

## **RELATIONSHIP BETWEEN INDIVIDUAL CHARACTERISTICS WITH SYMPTOMS OF LOWER BACK PAIN IN PUTRI DAFFA CONVECTION WORKERS IN DEPOK, 2023**

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### **ABSTRAK**

Nyeri pinggang adalah masalah yang sangat umum terjadi pada orang-orang dari segala usia dan secara umum digambarkan sebagai nyeri, ketegangan otot, atau kekakuan yang terletak di bawah tepi kosta dan di atas lipatan gluteal bawah, dengan atau tanpa nyeri pada kaki. Penelitian ini merupakan penelitian deskriptif analitik dengan menggunakan pendekatan *cross-sectional*. Penelitian ini dilakukan di Konveksi Putri Daffa yang berlokasi di Kecamatan Limo, Depok dengan sampel 70 karyawan wanita konveksi daffa. Alat pengumpulan data menggunakan kuesioner. Hasil analisis uji *Chi-square* dan regresi logistik sederhana pada variabel masa kerja menunjukkan tidak terdapat hubungan yang signifikan antara masa kerja dengan nyeri pinggang, tidak terdapat hubungan antara masa kerja dengan low back pain, terdapat hubungan antara postur kerja dengan nyeri pinggang, dan tidak terdapat hubungan antara umur dengan nyeri pinggang. Dari hasil penelitian ini maka perlu adanya cara untuk mencegah nyeri pinggang dan cara mengurangi nyeri jika sudah terjadi nyeri pinggang yaitu senam punggung setiap hari, berhati-hati saat bekerja, melindungi punggung saat duduk dan standing dan stay aktif dan menjalani hidup sehat.

**Kata kunci:** Karakteristik Individu, Nyeri Punggung Bawah, Pekerja, Konveksi.

### **ABSTRACT**

Low back pain is a very common problem in people of all ages and is generally described as pain, muscle tension, or stiffness located below the costal margin and above the lower gluteal fold, with or without pain in the legs. This research is a descriptive analytical study using a cross-sectional approach. This research was conducted at the Putri Daffa Convection located in Limo District, Depok with a sample of 70 female employees of the Daffa Convection. The data collection tool uses a questionnaire. The results of the Chi-square test analysis and simple logistic regression on the variable length of work showed that there was no significant relationship between work experience and low back pain, there was no relationship between work experience and low back pain, there was a relationship between work posture and low back pain, and there was no The relationship between age and low back pain. From the results of this research, it is necessary to have ways to prevent low back pain and ways to reduce pain if low back pain occurs, namely daily back exercises, being careful when working, protecting your back when sitting and standing and staying active and living a healthy life.

**Keywords:** Individual Characteristics, Low Back Pain, Workers, Convection.

### **INTRODUCTION**

Low back pain is a very common problem among people of all ages dan is commonly described as pain, muscle tightness, or stiffness that is located below the costal margin dan above the lower gluteal folds, with or without leg pain (1). Low back pain can affect functioning, community participation dan personal financial well-being in a variety of biophysical, psychological dan social ways dan is the most common

cause of disability in people of working age worldwide, especially in low- dan middle-income countries where employment is informal. common, and job change options are limited (2). Acute low back pain usually occurs in less than 6 weeks, whereas sub-acute low back pain occurs within 6-12 weeks, and chronic low back pain usually occurs in the long term or more than 12 weeks (3).

In 2003, 3.2% of the total US workforce lost productive time due to low back pain. In the UK, back pain is the leading cause of absenteeism from work, with an estimated 3.5 million workdays lost in 2007/2009 due to musculoskeletal disorders, especially low back pain (4). The prevalence of musculoskeletal diseases based on diagnoses by health workers in Indonesia is 11.9% dan based on diagnoses or symptoms 24.7%. A total of 11 provinces have a prevalence of joint disease above the national percentage, namely Nanggroe Aceh Darussalam, West Sumatra, Bengkulu, West Java, Central Java, East Java, Bali, West Nusa Tenggara, East Nusa Tenggara, South Kalimantan dan Papua. The prevalence of musculoskeletal diseases in Central Java alone reaches 18.9% (5).

