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Complaints of Musculoskeletal Disorders in Cleaning Officers at Hospital

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ABSTRACT

Introduction: A heavy workload can have a negative effect on workers' health, one of which is the appearance of Musculoskeletal Disorders or complaints of pain, injury, or abnormalities in the skeletal muscles, which include the nerves, tendons, ligaments, muscles, and joints; this can have a negative effect on worker quality. A Nordic Body Map can be used to quantify musculoskeletal disorders. The purpose of this study was to ascertain the relationship between workload and Musculoskeletal Disorder complaints among cleaning staff at Kota Pinang Hospital in Labuhanbatu Selatan Regency . **Method:** This type of research employs a quantitative approach with a cross-sectional design. The research subjects were 53 cleaners at Sibubuan Hospital in Labuhanbatu Selatan Regency who were recruited using a total sampling technique or by taking a representative sample of the entire cleaner population at Kota Pinang Hospital in Labuhanbatu Selatan Regency . The chi square test was used to process and analyze the data, which was done using the SPSS version 22 computer program. **Result :** According to the study's findings, based on frequency of respondents' workloads at heavy workloads is 37 (69.8%), light workloads are 16 (30.2%) of the total sample. Frequency of service period of respondents who worked 1-5 years was 40 (75.5%), respondents who worked 6-10 years were 13 (24.5%) of the total sample. The frequency of high musculoskeletal disorders is 37 (69.8%), low musculoskeletal disorders are 16 (30.2%) of the total sample. **Conlusion** The high incidence of MSDS in hospital cleaners, the length of work, workload and age are factors that should be suspected of having an impact on the incidence of MSDS in hospital cleaners..

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1. INTRODUCTION

Musculoskeletal disorders (MSDs) are disorders of the muscles caused by the muscles receiving static loads repeatedly and continuously for a long period and will cause complaints in the joints, ligaments and tendons. Musculoskeletal disorders (MSDs) are generally in the form of pain, injury, or abnormalities in the skeletal muscle system, including nerve tissue, tendons, ligaments, muscles or joints. Musculoskeletal disorders can be experienced by all workers who use much physical energy and work in awkward and static positions. Complaints of musculoskeletal disorders are an example of occupational diseases (Siregar, 2020).

Musculoskeletal disorders are divided into two risk factors, namely psychological factors and physical factors (consisting of occupational risk factors, personal risk factors and environmental risk factors) (Helmina, 2019; Kim, 2015).. Occupational risk factors include risk factors for posture, workload, frequency and duration. Individual characteristic factors include years of service, working-age, smoking, gender, stress, history of MSDs and body mass index (BMI) (Helmina, 2019 ; Safitri, 2017). Environmental risk factors are vibration, lighting, noise, cold stress and heat stress. Long term effects of Musculoskeletal Disorder can cause chronic pain, disability, medical treatment and financial loss (Andini, 2015; Wahyuni, 2019).

The International Labor Organization (ILO) in 2013 stated that every 15 seconds, one worker in the world dies due to an accident, and 160 workers get sick due to work (ILO, 2015). The previous year (2012), the number of deaths due to accidents and occupational diseases was 2 million cases every year. The latest estimate released by the International Hunting Organization (ILO), 2.78 million workers die each year due to occupational accidents and occupational diseases. Around 2.4 million (86.3%) of these deaths were due to occupational diseases, while more than 380,000 (13.7%) were due to work accidents (ILO, 2018).

The incidence of Occupational Diseases (PAK) and Occupational Accidents (KAK) in Indonesia in 2011 recorded 96,314 cases with 2,144 deaths and 42 disabled people. In 2012 cases of PAK and KAK increased to 103,000 cases. From these data, it can be concluded that occupational diseases in Indonesia are high, and the occupational health situation in Indonesia is still not good. One of the workplaces at risk is a hospital; hospitals have the potential for infectious diseases to occur for employees, patients, and visitors .

Excessive workloads can hurt work quality and performance. The bad effect of excessive workload or done repeatedly can reduce the ability to concentrate, make mistakes in decision making, increase the potential for workplace accidents, and impact health and work productivity. The workload obtained by the human body must be appropriate or balanced on the ability or physical capacity (Mawadi, 2016; Ginanjar, 2018).

