EARLY DETECTION EDUCATION OF TUBERCULOSIS CHILDREN TO INCREASE KNOWLEDGE IN KINDERGARTEN TEACHERS AISYIYAH AMID CORONAVIRUS PANDEMIC

by rohimi zamzam

EARLY DETECTION EDUCATION OF TUBERCULOSIS CHILDREN TO INCREASE KNOWLEDGE IN KINDERGARTEN TEACHERS AISYIYAH AMID CORONAVIRUS PANDEMIC

Ernirita[1] , Dewi Purnamawati[2], Rohimi Zamzam[2] ,
[1]Faculty of Nursing, Muhammadiyah University of Jakarta
[2]Faculty of Public Health, Muhammadiyah University of Jakarta
[2]Faculty of Education, Universitas Muhammadiyah Jakarta

e-mail: erni_dika@yahoo.co.id   rohimi.zamzam@umj.ac.id   dewi.purnamawati@umj.ac.id

Abstrak

Guru sekolah Taman Kanak-kanak (TK) merupakan orang terdekat dengan anak setelah orang tua yang mempunyai peran penting dalam deteksi dini tuberkulosis pada anak. Penelitian ini bertujuan untuk mengetahui Pengaruh Edukasi Deteksi Dini Tuberkulosis Anak Terhadap nilai pengetahuan Guru TK Aisyiyah ditengah Pandemik Virus Corona di DKI Jakarta. Penelitian ini adalah penelitian Kuasi eksperimental dengan pendekatan *one grup pre test-post test design*. Sampel dalam penelitian ini sebanyak 35 orang. Kegiatan edukasi dilakukan secara virtual, data dikumpulkan menggunakan *google form*. Data dianalisis secara multivariate dengan regresi linier berganda. Hasil penelitian menunjukkan rata-rata usia guru 40,5 tahun, rata-rata lama kerja 9 tahun dan mayoritas guru berpendidikan sarjana 71,4%. Rata-rata nilai pre test adalah 58,60 dan rata-rata nilai post test adalah 71.91. Terdapat perbedaan yang signifikan rata-rata nilai pengetahuan peserta sebelum dan sesudah dilakukan kegiatan edukasi (nilai p = 0,0001). Pendidikan secara simulatan mempengaruhi nilai pengetahuan setelah dikontrol oleh usia dan lama kerja sebagai konfounding (p 0,002, r square 0,341). Diperlukan kegiatan sejenis untuk meningkatkan pengetahuan guru-guru Tk terhadap informasi kesehatan dengan memperhatikan pendidikan, usia dan lama kerja.

Kata Kunci: Pengetahuan, Deteksi Dini, TB, Aisyiyah, Guru TK

Abstract

Kindergarten teachers are the closest people to the child after parents who have an important role in the early detection of tuberculosis in children. This study aims to determine the Influence of Early Detection Education of Tuberculosis Children on the value of knowledge of Aisyiyah Kindergarten Teachers amid the Coronavirus Pandemic in DKI Jakarta. This research is an experimental quasi-research with one group pre test-post test design approach. The samples in this study were 35 people. Educational activities are conducted virtually, data collected using Google Forms. The data is analyzed multivariate with multiple linear regressions. The results showed an average teacher age of 40.5 years, an average working length of 9 years, and the majority of undergraduate-educated teachers 71.4%. The average pre-test score is 58.60 and the average post-test score is 71.91. There is a significant difference in the average value of knowledge of participants before and after educational activities (value p = 0.0001). Education simulates the value of knowledge after being controlled by age and length of employment as confounding (p 0.002, r square 0.341). Similar activities are needed to improve the knowledge of kindergarten teachers on health information by paying attention to education, age, and length of work.

