Climate Relationship Work with Fatigue Employees Working in Laundry Plant Dr. Sardjito

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Abstract

Laundry Installation is one of 29 installations in Hospital Dr. Sardjito. Laundry instalation has 35 employees who have worked with exposure to high temperatures up to 35˚C. The hot working climate be the cause of fatigue on employees. The purpose of this study was to Determine the relationship between the work climate in employees with work fatigue Hospital Dr. Laundry Installation Sardjito Yogyakata. The study design used is cross sectional. The population in this study as many as 35 people. The sampling technique used is total sampling the entire population of employees that numbered 35 people. The results of the study with the statistical tests Man Whitney p value 0.022 Obtained value <0.05 the which means that Ho refused so that there is work climate relationship with work fatigue of employees working in the department of Dr. Laundry Installation Sardjito. The advice given to the installation related to that with the addition of Appropriate ventilation in the standard installation space doing laundry and job rotation system working parts so that employees do not feel monotonous with the work performed.

Keywords: *Climate Work, work fatigue, workers of Installation Laundry*

Introduction

The incidence of cases of occupational diseases continues to increase each year, one of occupational diseases in the hospital. The hospital has a variety of installations that have high hazard potential, ranging from the installation of the laundry, pharmacy, nutrition installation, forensic medicine laboratory, steam boilers, and warehouse B3. Laundry installations cited as one part of a hospital where a high risk that this installation has a temperate working environment hot work. Working climate itself becomes part of the physical factors that potentially dangerous health problems both hot and cold taupun with levels that exceed the Threshold Limit Value (TLV)[1]. Work climate that meets the health requirements will affect the optimal working efficiency[2].

General Hospital Dr. Sardjito a regional referral hospital for the province of Yogyakarta (DIY) as well as the southern part of Central Java. Hospital Dr. Sardjito has 29 installations, which of the various installations that have a high hazard potential, one Installation Laundry. Installation laundry (Laudry) consists of three parts, namely the work area clean room area, dirty room area, and the administrative staff room. Dirty room clean room area and the area carry out activities ranging from separation, washing, drying, folding and ironing linen up until ready to be distributed back. While the administrative staff conducting space-related administrative office Laundry Installation.

Based on the preliminary survey performed at the laundry, all the employees working in the work environment with a hot working environment that does not meet (NAB). Based on data from the Hospital of climate measurement results has been done before as many as 2 times the last measurement in December 2016 obtained results Wet and Ball Temperature Index (WBGT) equal to 31C and in June 2017 WBGT result of 36C. When compared with the standard working

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climate in Indonesia established by Permenakertrans No. Per.13 / MEN / X / 2011 Threshold Limit Values for the working climate that is 31C with a light workload, the results exceeded the NAB[3].

Based on initial observations showed that the researchers feel the heat directly working climate that is in Installation Laundry. It was marked with only a few minutes of being in the room already felt hot and hot. As for the initial interview conducted on 10 employees all complained of feeling tired, weak, and thirst. Results of research conducted Sari[4] concluded that there is significant influence among the working climate to dehydration and heat exhaustion in labor work in the boiler section Albasia Sejahtera Mandiri PT. The results of another study that is conducted by[5] concludes that there are climatic influences hot work against fatigue in metal smelting section Batur Jaya Ceper cooperative, Klaten. The purpose of this study was to determine the relationship of the working climate with job burnout in employees cleaning installations RSU Dr. Sardjito

Research Method

This type of research used in this research is quantitative research design with observational and cross-sectional approach. The population in this study were all employees of the department Dr. Laundry Installation Sardjito totaling 35 people. The number of samples in this study were 35 taken with total sampling sampling techniques.

The independent variable in this study is the work climate, the dependent variable in this study were fatigue, and variable spam is measured in this study were age, gender, and workload while confounding variables that are not measured in this study is the noise, vibration and length of employment. Measurement of working climate with Heat Stress Monitor brands Area Quest 10 and Fatigue Temp work using a questionnaire fatigue. Implementation of measurements were carried out at 09.30 am.

