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ANALYSIS OF FACTORS RELATED TO WORKFATIGUE IN LOADING AND UNLOADING WORKERSAT MANADO PORT

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Abstract

Being exposed to various hazards during loading and unloading activities during high operations is very risky for occupational safety and health. As a result, there must be safety equipment for every loading and unloading activity. Age, length of service, nutritional status, and work shifts are factors that contribute to fatigue of loading and unloading workers, and activities that require a lot of action pose various risks to occupational safety and health. To determine the relationship between age, length of service, nutritional status and work fatigue in loading and unloading workers at the port of Manado. Analytical observational research with a cross sectional study approach. There is a significant relationship between age, length of service, nutritional status and work fatigue in loading and unloading workers at Manado port in 2020 with p value = 0.000. There is no significant relationship between work shifts and work fatigue among loading and unloading workers at Manado port in 2020 with p value = 0.583

Keywords: *Work fatigue factors, TKBM*

INTRODUCTION

Occupational safety and health, more commonly known as K3, is a program provided by organizations to prevent accidents caused by work, as well as the occurrence of work-related diseases by detailing which jobs have the potential to cause

danger. work accidents and occupational diseases. In terms of improving occupational safety and health in the employment environment, loading and unloading must be carried out so that existing operational systems at a distance can run smoothly at the location. If the system can provide a feeling of safety and comfort for every worker, this will also help increase work productivity, which in turn will reduce the risk of accidents. Work and occupational diseases. The implementation of the K3 framework in reality often receives extraordinary consideration from the associations that are formed, including from humanitarian components, material and financial benefits, to legal points of view that can influence the responsibilities and image of the organization.2

According to the International Labor Organization (ILO), more than 2.78 million people die every year from workplace accidents and workplace illnesses1. On the other hand, the National Safety Council states that 13% of workplace injuries are caused by fatigue, and 2000 adults injured in accidents show that 97% of the time, one of the factors was workplace fatigue. Fatigue is characterized by a decrease in muscle strength due to energy depletion and an increase in metabolic waste, such as carbon dioxide and lactic acid. The level of weakness that arises as a result of work can cause anxiety, disappointment, and a decrease in the level of efficiency which is then shown by a decrease in the speed of development, quality of goods, errors and losses that become more widespread, and ultimately accidents often occur. Factors that influence fatigue at work can be age, length of service, a person's nutritional status, entry of nutrients into the body, marital status, including disabled external muscle abilities, exercise, the tendency to smoke, drink alcohol and abuse drugs3.

When highly operational systems are used for loading and unloading, there are various risks of occupational diseases and accidents. To help reduce K3 disturbances, every loading and unloading activity needs to be equipped with K3 facilities. According to pre-research conducted on 18 loading and unloading workers in the goods transportation section of the Manado port who have two shifts, morning and evening, it was found that the average number of workers experienced fatigue was 38 percent, while the number of workers who did not experience fatigue was 62 percent. As a result, the researchers wanted to investigate various factors related to work accidents among TKBM workers at Manado Port, such as age, length of service, nutritional status, work shifts, and work fatigue.

RESEARCH METHOD

Research design

This type of research is analytical observational research with a cross sectional study approach.

RESULT AND DISCUSSION

Result

General description of the TKBM Cooperative

The Manado Port TKBM Cooperative is based on the instructions of the Minister of Transportation and the Minister of Transportation and the Minister of Manpower according to a joint decision of the Director General of Labor Relations and supervision of work norms, as well as the Directorate General of Bima of the Cooperative Institution. Cooperative Institution. Management and Supervisor of the Manado Port TKBM Cooperative. The TKBM cooperative at the Manado port has a work system, so TKBM is divided into several work groups, namely: Stevdoring, Cargodoring, People's Services (Perla), Local Services (Pelok). The number of workers working at TKBM Manado port is 72 workers who are divided into each section.