Keywords: *Knowledge, Early Detection, TB, Aisyiyah, Kindergarten Teachers*

A. Introduction

Tuberculosis is still a health problem in the world, An estimated 20 million children are exposed to tuberculosis (TB) every year, Children bear a huge burden of global tuberculosis (TB), with more than one million (<15 years) falling ill each year, and 90% of the 205,000 children estimated to die of TB each year never diagnosed or treated. [1]

Tuberculosis (TB) is caused by bacteria (Mycobacterium tuberculosis) and most commonly attacks the lungs. TB spreads through the air when people with pulmonary TB cough, sneeze, or spit. Every year, 10 million people contract tuberculosis. Despite being a preventable and cured disease, 1.5 million people die from TB each year making TB the world's top infectious killer. [2]

Tuberculosis is a pulmonary infectious disease caused by Mycobacterium tuberculosis. Based on data released in 2020, WHO ranked Indonesia second in the world for most TB cases, after India (WHO,2020). [3]

TB in children occurs aged 0 - 14 years. In children, TB is one of the causes of death and pain. Globally, the number of TB cases in children and adolescents aged 0–14 increased from about 400,000 in 2015 to 523,000 in 2019. [2] In Indonesia, the proportion of TB in children was 10.5% or about 63,111 cases in 2019. [4]

TB situation during the Covid Pandemic, based on tuberculosis information system (SITB) data as of July 16, 2020, during January – June 2020, the number of TB cases in Indonesia experienced a considerable downward trend, in January a total of 31,216 cases while in June 11,839 cases. Compared to 2019, the difference is also very noticeable. As in January, there was a difference in the number of cases of 21,957 cases. The President said that the current government's Covid-19 treatment model can also be applied in efforts to eliminate tuberculosis. Aggressive tracking models to find sufferers can be done to look for unrelated tuberculosis sufferers. [5]

The general dimension of pulmonary TB transmission in children is as a result of the contact of adult pulmonary TB people is greater or not as a cause (transmitting to the population). This happens because in children the condition of the disease is more often pacibacillary, very difficult to detect both with sputum examination, culture, and molecular tests. If the disease is undetected and untreated, the child will be at high risk of death. [6]

From the research of Ernirita et al,[7]. The results showed a significant association between contact history and nutritional status of tuberculosis in children in the Puskesmas area of Central Jakarta and East Jakarta. Children with a contact history will be at risk of tuberculosis 1.33 times, OR 1.33 (95% CI 0.95-1.693). and children with malnutrition were at 18.5 times greater risk of tuberculosis, OR 18.5 (95% CI 1,158-108.37).

From the results of research Ernirita et al, [8] Statistical test results obtained a value of OR 4.44, 95% CI (1.52 - 12.94), with a p-value of 0.011 means there is an age relationship of children < 5 years with the incidence of Pulmonary TB in children Research Rusliana Apriliasari et al, The results of the analysis for contact history variables showed a relationship with the incidence of pulmonary TB in children, this was indicated by a p-value of 0.018 and an OR value of 3.143 (95% CI = 1,291 – 7,653), meaning that respondents who had a history of contact with adult pulmonary TB patients had a 3.1 times greater risk of being infected with pulmonary TB compared to respondents who did not have a history of contact with adult pulmonary TB patients. [9]

Marques et al research [10] explains TB disease in children if not treated immediately and treated properly will cause prolonged suffering and will usually develop in a worse direction e.g. TB military and meningitis, and of course, will inhibit the growth of the child. Therefore, it is necessary to make early detection of TB in children.

Hendrawati Research. S.et al [11] state Early screening and detection of tuberculosis should be encouraged in the community. During this time, a child will be known and diagnosed with tuberculosis only if the parents take their child to the Puskesmas, so early detection is more passive and sometimes too late. Teachers as the second closest person to the child have an important role in the early detection of TB in children. The involvement of school teachers is important in the process of early detection and screening of tuberculosis in children. Approx. 52 (5.2%) students are suspected of TB through early detection programs provided to school teachers.

Doctoral Program of Islamic Education Management - UMJ

The purpose of this study is to find out " The influence of Early Detection Education of Tuberculosis Children On the value of knowledge of kindergarten teachers Aisyiyah in the middle of the Coronavirus Pandemic.