A janitor is tasked with maintaining or maintaining cleanliness in a place, such as an office or agency and a hospital. In addition to their duty to keep the environment clean, janitorial workers are also very much needed to create comfort in the office to the comfort of patients who seek treatment and patients hospitalized. The cleaning staff at the hospital has the task of carrying out cleaning activities in the hospital area, including cleaning the floor (sweeping and mopping), cleaning metal or stainless steel equipment, cleaning polished equipment, cleaning painted, formica or porcelain-coated equipment, cleaning patient tables, clean the sink, clean the bathroom and toilet, clean the door, ceiling, walls and vents, clean the AC grille and fan, clean the drains, dispose of garbage or transport non-medical waste in the hospital area to the TPS (Disposal Site).

Kota Pinang Hospital is the oldest and largest hospital in the capital city of Labuhanbatu Selatan Regency , North Sumatra. Those whose daily activities are very busy, so the cleaners have to be extra in their work. Based on this, the authors are interested in researching the relationship between workload and complaints of musculoskeletal disorders in janitors at Hospital in Labuhanbatu Selatan Regency .

2. METHOD

The type of research used in this research is quantitative research, and the design used in this research is cross-sectional. The researcher chose the cross-sectional research design because the research design can collect more than one case or variable at a certain time. This research was conducted at the Kota Pinang Hospital , Labuhanbatu Selatan Regency . Research time starts from August to September 2019.

The population is the whole of the research subject. The total population in this study were all janitor workers at the Hospital in Labuhanbatu Selatan Regency, Labuhanbatu Selatan Regency , amounting to 53 people. The sample is part of the number and characteristics possessed and characteristics possessed by the population. In this study, the

sample used was 53 people. The sample size is obtained by using the total sampling formula.

The independent variable or independent variable influences or causes changes in the dependent variable; in this study, the independent variable (X) is Workload. The dependent or dependent variable is a variable influenced by the independent variable; in this study, the dependent variable (Y) is musculoskeletal disorders (MSDs).

Primary data is data obtained or collected directly from the data source through interviews and a list of questions given to sampled respondents. The data is about matters related to workload and complaints of musculoskeletal disorders. Secondary data supports primary data obtained from the Kota Pinang Hospital , books, research journals, the internet and libraries.

Bivariate analysis is an analysis that involves an independent variable and a dependent variable. Statistical test using chi-square test aims to test the relationship between workload and musculoskeletal disorders in janitors at Kota Pinang Hospital to find out whether there is a relationship between the independent and dependent variables; a p-value is used compared with the error rate (alpha) used, which is 5% or 0.05. If the p-value 0.05 Ha (research hypothesis) is accepted, then the hypothesis is proven, which means a relationship between workload and complaints of musculoskeletal disorders in janitors at Hospital in Labuhanbatu Selatan Regency. If the p-value 0.05 Ho is accepted (the research hypothesis) is rejected, then there is no relationship between workload and complaints of musculoskeletal disorders in janitors at Hospital in Labuhanbatu Selatan Regency.

3. RESULT

Measurement of workload on cleaning staff at Hospital in Labuhanbatu Selatan Regency as many as 53 janitors using pulse counting. Measurements were carried out for all janitors at Hospital in Labuhanbatu Selatan Regency. Based on the results of research conducted at the Hospital in Labuhanbatu Selatan Regency on cleaning staff, it was found that the cleaning staff experienced a level of workload.

Table 1 Distribution of Respondents by Sex

No	Sex	Frequency	Percentage (%)
1	Male	5	9,4 %
2	Female	48	90,6 %
	Total	**53**	**100 %**

Based on the table above, it is known that there are 5 (9.4%) male respondents and 48 (90.6%) female respondents from the total sample.

Table 2 Distribution of Respondents by Age

No	Age	Frequency	Percentage (%)
1	29 – 40	45	84,9 %
2	41 – 52	8	15,1 %
	Total	**53**	**100%**

Based on the table above, it is known that the age frequency of respondents aged 29-40 years is 45 (84.9%), respondents aged 41-52 years are 8 (15.1%). So the largest number of respondents were aged 29-40 years, as many as 45 respondents or 84.9% of the total sample. The lowest age frequency is 41-52 years old, with eight respondents or 15.1% of the total sample.