Findings

1. characteristics of Respondents

Table 1. Frequency and Percentage Distribution Characteristics of respondents as well as the rate of job burnout Laundry Installation Hospital Emp

Characteristics Frequency%			**Work fatigue**					
			Low		**moderate**		**High**	
			N	**%**	**N**	**%**	**N**	**%**
Age								
teens End	3	8.6	0	0	3	100	0	0
Early adulthood	7	20.0	5	71.4	1	14.2	1	14.2
adults final	8	22.9	2	25	6	75	0	0
Early elderly	11	31.4	4	36.3	5	45.4	2	18.8
elderly End	6	17.1	2	33.3	2	33.3	2	33.3
Gender								
Man	18	51.4	6	33.3	11	61.1	1	5.5
woman	17	48.6	7	41.1	6	35.2	4	23.5
Workload								
Workload 35		100	13	37.1	17	48.6	5	14.4

Based on Table 1. The frequency distribution and percentage of employees Installation unknown Laundry most banyaj employee age is 46-55 years older initial total of 11 people (31.4%). As for the age is at least 17-25 years late teens totaling 3 (8.6%). While the frequency distribution and percentage of employees Installation gender Laundry Hospital Dr. Sardjito are males were 18 people (51.4%) and women were 17 people (48.6%). The frequency distribution and percentage of employees' workload Laundry Installing Hospital Dr. Sardjito is a light workload, as many as 35 people or as much as 100% of employees received workload during work including light workload.

Then the measurement results with fatigue life of employees working at Hospital Laundry Installation Dr. Sardjito is known that at the end of the adolescent age category all employees experience job burnout Low totaling 3 (100%), for the end of the adult age categories experienced job burnout mostly lower, amounting to 5 people (71.4%), adult age categories end of most experienced job burnout were amounting to 6 people (75%), older age categories beginning mostly experienced job burnout were amounting to 5 people (45.4%) and for the age category final elderly employees who experienced job burnout low 2 (33.3%), fatigue was 2 JV (33.3%) and high job burnout 2 (33.2%).

The measurement results sex with job burnout of employees known that male employees mostly experienced job burnout were a total of 11 people (61.1%), whereas women employees working mostly mild fatigue, amounting to 7 people (41.1%). Based on the measurement results of the workload with employee fatigue Laundry Installing Hospital Dr. Sardjito known to all employees, amounting to 35 people suffered light workload, with a light workload of employees who experienced job burnout lower categories numbered 13 persons (37.1%), fatigue moderate category amounted to 17 (48.6%) and fatigue higher category of work of 5 people (14.3%).

2. Work climate

Table 2. Results of the Climate Measurement Work on the installation of Dr Sardjito Hospital Laundry

Measuring point	WBGT	NAB	mean
	˚C	31C	
Point one (dirty room area)	33	≥NAB	
Colon (clean room area)	35	≥NAB	33.51
Point three (space administration staff)	25	<NAB	

Based on the data in Table 2 WBGT measurement results Installation work climate at Dr. Hospital Laundry Sardjito indoor WBGT value is point one dirty room area ie ≥ 33c 31c, colon clean room area which is 35˚C ≥ 31C, and point three administrative staff room is 25˚C <31C.

3. Work fatigue

Table 3. Results of Measurement fatigue on the part of the Installation Work of Dr. Sardjito Hospital Laundry

Fatigue category of work	Frequency	Presentation (%)	mean
Low (0-21)	13	37.1	
Medium (22-44)	17	48.6	25.03
High (45-67)	5	14.3	
Total	35	100	

Based on the data in Table 3 the results of measurements of employee fatigue Laundry Installing Hospital Dr. Sardjito that employees who experience fatigue with low fatigue category amounted to 13 employees (37.1%), fatigue was numbered 17 employees (48.6%), high work fatigue, amounting to 5 employees (14.3%).

4. Climate relations job with job burnout

Table 4. Results of analysis of the relationship between the working climate with fatigue Work on the installation of Dr Sardjito Hospital Laundry

Work climate	Work fatigue							
	Low		moderate		High		Total	P-value
	N	%	N	%	N	%	N	
<NAB	4	100	0	0	0	0	4	0,012
≥NAB	9	29.03	17	54.83	5	16.12	31	

Based on the data in Table 6 the results of climate measurements known to work with job burnout at work climate <NAB all employees of the department Dr. Laundry Installation Sardjito experiencing job burnout light kategoi as many as 4 people (100%), while the working climate ≥NAB most employees experienced job burnout were as many as 17 people (29.03%). As for the Man Whitney statistical test showed p value of 0.012 <0.05, which means that Ho refused.