B. Literature Review

Article Characteristics Table

Author and year	Purpose	Method	Sample	Result
Health Education To Increase Knowledge About Routine Treatment of Pulmonary TB Patients (Ahmad Yani et al., 2020)	To know the differences in knowledge and response of pulmonary TB sufferers to the provision of health counseling about the compliance of taking pulmonary TB drugs in the Working Area of Puskesmas Tambu Balaesang District Donggala District	Quasi-Experimental with one group pre-test post-test design approach	The number of samples in this study was 42 sufferers (total population).	There is a difference in knowledge before and after health counseling about the routine treatment response of Pulmonary TB with the value of increasing knowledge before and after counseling. Pengethun previously meant 34.6 and knowledge after counseling 38.3 and P-Value 0.000
Preventing tuberculosis in children: A global health emergency (Reuter, Anja Seddon, James A. Marais, Ben J.Furin, Jennifer, 2020)	Explore potential challenges and solutions in the TB prevention cascade, including identifying children who have been exposed to TB; detect TB infection in these children; identify those at high risk for developing into disease;	Conducted a review of published literature on TB Prevention pediatrics using Pubmed and Ovid databases up to and including October 28, 2019.	With 13 leteratur reviews	screening for TB infection; predict the risk of development from infection to TB disease; treat TB infection; mobilize civil society and other stakeholders to join and monitor progress related to TB prevention in children.
Childhood Pulmonary Tuberculosis (0-14 Years) Due to Home Contact of Adult Pulmonary Tuberculosis	Reviewing factors that are suspected to lower the risk of children not getting lung TB when living in a	The method with control case design based on medical record data in nine children's TB referral hospitals	The number of samples used in each case and control is 66 + 66 = 132 samples.	The intensity of exposure to adult pulmonary TB sufferers who can spend a day of shaving time is also indicated by the risk of transmission (ORcrude = 3; ORadjusted = 5) or the

Sufferers In Special Region of Yogyakarta (Al Asyary Upe, 2015)	house with adult patients.	and health centers in Yogyakarta Special Region Province (DIY)		intensity of infrequent exposure (sometimes) with adult pulmonary TB sufferers lowers the risk of pulmonary TB disease in children in the house
Contact History And Malnutrition Status May Increase Incidence of Tuberculosis In Children, ErniRita et al,2020)	Knowing the relationship of contact history and nutritional status to the incidence of tuberculosis in children in the Puskemas area of Central Jakarta and East Jakarta.	observational analytics with a Cross-sectional approach	The sample of this study as many as 91 respondents using total sampling techniques. An	Poor nutritional status and contact history can increase the incidence of tuberculosis in children. The results showed nutritional status of p-value 0.002 and OR 18.5 (95% CI 1,158-108.37), and contact history of p-value 0.029 and OR 1.33 (95% CI 0.95-1.693).
Empowerment of School Teachers and Health Cadres in Early Detection and Screening of Tuberculosis in School Children, Hendrawati. S. et al, 2018)	Empowering school teachers and health cadres in conducting early detection and discovery of tuberculosis cases in school children	Quasi Experiments	Primary School Teachers (SD) and Madrasah Ibtidaiyah (MI) as well as health cadres in Cileles Village, Jatinangor District, Sumedang Regency with a total sample of 50 villagers	The results showed that the average knowledge score of school teachers and health cadres before empowerment activities was 63.33 (SD = 20.90); the average knowledge score of school teachers and health cadres after the activity was 81.00 (SD = 12.96) with an average increase in score of 17.67 (SD = 20.96) and a p score of 0.000

From the literature review obtained a novelty is that the research was conducted by screen measuring cognitive and psychomotor especially in kindergarten teachers, with analysis with multivariate

C. Method
The design of this research is Quasi-Experimental research with one group pre-test post-test design approach. This research was conducted from June to August 2020. The population is 35 Aisyiyah kindergarten teachers in DKI Jakarta. Educational activities are conducted virtually, pre-test evaluation and post-test are conducted using google form. Data analyzed multivariate with multiple linear regressions.

D. Results and Discussion
Educational activities, health runs relatively smoothly secure virtual using zooms meeting platform. Obstacles that occur due to signal interference in some participants, but do not hinder activities. The response of the participants was quite good, as seen from the discussion process that occurred in each material submitted.

The evaluation of participants was seen from the increase in pre-test and post-test scores. Of the 35 teachers of Aisyiyah Kindergarten, 71.4% were educated in undergraduate school and the rest were spread over high school and diploma III by 14.3%. The average age of participants was 40.54 years, the youngest age was 20 years and the oldest was 50 years. The average working time

is 9 years and the longest working for 26 years. In the research obtained distribution of educational characteristics, age, and length of work respondents can be seen in table 1 and table 2.