Table 3 Distribution of Respondents Based on Last Education

No	Pendidikan Terakhir	Frequency	Percentage (%)
1	Primary School	10	18,9%
2	Junior High School	15	28,3%
3	Senior High School	28	52,8%
	Total	**53**	**100%**

Based on the table above, it can be seen `the frequency of the last education of respondents whose last education was primary school was 10 (18.9%), respondents whose last education was junior high school were 15 (28.3%), and respondents whose last education was senior high school were 28 (52.8%) of the number of samples.

Table 4 Distribution of Respondents by Years of Service

No	Lengt Working	Frequency	Percentage (%)
1	1 – 5 Years	40	75,5%
2	6 – 10 Years	13	24,5%
	Total	**53**	**100%**

Based on the table above, it can be seen that the frequency of service period of respondents who worked 1-5 years was 40 (75.5%), respondents who worked 6-10 years were 13 (24.5%) of the total sample.

Table 5 Distribution of Workload Frequency

No	Workload	Frequency	Percentage (%)
1	Heavy Workloads	37	69,8%
2	Light Workloads	16	30,2%
	Total	**53**	**100%**

Based on the table above, it can be seen that the frequency of respondents' workloads at heavy workloads is 37 (69.8%), light workloads are 16 (30.2%) of the total sample. So the highest frequency of workloads is heavy workloads as many as 37 respondents or 69.8% of the total sample. Moreover, the least frequent workload is the light workload of 16 respondents or 30.2% of the total sample.

Table 6 Distribution of Musculoskeletal Disorders Frequency

No	*Musculoskeletal Disorders*	Frequency	Percentage (%)
1	High	37	69,8%
2	Low	16	30,2%
	Total	**53**	**100%**

Based on the table above, the frequency of high musculoskeletal disorders is 37 (69.8%), low musculoskeletal disorders are 16 (30.2%) of the total sample. So the highest

number of musculoskeletal disorders is high musculoskeletal disorders as many as 37 respondents or (69.8%), and the lowest frequency of musculoskeletal disorders is low musculoskeletal disorders as many as 16 respondents (30.2%) of the total sample.

4. DISCUSS

The majority of musculoskeletal disorders develop gradually. This disorder can be acute or chronic, and it can also be caused by work-related injuries (BM & Dahlan, 2018;Indraswari, 2018). Additionally, psychosocial workplace factors such as organizational culture, health and work climate, and human factors can contribute to the development of musculoskeletal disorders (Health and Safety Executive, 2019). Routine exercise activities carried out by workers are carried out by stretching before starting work; this is important for the health and comfort of workers when carrying out activities (Bobaya, 2018). According to Djuarsah (2018) and Sari (2017)., age is not a factor in the occurrence of MSDs complaints because workers of any age can suffer from MSDs complaints, depending on their work attitude.

Complaints of musculoskeletal disorders that occur in janitors at Hospital in Labuhanbatu Selatan Regency result from workloads, where work activities are carried out repeatedly or excessive muscle stretching. The analysis results in table obtained a p-value of 0.000 < (smaller) than 0.05, which means that there is a significant relationship between workload and complaints of musculoskeletal disorders in janitors at Hospital in Labuhanbatu Selatan Regency . The Odds Ratio (OR) = 24,750, which indicates that the janitor with a heavy workload has an Odds ratio of 24,750 times higher for experiencing complaints of high musculoskeletal disorders than the janitor with a light workload. In other words, "janitors who have a heavy workload have a chance of experiencing complaints of high musculoskeletal disorders 24,750 times greater than janitors with a light workload. The results of this study obtained Confidence Interval (CI) 95% 5.331-114.911 or 95% truth value ranging from 5.331-114.911.

Adriansyah et al. (2019) conducted research on Lipa' Sa'be Mandar weaving workers in Karama Village and discovered that 11 people (26.2 percent) reported having mild MSDs, 21 people (50 percent) reported having moderate MSDs, and ten people (23.8 percent) reported having severe MSDs (Adriansyah et al., 2019). Workers with the most complaints of pain are concentrated in the waist, numbering up to 26 people (86.7 per

cent), while workers with no complaints of pain in any body part number up to four people (13.3 per cent) (Butar-Butar, 2018).

