

Factors Related to Work Fatigue on Workers at the Landfill of Padang City

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ABSTRACT

Based on data from The Employment Social Security Administration in 2018, the number of work accidents is 147,100 cases. One of the factors that influence work accidents is fatigue. The motivation behind this review was to decide the connection between nutritional status, workload, and physical environment with work fatigue on workers at the Padang City Final disposal site in 2020. The type of research used was analytic with a cross-sectional design, which was carried out in December-October 2020. The population in this study were all workers at the landfill of Padang City. Samples were taken using a random sampling method of 50 people. Information was gathered through direct meetings utilizing polls and examined by Chi-square measurable test with a level of importance ($\alpha=0.05$) The outcomes showed that laborers who experience weariness are 64%, laborers with healthful status are in danger of 58%, laborers with jobs are in danger of 58%, and laborers with the actual climate are in danger of 60%. Factors that related to work fatigue were nutritional status ($p=0.079$), workload ($p=0.247$), and physical environment ($p=0.000$). In view of the outcomes of this study, it concluded that not all independent variables are related to the variables. To minimize work fatigue, it is suggested to the landfill manager to be able to regulate a policy of rest periods, periodic health checks at least 1 time in 3 months, offer personal protective equipment for periodic monitoring of the physical environment.

Keywords: *Nutritional status, workload, physical environment and work fatigue*

1. INTRODUCTION

Development of the world in the era of globalization causes industrialization to grow rapidly and continues to grow every year due to increasingly fierce industrial competition so that the use of various work equipment and the use of high-tech machines is carried out in the production process to improve the quality and efficiency of production results^[1]. one of the issues of OSH (occupational safety and health) that can lead to accidents is fatigue. Exhaustion is a defensive instrument of the body that empower to keep away from additional harm and recuperation happens after the break.

The Employment Social Security Administration (BPJS Ketenagakerjaan) stated that in 2018 there were 147.000 cases of work accidents or 40,273 cases every day, 4,678 cases (3.18 percent) resulted in disability, and 2,575 (1,75) cases ended in death. According to a report by the BPJS Ketenagakerjaan in West Sumatra in 2016, the work accident rate was 1,285 and the death rate due to work accidents was 175. Work accidents

rate in 2017 was 929 cases. Meanwhile, in 2018 there were 1,326 cases of work accidents^[2]. From the explanation above, we can conclude that there is an increase in the number of work accidents.

According to, the word tired (fatigue) demonstrates an alternate condition of the physical and mental body, however every one of them bring about a diminishing in work power and decreased body protection from work^[3]. Prediction of several major factors that are significant to fatigue includes gender, age, nutritional status, workload, body size of the worker, and the time spent at work. One of the variables that influence work fatigue is the workplace. A physical work environment that does not meet the standards in addition to causing health problems can also cause discomfort. Disturbance of comfort felt by workers can accelerate the occurrence of fatigue.

Based on Ofin's research (2016) on the Cililitan Toll Collector PT. Jasa Marga's Cawang Tomang Cengkareng Branch shows that there is a relationship between physical work environment factors and fatigue ($p=0.491$)^[4]. Based on the

results of a preliminary survey conducted by researchers on 22 December 2019, to 10 employees of the Air Dingin Landfill, Padang City through questionnaires and the interview process, it can be concluded that 8 out of 10 workers experience work fatigue. Of the workers who experience work fatigue, 6 people have abnormal nutritional status, below BMI <18.5 and above BMI >25.7. Individuals who experience work weariness brought about by poor actual natural conditions at work. At the time of filling out the questionnaire, many of the workers stated that the working environment conditions at Air Dingin Landfill Padang City were not good, 70% said that the working environment conditions at the Air Dingin Landfill Padang City were not well-organized to support the work and there were lots of piles of garbage that had an irregular layout.

Based on the background described above, the researchers are interested in researching with the title "Factors Related To Work Fatigue On Workers At The Landfill Of Padang City"

2. METHODS AND MATERIALS RESEARCH

This research was conducted using an analytic type of research to see the phenomenon of work fatigue factors in workers at Air Dingin Landfill Padang City with a cross-sectional research design^[5]. This research was conducted at the Air Dingin Landfill, Balai Gadang Village, Koto Tengah District, Padang City. It was carried out from December 2019 to June 2020. The population is the entire object of research or objects to be studied as many as 101 people. Based on the calculation of the number of samples, the minimum sample size taken is 50 people.

Information were gathered by leading meetings utilizing questionnaire. The information were examined utilizing univariate and bivariate strategies to decide the connection between the independent variable (social economy and eating patterns) and dependent variable (stunting incidence). Data are presented in tabular and narrative form^[6]

3. RESULTS AND DISCUSSION

3.1 Univariate Analysis

In light of table 1, it tends to be seen that from 50 respondents, 32 respondents (64%) experienced work fatigue. Meanwhile, from 50 respondents, 29 respondents (58%) were found with the category of abnormal nutritional status, when viewed from the workload, 29 respondents (58%) had a heavy workload. Meanwhile, from 50 respondents, 38 respondents (60%) felt a negative physical environment, causing fatigue in carrying out work at

the Landfill of Padang City in 2020.