Univariate Analysis

Age of TKBM at Manado Harbor

Table 4.1 Age Frequency Distribution of TKBM at Manado Port

Age	F	Percentage %
No Risk < 30 years	8	11.1
risky > 30 year	64	88,9
Total	72	100,0

At risk > 30 years	64	88.9
Total	72	100.0

According to table 4.1, it can be seen that there were 11 respondents (11.1%) who were of an ag without risk of work fatigue, while 64 people (88.9%) were of an age who were at risk.

DISCUSSION

Relationship between age and work fatigue

The older a person gets, the more basal metabolism will decrease and the individual will experience fatigue more easily. A person's age factor will affect the individual's basic metabolism. (9) In this research, a relationship was found between age and work fatigue in loading and unloading workers at the port of Manado. Workers aged ≥ 30 years are more likely to experience heavy, light and moderate work fatigue than workers aged ≤ 30 years. In line with research on TKBM workers at Tanjung Emas Port, Semarang in 2019. Generally, skeletal muscle complaints begin to be felt at the age of 25-65 years. (5) A young person is able to do heavy work and an old or elderly person's ability to do heavy work will decrease.

Relationship between Work Period and Job Fatigue

A person's work experience greatly influences the occurrence of work fatigue. Because the longer a person works, the longer the feeling of boredom with his work affects the level of fatigue he will experience. (12) This research found a relationship between work periods and work fatigue at TKBM at the Manado port. This is in line with research on TKBM at Samudra Bitung port. (3) The negative impact is in the form of a limit on the body's resistance to the work process which results in fatigue. Work that continues to scream repeatedly can affect the circulatory system, digestive system, muscles and nerves and the respiratory system. (7)

Relationship between nutritional status and work fatigue

Nutritional status is the condition of the body as a result of consuming food with the use of nutrients. Categories of good nutritional status, moderate nutrition and poor nutrition, poor body condition can affect workers at work and cause work fatigue. In this study, the results showed that there was a relationship between nutritional status and work fatigue at TKBM at the port of Manado. The occurrence of fatigue is the result of a lack of energy reserves in the body and increased metabolism which causes loss of muscle efficiency and will inhibit brain centers in controlling movement so that the potential frequency of nerve cell activity is reduced. Likewise, the slower a person's movement will indicate the weaker the person's muscle condition. (5).

Relationship between work shifts and work fatigue.

Work shifts are a pattern of working time given to workers to do something by the company which is usually divided into morning, afternoon and night work. In this research, it was found that there was no relationship between work shifts and work fatigue in loading and unloading workers at the port of Manado. This is in line with Dwi's research on loading and unloading workers at the Tanjung Emas port in Semarang. This condition may be caused by functionally all organs during the day being ready for activity, whereas at night the body's function is the opposite, which naturally rests for refreshment. In this study, both day shift and evening shift workers showed no difference in experiencing work fatigue.

CONCLUSION

1. The majority of workers are at risk, namely 42 people (65.6%) and those who are not at risk are 5 (62.5%).
2. The majority of workers have periods of work that are at risk, namely 41 people (73.2%) and 6 people (37.5%).
3. Most of the workers had a thin nutritional status, 33 people (68.8%) experienced severe work fatigue and 9 people (42.9%) had a normal nutritional status.

4. Most of the workers on the morning shift experienced heavy work fatigue, 22 (67.9%) and 20 (51.2%) people on the afternoon shift experienced heavy work fatigue.
5. There is a significant relationship between age and work exhaustion in loading and unloading workers at Manado port in 2020 with p value = 0.000
6. There is a significant relationship between length of service and work exhaustion of loading and unloading workers at Manado port in 2020 with p value = 0.000
7. There is a significant relationship between nutritional status and work fatigue among loading and unloading workers at Manado port in 2020 with p value = 0.000
8. There is no significant relationship between work shifts and work fatigue among loading and unloading workers at Manado port in 2020 with p value = 0.583.

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