Based on the Degree of Pain Complaints, most of the respondents, namely 18 respondents (60%) experienced complaints of pain at a moderate degree, then 11 respondents Gender Total % Female 20 66 Male 10 34 Total 30 100 Relationship of Long Standing with Miogenic Lower Back Pain Complaints in Workers Cashiers in Surakarta 65 (37%) complained of mild pain, 1 respondent (3%) complained of severe pain (6). Factors associated with complaints of low back pain include standing or bending for a long time, sitting in an inappropriate chair, driving for a long time, poor posture, lack of exercise, obesity, pregnancy, lifting, carrying, and pushing. , or pulling weights that are too heavy. Apart from the factors above, other factors related to complaints of low back pain are injuries, inflammatory diseases, cancer, and osteoporosis (7).

One of the examples of work that can cause lower back pain is sewing. In Indonesia, sewing is a job that has been occupied by both individuals and convection businesses. In carrying out work, workers are at risk of getting an accident or occupational disease. This can happen because workers often experience inappropriate sitting positions dan sitting duration resulting in a state of stiff posture dan static muscle load. Activities that use too much forward motion or bending, lifting heavy weights inappropriately, or working in a sitting position for long periods are possible factors that can cause pain in the limbs, back, arms, joints, dan other muscle tissue (8). Based on the data above, researchers are interested in researching to find out the relationship between individual characteristics and symptoms of low back pain in women's convection workers, Daffa Depok, 2023.

## **METHOD**

This research is an analytic descriptive study using a cross-sectional approach. This research was conducted. This research was conducted at the Putri Daffa Convection which is located in the Limo District, Depok. The research was carried out in January 2023. Selection of place Based on the results of the initial visit, there were fifteen workers at the Putri Daffa Convection, Depok, who experienced complaints of lower back pain. after work. if left alone the symptoms of low back pain can have a very serious impact, this makes researchers interested in researching the relationship of individual characteristics with symptoms of low back pain at convection Putri Daffa Depok in 2023. The sample used is all Daffa Princess convection employees with a total sample of as many as 70 people, taken by total sampling. Data collection tool using a questionnaire.

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This research has gone through ethical due diligence by the Ethics Commission of the Faculty of Public Health, University of Muhammadiyah Jakarta, and is accompanied by an ethical feasibility letter No.10.580.B./KEPK-FKMUMJ/I/2022 the research was conducted by adhering to universal ethical principles.

## **RESULTS AND DISCUSSION**

Based on Table 1 it can be seen that the new workers are twice as many from old workers (77.1%: 22.9%), while for the old working group, the most were those who worked  $\leq 8$  hours/day (80.0%). The results of the analysis of the attitude variable at work 64.3% of the body attitude is ergonomic, while the body attitude that is not ergonomic is as much as (35.7%). For the lower back pain variable, there were more complaints compared to those with complaints (72.9%: 27.1). Dan the results of the analysis on the age variable were that the majority were aged  $\leq 35$  years (65.7%).



**Table 1. Characteristics of Respondents by Group Working Period, Length of Work, Posture at Work, Low Back Pain dan Age**

Variable	n	%
<b>Years of service</b>		
New ≤ 5 years	54	77.1
Old > 5 years	16	22.9
<b>Length of working</b>		
Eligible ≤ 8 hours/day	56	80.0
Not Qualified >8 hours/day	14	20.0
<b>Posture at work</b>		
Ergonomic	45	64.3
Not ergonomic	25	35.7
<b>Lower back pain</b>		
No complaints	51	72.9
There are complaints	19	27.1
<b>Age</b>		
Young ≤ 35 years	46	65.7
Old > 35 years	24	34.3

Based on table 2. The results of the analysis of the Chi square test dan simple logistic regression on the variables of working period show that there is no significant relationship between working period dan low back pain with a p-value of  $1.000 > 0.05$ . Dan the results of the Chi square test analysis dan simple logistic regression on the length of work variable also show that there is no relationship between length of work dan low back pain, this can be seen from the p-value of 1,000. The results of the analysis of the Chi-square test dan simple logistic regression on the variables of posture at work, shows that there is a relationship between posture at work dan low back pain, which can be seen from the p-value of  $0.001 < 0.05$ .

