THE INFLUENCE OF WORKING POSITIONS, WORKING PERIOD, AND DURATION OF WORK IN LOW BACK PAIN INSIDENCE AMONG PACKING WORKERS PT PHAPROS Tbk.

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Abstract

Low Back Pain (LBP) is a phenomenon that is often complained of the elderly, but it was likely experienced by the young. This phenomenon is common in every job, especially the industrial workers are still using manpower in terms of handling the material. The transfer of material manually is not done ergonomically will cause accidents. Position work is continuous static and can cause health problems such as LBP is capable of interfering with work productivity. The purposes of this study is to identify the influence between working positions, working period, and duration of work in low back pain incidence on packing workers PT PHAPROS Tbk. Semarang in 2016. This study was an observational study with cross sectional analytic analyzed with Chi square correlation test and Spearman correlation which includes univariate and bivariate analysis. The number of samples with random sampling techniques were 100 packing workers PT. Phapros Tbk Semarang in August-October, 2016. Most of workers complained of moderate pain (42%). The results of the bivariate analysis showed that the position of the work-related complaints LBP (p = 0.000). There was a significant correlation between working period with complaints of LBP (p = 0.000), and there was a significant correlation between the duration of work with complaints of LBP (p = 0.000). The results indicate that the significant correlation between the working position, working period, and duration of work with the complaint LBP. Working position is the most influence variable on the incidence of LBP. The importance of maintaining the position of the work, as well as effectively manage their work time so as to minimize the occurrence of LBP pain.

Keywords: working position, working period, duration of work, Low Back Pain

INTRODUCTION

Low back pain (LBP) is a phenomenon that is often complained of elderly people, but not likely to be encountered by young people. This phenomenon is often found in every job. The incidence and severity of LBP disorders are more common in women than in men.[1] LBP or lower back pain is one of the musculoskeletal disorders caused by poor body activity.[2] LBP can be caused by a variety of musculoskeletal disorders, psychological disorders and mobilization wrong. One of the factors of disability in patients with leprosy arising from the treatment process is not optimal.

Factors that affect the occurrence of LBP can be caused by the wrong position at work. Static position in work is sometimes unavoidable. When in a state of static and continuous besifat it can cause health problems such as LBP were able to interfere with work productivity. Long sitting causes excessive load and tissue damage in the lumbar vertebra. The prevalence of LBP due to a sitting position of 39.7%, of which 12.6% often leads to complaints; 1.2% occasionally cause complaints and 25.9% rarely cause complaints.[3] Too long sitting in the wrong position will cause muscle tension and spinal ligament tension. The wrong body position during sitting makes any abnormal pressure on the tissue, causing pain.[4]

Based on the above background, the researcher wanted to study the study as follows; "Is there a relationship between the working period, the duration of work, and the position of work with low back pain events perceived packing workers PT. Phapros Tbk? ". While the purpose of this study is to determine the effect of duration, duration, and position of work against the low back pain event perceived packing workers PT. Phapros Tbk.

RESEARCH METHODS

This research was conducted in August - September 2016. The place of research was conducted at PT. Phapros Tbk. Semarang. This researched was a quantitative research with cross sectional study design, which is a study design that identifies, measurement variables, and seeks the relationship between variables to explain the observed events based on data already available. Respondents who meet the criteria of inclusion and exclusion as many as 100 respondents of the study of packaging workers at PT. Phapros Tbk.

Univariate analysis is a descriptive data analysis to obtain a picture of minimum, maximum, average, standard deviation and frequency distribution or the amount of proportion based on the variables studied. Bivariate analysis is a data analysis performed to see the relationship between independent variables and bound. The analytical technique used Chi Square statistical test.[5]

RESULTS

Based on table 1 the description of research subjects by age of respondents. Based on 100 research samples, the lowest age being the research sample is 23 years old, the highest age at 54 years. The mean age of the study sample was 36.67 years, with a standard deviation of 9,224.

Table 1. Characteristics of Age

Responden Data	Min.	Max.	Average	Deviation standart
Age	23 Years old	54 years old	36,67	9,224

Based on table 2, Research sample that has score from result of job position identification less than 7 counted 40 (40%) responder. While the sample of research that has a score of the results of job position identification of 7 as many as 60 (60%) of respondents. The results above show that most of the sample research in this case workers packaging PT. Phapros Tbk. Semarang has a score of the result of job position identification of 7. Which means that some of the workers who become the research samples indicate dangerous conditions and need to be checked and changes immediately.

