chairman

  
Ns. Fitra Mayenti, M. Kep



003/DPWPPNI/SKP/K.S.II/2021  
1. Peserta : 5 SKP  
2. Panitia/Moderator : 2 SKP  
3. Pembicara/Instruktur : 3 SKP



001/PDIBI/RIAU/SKP/I/2021  
5 SKP



40/SK/SKP/PENGDA-IAKMI/RIAU/I/2021  
1. Peserta : 4 SKP  
2. Pembicara : 4 SKP  
3. Moderator : 2 SKP  
4. Panitia : 4 SKP



003/III/Sertifikat-Pelatihan Regional/DPP-IKATEMI/2021  
1. Peserta : 2 SKP  
2. Pembicara : 2 SKP  
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Sebagai Orla Presentan Konferensi Ilmiah Internasional Al Insyirah ke-2 tentang Kesehatan dengan Tema "*Elaboration and Collaboration in Efforts to Improve the Quality of Human Life During the Pandemic*" pada tanggal 26-27 Februari 2021.

Demikian surat tugas ini dibuat untuk dapat dilaksanakan sebaik-baiknya.

Jakarta, 09 Februari 2021  
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Tembusan:  
Arsip



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Sebagai Penulis pertama artikel yang berjudul ***“Fast Foods Consumption Among Public Health Students in DKI Jakarta Province During Covid-19 Pandemic”*** dalam prosiding *The 2nd Al-Insyirah International Scientific Conference on Health* terbit pada 4 April 2021.

Demikian surat tugas ini dibuat untuk dapat dilaksanakan sebagai amanah dengan sebaik-baiknya.

Jakarta, 1 April 2021

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