**Table 2. Relationship Between Individual Characteristics and Low Back Pain Symptoms**

Variable	p-value	OR	CI (95%)
<b>Years of service</b>			
New ≤ 5 years	1.000	0.867	0.241 – 3.113
Old > 5 years			
<b>Length of working</b>			
Eligible ≤ 8 hours/day	1.000	1.093	0.297 – 4.018
Not Qualified >8 hours/day			
<b>Posture at work</b>			
Ergonomic	0.001	7.042	2.199 – 22.547
Not ergonomic			
<b>Age</b>			
Young ≤ 35 years	0.088	0.268	0.069 – 1.037
Old > 35 years			

Based on the results of the bivariate analysis, it shows that there is a relationship between the variable length of work dan low back pain with a p-value of (1.00). This is following the results of research conducted by (Gujarati, 2010) test obtained a p-value of 0.160, which means there is no significant relationship between complaints of low back pain and years of service in assembling workers. This is also following research conducted by (Soleha, 2009) who they stated that there was no significant relationship between length of work and complaints of lower back pain. Based on observations workers who have a low tenure also experience complaints of low back pain, this is because many workers who have a low tenure do work with high dan very high ergonomic risks. In addition, many of them also have smoking habits so even though their tenure is still low, they can also experience complaints of lower back pain. While the results in this study were not in line with research (Hdanayani, 2011) Based on the results of the independent T-test analysis, it was found that the average working period of workers who experienced complaints of low back pain was 120.02 months (10 years) dan workers who experienced no complaints of low back pain was 59.26 months (5 years) with a probability value of 0.004 (p-value < 0.05), which means that there is a significant relationship between years of service dan complaints of low back pain (9).

In the length of work variable, the results of the bivariate analysis showed that there was no significant relationship between the length of work variable dan the low back pain variable. When viewed from the p-value, it was equal to (1.00). This is in accordance with the results of research conducted by (Sakinah, 2019) regarding factors related to complaints of lower back pain in brick workers in Lawawoi Village, Sidrap Regency in 2012, with a p-value of 0.311 (p-value > 0.05), that is, there is no relationship between length of work dan complaints of low back pain.

The results of the bivariate analysis showed that there was a significant relationship between the variables of posture at work dan the low back pain variable. If we look at the p-value, it is equal to (0.001). This research is in line with research (Nurzannah, Sinaga dan Salmah, 2015) analysis of the relationship between length of work and complaints of lower back pain that respondents who experienced complaints of lower back pain were higher in respondents with duration of work <8 hours a day, namely 29 respondents (90.6 %). This research is also in line with (Irawati, Yogisutanti and Sitorus, 2020) which shows that work attitude dan musculoskeletal complaints are significantly related. The p-value of 0.026 is smaller than  $\alpha=0.05$ . Respondents who have a risky work attitude as many as 18 people, it turned out that all respondents had musculoskeletal complaints in the high category. Respondents with work attitudes are in the no-risk category, it turns out that respondents with musculoskeletal complaints are in the low category, the number is higher when compared to respondents who have complaints in the high category (7).

The results of the bivariate analysis showed that there was no significant relationship between the age variable dan the low back pain variable with a p-value (0.088). This study is in line with (Gujarati,

2010) it is known that complaints of low back pain are experienced by workers aged  $\geq 35$  years. The results of statistical tests showed that there was no significant relationship between age and complaints of low back pain. Meanwhile, according to (Nurzannah, Sinaga dan Salmah, 2015), age has a significant relationship with subjective complaints on the back with a value (OR 0.259 dan p-value  $0.021 < \alpha 0.05$ ) (10).

## **CONCLUSION AND SUGGESTIONS**

Based on the results of the research dan discussion in the previous chapter, then it can be concluded that as many as 65.7% of respondents are young, namely less than 35 years old, as many as 77.1% of respondents have worked for more than 5 years, as many as 80% of respondents have a working length that meets the requirements, namely less than 8 hours a day. Respondents have an attitude that is not ergonomic at work as many as 35.7%, the majority of respondents who experienced complaints were 27.1%, there is no relationship between age and symptoms of low back pain with a p-value of 0.088, there is no relationship between length of work and symptoms of low back pain with a p-value of 1,000, there is no relationship between length of work and symptoms of low back pain with a p-value of 1,000, there is a relationship between posture at work and symptoms of low back pain with a p-value of 0.001.

Based on the results of this study, it is necessary to have a way to prevent lower back pain and how to reduce pain if low back pain has occurred, namely daily back exercises, being careful when working, protecting your back when sitting dan standing dan stay active dan live a healthy life. Workers aged  $\geq 35$  years should consume foods or drinks that contain high calcium dan pay attention to their physical condition. For the Putri Daffa Convection, they provide training for convection workers regarding ergonomic ways of working to avoid risks due to work dan holding periodic health checks, especially regarding complaints of low back pain.

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