As indicated by the suspicion of analysts, laborers who experience work weakness are brought about by numerous specialists who are presented to the burning sun, and amassed trash which powers laborers to work with more energy which is depleting in addition to an unsupportive climate, so it is normal for these specialists to encounter exhaustion. Efforts need to be made as a step to reduce work fatigue in Padang City landfill workers by providing PPE in doing work, and workers must be able to take advantage of the rest time well and before starting work, workers should get used to stretching muscles and wearing PPE.

3.2 Bivariate Analysis

3.2.1 The Relationship Between Nutritional Status and Work Fatigue

The results acquired from this research were that 29 laborers with unusual healthful status, 22 individuals (75.9%) had encountered work exhaustion, and 7 individuals (24.1%) had never experienced work weakness. Statistical results using the chi-square test obtained a p value of 0.079 (p-value > 0.05), then H_a was rejected and H_0 failed to reject, meaning that there is no connection between healthful status and work fatigue in workers at the Padang City landfill.

This review is in line with the research of Molanda, et al (2019) "Factors Related to Work Fatigue of Firefighters in The Jakarta Fire and Rescue Service that there is no relationship between nutritional status and fatigue experienced by workers with a p-value of 0.069 (p value > 0.05)^[7].

According to Suma'mur (2014), work nutrition is the calories needed by the labor to meet the needs by the goals of the health level of the labor and the highest productivity^[3].

The results from study stated that there was no connection between nutritional status and work fatigue because the nutritional status of workers did not differ much from BMI standards and had no effect on productivity so that work resistance remained adequate because the nutritional substances of workers were by adequacy in meeting work needs.

3.2.2 Relationship between Workload and Work Fatigue

Of 29 workers who have a heavy workload, 21 people (75%) have experienced work fatigue and 8 people (25%) have never experienced work fatigue. Statistical results using the chi-square test obtained p-value 0.247 (p-value > 0.05) H_a is dismissed and H_0 is acknowledged which implies that there is no connection among responsibility

and work exhaustion in specialists at the Padang City landfill.

This review is in line with Ayukunanti's research (2018) on the relationship between workload and work fatigue in the weaving section of PT. Kosoema Nanda Putra Klaten that there is noconnection between work fatigue and workload, obtained pvalue 0.364 ($p > 0.05$)^[8].

Concurring to Tarwaka (2015) Workload can be characterized as a contrast between the limit or capacity of laborers and the requests of laborers that should be confronted^[9]. The responsibility is something that emerges from the cooperation between task requests, the workplace where it is utilized as a working environment, abilities, conduct, and view of laborers.

According to the researcher's assumptions, most workers do not experience a workload because workers do not need long working hours and have sufficient rest time. To keep workers from experiencing heavy workloads, workers should not be too forced to finish the work quickly, so that the physical work is not drained out.

3.2.3 Relationship between Physical Environment and Work Fatigue

The results obtained from this study are from 30 workers who feel uncomfortable or harm their work, as many as 25 people (83.3%) have experienced work fatigue, and as many as 5 people (16.7%) have never experienced work fatigue. Statistical results utilizing the chi-square test acquired a p-value of 0.001 ($p < 0.05$) then H_a failed to reject and H_0 was rejected, meaning that there was a connection between the physical environment and work exhaustion for workers in the Padang City landfill.

This research is in line with what Aria (2019) did to workers in the production division of PT. Kunango Jantan shows that there is a relationship between physical work environment factors and work exhaustion, with a p value of 0.005 ($p < 0.05$)^[10].

According to Suma'mur (2014), the physical environment is all states of being that exist around the working environment that can influence representatives straightforwardly or in a roundabout way^[3]. The actual climateinindustrial companies includes workplace lighting, use of color, setting air temperature, noise, and space for movement^[11].

According to the assumptions of the researchers, respondents who experience work fatigue at the Padang City landfill due to a negative physical environment. a negative physical environment will make workers experience physical problems and endanger health, such as the conditions of the sun being too stinging and the air being unhealthy anymore, because there is a pile of garbage that causes an

unpleasant odor. Doing normal checking and laborers are needed to wear individual defensive hardware can be sought after in the future to lessen the antagonistic impacts brought about by this actual climate

4. CONCLUSION

In light of the aftereffects of the exploration and conversation that has been expressed, it tends to be inferred that 64% of respondents have encountered work weariness, 58% of respondents are in the classification of strange dietary status, 58% of respondents have encountered substantial jobs, and 60% of respondents feel negative actual natural conditions. And this is no significant relationship between nutritional status ($p=0.079$) and workload ($p=0.247$). Meanwhile, in the physical environment, there is a significant relationship with the fatigue felt by workers at the Padang City landfill. It is suggested that the organization controls approaches with respect to rest periods and working hours by the limit moved by laborers, just as directing ordinary wellbeing checks of laborers to some degree once in a half year. Also hoped that the Environmental Services can offer personal protective equipment to workers to reduce the negative impacts caused by the physical environment.

THANK YOU NOTE

The author would like to thank the head and all workers at the Air Dingin Landfill and the environmental service of the city of Padang and all the people who have been involved and assisted in this research.

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