Table 1
Distribution of Education participants in child TB detection in Aisyiyah kindergarten teachers in DKI Jakarta (n= 35)

Education	Sum	Persentage
Senior High School	5	14,3
Diploma (D1-D3)	5	14,3
Bachelor	25	71,4
Total	35	100,0

Table 2
Distribution of Age and Duration characteristics of Health Education Participants in Child TB Detection in Aisyiyah Kindergarten Teachers in DKI Jakarta (n=35)

Variable	Mean	Median	Primary school	Minimum-Maximum
Length of work	9	5	7,45	1 – 26 years
Age	40,54	42	7,65	20- 50 years

The average value of knowledge of participants before health education activities was 58.60 and the average value of knowledge after health education activities was 71.91. There is a significant difference in the average knowledge value of health education participants before and after health education (value p=0.0001) (table 3). Participants' ability in early detection of TB in children is carried out in simulation by providing cases to participants and evaluated the success of participants in conducting early detection of TB cases in children in the community.

Table 3
Differences in Average Value of Knowledge of Participants in TB Detection Education in Children before and after health education

Category	Mean	SD	SE	P *value*	N
Pre-test	58,60	12,83	2,16	0,0001	35
Post-test	71,91	16,03	2,71		

Primary data source 2020

Table 4
Multivariate Modeling

Variable	*Coefficient B*	*SE*	*t*	*p-value*
Education	12,522	3,469	3,610	0,001
Age*	0,052	0,355	0,147	0,147
Length of work*	-0,117	0,389	-0,300	0,766

R square: 0,314; sig 0,002   *cofounding

Further analysis with multivariate found that respondents' knowledge (post-test value) was influenced by education after being controlled by age and length of work by 31.4%, the rest was influenced by other factors not studied in this study.

Education is an effort to persuasion or learning to the community so that the community will take actions to maintain and improve its health. Another theory mentions that health education is a learning experience designed to shape healthy behaviors [12]

One of the healthy behaviors is early detection of TB in children., TB detection in children is one of the prevention efforts that can be done by involving community participation, one of which is the teachers. Teacher involvement in early detection of child TB is an active family and

community-based effort capable of identifying risk factors and contact history with adult TB sufferers [13]

The results of health education provided to teachers are able to improve the knowledge of kindergarten teachers about TB and able to improve the ability of teachers in early detection of children's TB cases with case simulations. Various studies have also shown that providing health education is able to increase knowledge in early detection of TB [14], also mentioning that teachers have an important role in the early detection of TB in children. [11]

E. Conclusion

This study concluded that there are differences in knowledge before and after education or health education about child TB detection. This difference in knowledge is influenced by education after being controlled by the age and length of the respondent's work.

This research suggests improving similar programs by improving the knowledge of kindergarten teachers, especially in terms of early detection and prevention of tuberculosis transmission. Furthermore, not only the knowledge of kindergarten teachers, but also the development of a robust school program and TB response.

References

[1]   A. Reuter, J. A. Seddon, B. J. Marais, and J. Furin, "Preventing tuberculosis in children: A global health emergency," *Paediatric. Respiratory. Rev.*, vol. 36, pp. 44–51, 2020.

[2]   WHO. 2020, "'Tuberculosis Report 2020; Executive Summary.,'" Geneva: World Health Organization, Licence: CC BY-NC-SA 3.0 IGO., 2020.

[3]   World Health Organization (WHO). Global tuberculosis report 2020

[4]   KemenKes RI, "Profil Kesehatan Indonesia tahun 2019,. HEALTH INFORMATION SYSTEM," Indonesia, 2020.

[5]   Kemenkes RI, "Buletin Eliminasi Tuberkulosis," *Bul. Elimin. Tuberkulosis*, vol. 1, pp. 1–21, 2020.

[6]   AL ASYARY UPE, "TUBERKULOSIS PARU ANAK (0-14 TAHUN) AKIBAT KONTAK SERUMAH PENDERITA TUBERKULOSIS PARU DEWASA DI DAERAH ISTIMEWA YOGYAKARTA," Universitas Indonesia, 2015.