Regular physical activity is defined as that which is performed at least three times per week. Exercise can also improve one's quality of life, help prevent osteoporosis and other skeletal diseases, as well as alleviate symptoms associated with other conditions (Andini, 2015; Wahyuni, 2019). Sport is any activity that involves the movement of part or all of the body in order to improve the body's fitness and health (Helmina, 2019 ; Safitri, 2017).

The workload is a burden borne by the workforce according to the type of work, both physical, mental and social workload. Jobs with heavy workloads can cause work-related diseases such as complaints of musculoskeletal disorders. The janitor's work at the Hospital in Labuhanbatu Selatan Regency, belongs to the rather heavy or moderate category so that the worker experiences complaints of musculoskeletal disorders. Those with a low level of physical fitness report having a moderate level of musculoskeletal complaints, while those with an average level report having a low level (Siregar, 2020; Gloria, 2019).

Complaints of musculoskeletal disorders are complaints in the form of pain, injury, or abnormalities in the skeletal muscle system, including nerve tissue, tendons, ligaments, muscles or joints. Excessive muscle stretching or repetitive work are generally complained of by cleaning staff at Hospital in Labuhanbatu Selatan Regency. Jobs with light and heavy workload categories are carried out continuously, causing complaints of musculoskeletal disorders experienced by janitors at Hospital in Labuhanbatu Selatan Regency. Based on the results of the study, it was found that the most common complaints experienced were complaints of pain in the waist and pain in the right wrist. According to Widitia (2020) and Suryanto (2020), efforts to prevent MSDS are made by stretching prior to starting work, eating breakfast prior to work, and drinking two litres of water per day.

This study is also following the results of research conducted by Dhiemas (2018), which showed a significant relationship between workload and musculoskeletal complaints in porters at the big market in Surakarta, which was obtained using the Spearman rank test with a p-value = 0.019, which means the p-value <0.05 or less than the specified significance level. Primalia (2019) discovered through a statistical test that the p-value (0.009) or less than (0.05) was obtained in his research entitled The relationship between

physical workload and complaints of musculoskeletal disorders in workers in the cutting section at a shoe factory in Nganjuk. The conclusion is that there is a relationship between workload and musculoskeletal disorder complaints among cutting workers at a shoe factory in Nganjuk, with a contingency coefficient of 0.452 indicating a fairly strong relationship.

The results of other studies are also reinforced by research conducted by Sharon (2018) on pottery artisans in Pulutan village, Ramboken sub-district, Minahasa district, showing that there is a relationship between workload and musculoskeletal complaints with p-value = 0.000. The results of the p-value show that it is smaller than the specified significance level. The results of previous studies indicate that workload does have a significant relationship with complaints of musculoskeletal disorders. As demonstrated by the research results described above, the greater the workload, the more severe the musculoskeletal disorders.

The longer an individual is exposed to risk factors for MSDs, the greater the likelihood that individual will develop MSDs (Icsal et al., 2016). Mongkareng (2018).states in his research that jobs that require repetitive finger movements can cause stress in the carpal tunnel network, and jobs that last longer than five years can result in carpal tunnel syndrome.

Based on the results of the study, it was found that there was a relationship between workload and complaints of musculoskeletal disorders, and the most felt complaints were a pain in the waist and pain in the right wrist. In maqashid sharia, this is included in maintaining the soul; by always taking care of the soul, we as workers will avoid such things as disease or muscle pain. Because by taking care of the soul, our mental health will automatically be good, there will be no anxiety and depression; this will make us focus on work. When we take care of the soul while working, the mind will always be connected to our body; moving actively can release hormones in the brain that will make us feel happy, making workers work more productive.

5. CONCLUSION

Janitors with frequency of service period of respondents who worked 1-5 years was 40 (75.5%), respondents who worked 6-10 years were 13 (24.5%) of the total sample. frequency of respondents' workloads at heavy workloads is 37 (69.8%), light workloads are

16 (30.2%) of the total sample. So the highest frequency of workloads is heavy workloads as many as 37 respondents or 69.8% of the total sample. The frequency of high musculoskeletal disorders is 37 (69.8%), low musculoskeletal disorders are 16 (30.2%) of the total sample. So the highest number of musculoskeletal disorders is high musculoskeletal disorders as many as 37 respondents or (69.8%), and the lowest frequency of musculoskeletal disorders is low musculoskeletal disorders as many as 16 respondents (30.2%) of the total sample.

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