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Analysis factors related to labor accidents production workers at the metro Etalase Pelangi factory

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Abstract---The type of research used in this research is quantitative with an observational design with a cross sectional approach. The research was conducted in June 2021 at the pelangi metro storefront factory, by using 30 respondents, data collection was carried out using interview and observation methods, the research instruments used were questionnaires and checklist sheets, the obtained data were processed using the chi-square test. Work accidents have increased every year, according to the International Labor Organization (ILO) every year there was 2.78 million workers who die due to accidents at work. according to BPJS for employment, every year there are at least 130,000 cases of work accidents in Indonesia. The number of work accident cases in 2020 was recorded as many as 177,000 accidents.

Keywords---analysis factors, labor accidents, production workers.

Introduction

Work accidents have increased every year, according to the International Labor Organization (ILO) every year there was 2.78 million workers who die due to accidents at work. according to BPJS for employment, every year there are at least 130,000 cases of work accidents in Indonesia. The number of work accident cases in 2020 was recorded as many as 177,000 accidents. The main cause of work accidents are factors and requirements for Occupational Safety and Health (K3) that have not been implemented properly (substandards). The purpose of this study is to determine the factors related to the work accidents in production

workers at the Pelangi Metro storefront factory during 2021. Based on research conducted by Erwin Aswar et al (2018) that based on the tests carried out, it was found that there was a relationship between work attitudes and work accidents where the ϕ -value < with the value of the relationship between the two variables was strong ($\phi = 0.582$), there was a relationship between the use of PPE with work accidents where the value of ϕ -value < with the value of the relationship between the two variables is of moderate value ($\phi = 0.418$).

Method

The type of research used in this research is quantitative with an observational design with a cross sectional approach. The research was conducted in June 2021 at the Pelangi Metro storefront factory, by using 30 respondents, data collection was carried out using interview and observation methods, the research instruments used were questionnaires and checklist sheets, the obtained data were processed using the chi-square test.

Results

The results are presented in the form of graphs, tables, or descriptive text. Analysis and interpretation of these results is required before they are discussed. The table is written in the middle or at the end of each descriptive text of research results/acquisitions. If the width of the table is not enough to be written in half a page, it can be written a full page. The table title is written from the left, if the table title is more than two lines, then the second line is indented and written in single space. All words begin with capital letters, except conjunctions, for example, can be seen in Table 1.

Table 1
Distribution of the Frequency of Work Accidents to Workers in the Production
Section of the Pelangi Metro Storefront Factory

Work accident	Amount (n=30)	Percentage
Never	11	36,7%
Ever	19	63,3%
Total	30	100%

Based on (table 1) that the number of workers in the production department who had a work accident were 19 people (63.3%), while the number of workers in the production division who had never had a work accident was 11 people (36.7%).

Table 2
Distribution of Knowledge Frequency, Use of PPE and Worker's Physical Environment

	Amount (n=30)	Percentage
Knowledge		
Low	4	13,3%
Medium	16	53,3%
High	10	33,3%
Use of PPE		
Good	4	13,3%
Bad	26	86,7%
Physical Environment		
Good	14	46,7%
Bad	16	53,3%

Based on (table 2), it is known that most of the respondents (production workers) have low knowledge, which are 4 people (13.3%) and 16 (53.3) workers have medium knowledge, and only 10 (33.3%) workers of production department that have high knowledge. And also all respondents are bad in the use of PPE, as many as 30 people (100%). In the physical environment, most of the workers in the production division are in a bad physical environment, as many as 16 people (53.3%) and as many as 14 workers (46.7%) who are in a good physical environment.

Table 3
Relationship between Knowledge and Work Accidents

Variable	Work Accident Events				Total		ρ - value
	Yes		No				
	n	%	n	%	n	%	
Knowledge							0,00
Low	4	100%	0	0%	4	100%	0
Medium	1	87,5%	2	12,	1	100%	
High	4	10%	9	5%	6	100%	
	1			90	1		
				%	0		

Based on (table 3) shows that from 4 respondents who have low knowledge as many as 4 workers (100%) have experienced work accidents, 16 respondents who have moderate knowledge as many as 14 workers (87%) have experienced work

accidents, while out of 10 respondents 9 workers (90%) who have high knowledge have never had a work accident.