[7]   Erni Rita et al, "RIWAYAT KONTAK DAN STATUS GIZI BURUK DAPAT MENINGKATKAN KEJADIAN TUBERKULOSIS PADA ANAK," *JKMK Jurnal. Kesehatan. Masyarakat. KHATULISTIWA*, vol. 7, No 1, no. Maret 2020, pp. 20–29, 2020.

[8]   ErniRita et al, " Contact Investigation of Tuberculosis Case Finding On Children with Index Cases", Has been accepted for Oral Presentation in the 13S PPI Taiwan to held in Tunghai University, Taiwan, November 24,2019

[9]   R. Apriliasari, et al, "Faktor Yang Berhubungan Dengan Kejadian TB Paru Pada Anak (Studi Di Seluruh Puskesmas Di Kabupaten Magelang)," *Jurnal. Kesehatan. Masyarakat.*, vol. 6, no. 1, pp. 298–307, 2018.

[10]   C. Marquez *et al*., "Assessing the quality of tuberculosis evaluation for children with prolonged cough presenting to routine community health care settings in rural Uganda," *PLoS One*, vol. 9, no. 8, pp. 5–9, 2014.

[11]   Hendrawati. S. et al, "Pemberdayaan Guru Sekolah dan Kader Kesehatan dalam Deteksi Dini dan Screening Tuberkulosis pada Anak Sekolah," *Media Karya Kesehat.*, vol. 1, no. 1, pp. 11–28, 2018.

[12]   Glanz, Karen, Barbara K Rimer, and K Viswanath,Health Behaviour and Health Education. Health Education. Vol. 63. https://doi.org/10.1016/S0033-3506(49)81524-1, 2008

[13]   Kementerian Kesehatan RI, *Petunjuk Teknis Manajemen dan Tatalaksana Tuberkulosis Anak.* 2016

[14]   Agustina, "Analisis Pengetahuan Terhadap Kepatuhan Remaja Putri Dalam Mengkonsumsi Tablet Tambah Darah Untuk Pencegahan Dan Penanggulangan Anemia Gizi Besi Analysis Of Knowledge To Compliance Of Iron-Fortified Formula Among Adolescents As Prevention And Treatment To," *J. Ilm. Kesehat. Masy.*, vol. 11, pp. 269–276, 2019.

EARLY DETECTION EDUCATION OF TUBERCULOSIS CHILDREN TO INCREASE KNOWLEDGE IN KINDERGARTEN TEACHERS AISYIYAH AMID CORONAVIRUS PANDEMIC

8 garuda.kemdikbud.go.id
Internet Source
1%

9 www.grafiati.com
Internet Source
1%

10 Submitted to Universitas Indonesia
Student Paper
1%

11 Metri Triyanti, Harmoko Harmoko, Nova Lestari. "EFEKTIVITAS MODEL PEMBELAJARAN COURSE REVIEW HORAY TERHADAP HASIL BELAJAR BIOLOGI DAN MOTIVASI SISWA KELAS X SMA NEGERI JAYALOKA", BIOEDUKASI (Jurnal Pendidikan Biologi), 2018
Publication
<1%

12 Rohimi Zamzam, Erni Rita, Dewi Purnamawati, Azmi Al-Bahij. "Empowerment of Aisyiyah kindergarten teachers in early detection of tuberculosis", Community Empowerment, 2021
Publication
<1%

13 jurnal.umj.ac.id
Internet Source
<1%

14 Lisa Indriyanti, Arsyad Abd. Gani, Sintayana Muhardini. "Pengembangan Media Puzzle untuk Meningkatkan Hasil Belajar Siswa Kelas 1 SDN 38 Mataram", CIVICUS : Pendidikan-
<1%

Penelitian-Pengabdian Pendidikan Pancasila dan Kewarganegaraan, 2020
Publication

15	pubmed.ncbi.nlm.nih.gov Internet Source	<1%
16	eprints.undip.ac.id Internet Source	<1%
17	ir.ucc.edu.gh Internet Source	<1%
18	www.researchgate.net Internet Source	<1%

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		