Discussion

Based on the results of climate measurements of work done in the three measurement points which point one in the dirty room area, two points in the clean room area and a point in the space of three administrative staff is known that the measurement results indicate there are two categories of work climate that is <NAB and ≥NAB. To point one and point two results are ≥NAB 31C and three point <NAB 31c. According to the regulations of the Minister of Manpower and Transmigration No. PER.13 / MEN / X / 2011 on the threshold values for the physical factors of climate hot working with the type of work that has a workload of light category which worked continuously (8 hours per day) with working time regulations (75%) and time off (25%) should not exceed 31C WBGT[3]. Based on these regulations Installation work climate at Dr. Hospital Laundry Sardjito exceeding the threshold value set so high risk for employees. The measurement results on employee job burnout Laundry Installation Hospital Dr. Sardjito shows that the average value of fatigue is 25.03 categorized as moderate job burnout, as many as 13 people experiencing job burnout lower category (37.1%), as many as 17 people (48.6%) experiencing job burnout medium category, and as many as five people (14.3%) experienced fatigue high category. Based on the results of these measurements in the highest percentage of job burnout category being. Fatigue experienced by employees of the department Dr. Laundry Installation Sardjito still a complaint because it is still a category fatigue was not until the decline in work performance characterized by weakening physical condition of workers The measurement results working climate with fatigue at the point of the room dirty area and a colon in the clean area where there are 31 employees who worked as 6 people in the room dirty area and 25 in the clean area known to result> NAB. In addition the measurement results also showed that employees who work in these places experiencing fatigue. For low work fatigue were 9 people (29.03%), job burnout were as many as 17 people (54.83%), and high work fatigue as much as 5 people (16.12%).

Based on the results of Man Whitney statistical test between the hot working environment with job burnout in employees cleaning installation Hospital Dr. Sardjito obtained p value 0.012 <0.05, then Ho is rejected means that there is a relationship between the working climate

with job burnout in employees Laundry Installation Hospital Dr. Sardjito. This study is in line with research Sari (2014), that there is influence between the hot working climate with dehydration and fatigue on the part of labor boiler with p value = 0.023 and p value = 0.000 which means ≤ 0.05. However, these studies are not consistent with research conducted Ristiyanto[6] because the test results obtained statistical p value 0.111> 0, 05 then the test results stated insignificant or no employment relationship hot climate with job burnout in the boiler unit labor PT. Tiga Pilar Sejahtera Food Tbk Village Sepat, Masaran, Sragen, because due to the factors that affect the statistical test that health status, age and acclimatization.

The results of the research work climate with job burnout in employees Laundry Installation Hospital Dr. Sardjito is no relationship between the work climate at work fatigue as evidenced by the observation of a work environment where employees do laundry Installation work exposed to heat, where the heat source is derived from a washing machine, a dryer, and ironing machine. Although the condition of the room dirty area and a clean room area is equipped with a fan and exhauster which is quite a lot, which exhauster can suck the hot air from inside the room and throw it out at the same time sucking fresh air from outside into the room. However, lack of ventilation also be one of the causes of climate gets hot.

Conclusion

According to the research performed at the Hospital Dr. Laundry Sardjito daapat concluded that the measurement of WBGT at three measurement points which point one in the lounge area dirty 33c, colons in the clean room area of 35˚C, and the point in the space of three administrative staff 25˚C while the measurement results obtained job burnout employees who experience fatigue with mild fatigue criteria categories numbered 13 employees (37.1%), fatigue was amounted to some 17 employees (48.6%), and high fatigue amounted to 5 employees (14.3%). In addition, by Man Whitney statistical test between the working climate with job burnout show 0,012 p value <0.05, which means that there is a relationship between the working climate with job burnout in employees Laundry Installation Hospital Dr. Sardjito.

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