Table 2. Job Position

No.	Job position	Frequency	%
1.	Physical Examination and modification need immediately (< 7)	40 people	40 %
2.	Physical Examination and modification need immediately at the time (=7)	60 people	60 %
Amount		100 people	100 %

Based on table 3, Based on the sample of 100, the lowest working period a sample of the research that is 6 months, the highest working period at 324 months, or more than two years. The average length of study sample is 40.64 months, with standard deviation of 53.705.

Table 3. Working Period Of Sample

Responden Data	Min.	Max.	Average	Deviation Standart
Working period	8 hour	13 hour	8,66	1,577

Based on table 4, Research sample that did not have LBP pain complaint was 11 (11%) respondents. Samples of the study with mild pain complaints were 39 (39%) of respondents. Research sample with moderate pain complaint was 42 (42%) of respondents. While the sample of the study with severe pain control is controlled by 8 (8%) of respondents. The results above show that most of the sample research in this case workers packaging PT. Phapros Tbk. Semarang feel LBP complaints of moderate pain.

Table 4. LBP Complaint

No.	LBP complaint	Frequency (people)	%
1.	No Pain	11	11 %
2.	Minimal Pain	39	39 %
3.	Moderate pain	42	42 %
4.	Severe pain in control	8	8 %
Amount		100	100 %

Based on table 5, shows the relationship between job positions and LBP complaints. the relationship pattern was tested using chi square analysis test with the result of p value of 0.000. The p value is less than the specified p limit of 0.05 or (0,000 <0.05). With such results, it can be interpreted that there is a significant relationship between job positions with LBP complaints.

Table 5. The Relationship Between Working Position And LBP Complaint

Bivariat analysis		LBP complaint								Amount		p
		No Pain		Minimal Pain		Moderate Pain		Severe pain in control				
		n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	
Working Position	< 7	11	27,5	28	70	1	2,5	-	0	40	100	0,000
	7	-	0	11	18,3	41	68,3	8	13,3	60	100	
Amount		11	11	39	39	42	42	8	8	100	100	

Based on table 6, shows the relationship between the length of service with the LBP complaint and spearman correlation test. The spearman correlation value of 0.722, with a p value of 0.000. This means that there is a meaningful relationship between the period of work with LBP complaints.

Table 6. The Corelation Between Period Of Work And LBP Complaint

Bivariat Analysis	Spearman correlation (ρ)	P
Period of work * LBP complaint	0,722	0,000

Based on table 7, shows the relationship between duration of work with LBP Complaints with spearman correlation test. The spearman correlation value of 0.449, with a p value of 0.000. This means there is a meaningful relationship between the duration of work with LBP complaints.

Table 7. The Corelation Between Duration Of Work And LBP Complaint

Bivariat Analysis	Spearman correlation (ρ)	P
duration of work * LBP complaint	0,449	0,000

DISCUSSION

The results showed that there was a significant relationship between job positions with LBP complaints with prevalence values of 0.000. This result is in accordance with research conducted by Trimunggara Kantana (2010) where work positions are related to LBP complaints. The results of a Keyserling (2008) study of LBP in workers with moderate-body posture in the case of five times more than controls and in workers with excessive flexion, side flexion and rotating six times more than controls.[6]

The results showed that there was a correlation between years of service with LBP complaints and prevalence values of 0.000. Working period is the length of time a person works in a company. In this regard, MSDs are a chronic disease that takes a long time to manifest. So the longer a person works in a company or the longer exposed by risk factors, the higher the occurrence of MSDs.[7] The period of work is an accumulation of one's work activities carried out over a long period of time. If the activity is done continuously in a period of years of course can cause disruption in the body. The period of work causes a continuous static load and workers who do not pay attention to ergonomic factors will lead to complaints LBP.[8]

The results showed that there was a relationship between duration of work with LBP complaints with prevalence value of 0.000. This result is in accordance with research conducted by Diana Samara (2006) where the duration of work related to LBP complaints. Duration is the duration of exposure of risk factors. Duration during work will affect the level of fatigue. Fatigue will reduce performance, comfort and concentration that can cause work accidents. The duration of productive work is 8-10 hours a day. It is estimated that if more than 10 hours of work productivity will decrease.[1]

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