Table 4
The relationship between the use of PPE and the incidence of work accidents

Variable	Work Accident Events				Total		ρ - value
	Yes		No				
	n	%	n	%	n	%	
Use of PPE							0,012
Good	0	0%	4	100	4	100	
Bad	1	73.1	7	%	2	%	
	9	%		26,9	6	100	
				%		%	

Based on (table 4.5) shows that out of 30 respondents, 19 workers (67.9%) are bad in using PPE and have experienced work accidents. While the respondents who are good at using PPE as many as 4 workers (100%) have never had a work accident.

Table 5
Relationship between Physical Environment and Work Accidents

Variable	Work Accident Events				Total		ρ - value
	Yes		No				
	n	%	n	%	n	%	
Physical Environment	5	31,3	1	68,8	1	100	0,000
Good	1	%	1	%	6	%	
Bad	4	100	0	0,0%	1	100	
		%			4	%	

Based on (table 5) shows that of the 30 respondents, as many as 14 workers (100%) had a bad physical environment and had work accidents. While the respondents with a good physical environment as many as 11 workers (68.8%) did not experience work accidents

Discussion

The relationship between knowledge factors and work accidents

Based on data analysis, it was found that there was a significant relationship between knowledge and the work accidents with a -value of 0.000 (<0.05). The results of this study are in line with research conducted by Dewi Indah Sari (2014) about the factors associated with the incidence of work accidents at PT. Aqua Golden Mississippi Bekasi in 2014, it showed that there was a relationship between knowledge and the incidence of work accidents with an -value of 0.000 and a percentage (73.8%). Knowledge of workers are individuals who have a special level of education and abilities combined with the ability to apply skills in identifying and solving problems (Drucker, 1993).

The relationship of factors using PPE with work accidents

Based on the data analysis that conducted by the researcher, there is a significant relationship between the use of PPE and the incidence of work accidents with a -value of 0.012 (<0.05). These results are supported by research conducted by Sulhinayatillah (2017) regarding the factors related to the events of work accidents in employees of the production division of PT. PP London Sumatra Indonesia, Tbk South Sulawesi, stated that 62.8% (54 people) did not comply with the use of personal protective equipment. In the regulation of the Minister of Manpower and Transmigration of the Republic of Indonesia, Number Per.08/MEN/VII/2010, Personal protective equipment (PPE) is a tool that has the ability to protect someone in work whose function is to isolate the workforce from hazards in the workplace. Companies are required to provide PPE for employees/workers for free of charge and must be used at work when working to avoid work accidents. From the results of observations, it was made that the high number of work accidents in the process of making storefronts, one of which is caused by workers who do not use PPE. However, the lack of PPE availability at the *Pelangi* storefront factory itself is a major factor because the quantity of PPE provided does not match the need for work funds.

The relationship between physical environmental factors and work accidents

Based on data analysis, it is found that there is a significant relationship between the physical environment and the incidence of work accidents with a -value of 0.000 (<0.05). This is in line with research conducted by Rahadi, et al. (2012) there is a relationship between the work environment and the incidence of work accidents in employees of PT. Hasnur Riung Sinergi, with a significant correlation value < 0.05 . The environment is one of the factors that may cause work accidents. These factors can be in the form of raw materials for a production, the results of a production from a process, the production process itself or waste from a production. (Arifin, 2005). An uncomfortable work environment will affect the

performance and concentration of workers in doing their work so that they are prone to work accidents.

Conclusion

- There is a significant relationship between knowledge and the work accidents on workers in the production section of the *Pelangi Metro* storefront factory in 2021 (p -value = 0.000).
- There is a significant relationship between the use of PPE with the incidence of work accidents in the *Pelangi Metro* storefront factory workers in 2021 (p -value = 0.012, OR = 0.269).
- There is a significant relationship between the physical environment and the work accidents among workers in the production section of the *Pelangi Metro* storefront factory in 2021 (p -value = 0.000, OR = 3.200)

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