http://ejournal.seaninstitute.or.id/index.php/healt
Jurnal Eduhealt, Volume 14, No. 04 2023
E-ISSN. 2808-4608

Analysis Of Risk Factors Causing Unsafe Action In Brick Making Workers In Cipayung Village

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ARTICLE INFO

Keywords:
Unsafe Action Knowledge of OHS, Age, preseption of OHS

ABSTRACT

Unsafe Action is an action taken by someone that can be cause work accidents. According to H.W Heinrich in his book the Accident Prevention, it is revealed that 88% of the causes of an accident are unsafe acts, 10%, unsafe conditions and the remaining 2% are other factors (act of GOD). This study aims to determine the factors associated with Unsafe Action in brick-making workers. This research was conducted from May to August 2023. The sample amounted to 44 brick-making workers. This research is a type of quantitative research with a cross-sectional design. The statistical test used in this study is using Chi-Square. The results of the bivariate test using Chi-Square show that there are 2 variables associated with Unsafe Action pain, namely age with a p-value of 0.001 (p <0.0) and K3 knowledge with a p-value of 0.01 (p <0.05), while for K3 perceptions are not associated with Low Back Pain with a p-value of 0.2 (p>0.05).

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1. PENDAHULUAN

The development of technology and science is followed by the rapid development of the Industrial world. This can have both positive and negative impacts. One of the positive impacts of developments in the industrial world is the opening of more job opportunities. However, the negative impacts such as labor can be exposed to hazardous factors in the workplace, be it hazardous factors that can cause work accidents or occupational diseases. According to the International Labor Organization (ILO), every year there are more than 250 million accidents at work and more than 160 million workers become ill due to workplace hazards. Moreover, 1.2 million workers die as a result of accidents and illnesses at work. Figures show that the human and machine costs of production are too high (ILO 2013).

Based on the report of Badan Pelaksanaan Jaminan Sosial (BPJS) of employment, the number of work accidents in Indonesia is reported to have increased in 2017 the number of work accidents reported was 123,041 cases, while the report in 2018 reached 173,105 cases of work accidents. Every year, on average, BPJS serves 130,000 cases of work-related accidents ranging from minor cases to accident cases with fatal impacts (BPJS, 2018). Throughout 2022, there have been 180 thousand cases of work accidents with a recovery rate of 26%, a disability rate of 3% and then accidents that caused 3% death(BPJS Ketenagakerjaan, 2022).

Unsafe Action is an action taken by someone that can cause work accidents. The concept of behavior is Unsafe Action caused by behavioral factors and outside of behavior. In Geller's theory, work safety behavior includes environmental factors (procedures, equipment, and equipment). Personal factors (knowledge, motivation, attitude), behavior factors (communication, supervision, safe work practices) (Tarwaka, 2015). According to H.W Heinrich in his book the Accident Prevention, it is revealed that 88% of the causes of an accident are human factors, namely unsafe acts, while the other 10% are caused by unsafe conditions and the remaining 2% are other factors that cannot be taken into account (act of GOD). This shows that behavioral factors determine humans to perform safe acts or unsafe acts in their work. Frank E. Bird suggests that human factors are one of the main causes of accidents after management (Bird & Germain). Specifically, Geller in his book

The Psychology of Safety Handbook discusses work safety behavior, namely there are three interconnected domain factors, the three factors are individuals, behavior and environment. (Iqbal Hardio, 2019).

Based on the results of a preliminary survey conducted on brick-making workers, it was found that the application of Occupational Health and Safety (OHS) has not received adequate attention from all parties such as: business owners, workers, and other stakeholders. Workers carry out their work without seeing the theory first how safe work procedures are. Many unsafe actions taken by workers cause work accidents. There is one worker who lost his leg while doing work due to lack of knowledge and lack of safety equipment. Workers feel less practical when working using safety equipment (Prilia Relastiani ramadan, 2014). The lack of posters or pictures about occupational safety and health in the work area makes workers do not understand how to do work according to safety procedures. (Prilia Relastiani ramadan, 2014). The lack of posters or pictures about occupational safety and health in the work area makes workers do not understand how to do work according to safety procedures.

The influence of knowledge, attitude to translate stimuli or the process of translating stimuli that enter the human sensory organs.Perception of OHS which contains concepts and work rules that aim to protect individuals, other people and the environment against the dangers of accidents and occupational diseases.Knowledge is the result of knowing, and this occurs after people perceive a certain object. (Arief Hartono, 2018). Knowledge of OHS is a science related to occupational health and safety, including how to prevent it, the impact of accidents and the potential hazards of work accidents. Attitude is a tendency to act in the face of objects, ideas, situations, and values in defining attitudes as persuasion to react to an object in certain ways (Alivia Ananda, 2023). Attitude of OHS is a person's tendency or persuasion to take action in accordance with the provisions and requirements of occupational safety and health. Brick making workers are workers with a variety of backgrounds, some workers show good safety perceptions such as using personal protective equipment (PPE) and there are some workers who do not use PPE. This can lead to Unsafe Action. The influence of Individual Factors and perceptions of Occupational Safety and Health that differ from one worker to another can affect Unsafe Action. Based on this background, the researcher wants to examine the analysis of risk factors that cause Unsafe Action in brick making workers in Cipayung village.

2. METHODS

This research was conducted from February to April 2023. The sample in this study amounted to 38 brick-making workers scattered in Cipayung Village. This research is a type of quantitative research with a crosectional design. The dependent variable in this study is Unsafe Action. Unsafe Action was measured using a questionnaire to determine the presence or absence of pain complaints by adding a questionnaire. Independent variables in this study were age, OHS perception, and knowledge of OHS obtained using a questionnaire. Statistical tests used in this study are using Chi-Square

3. RESULT AND DISCUSION

Based on research conducted by researchers to determine the factors associated with Unsafe Action in brick-making workers, the following results were obtained:

Results

Univariate Analysis

Table 1. Frequency distribution of Unsafe Action in bricks making workers

Unsafe Action	Frekuensi	Persentase
Safe	16	36,36%
Unsafe	28	63,64%
Total	**44**	

Based on the frequency distribution table of Unsafe Action, it is known that brick making workers mostly have Unsafe Action. Workers who have Unsafe Action are 28 people (63.64%) while workers who do safe behavior are 16 (36.36%).

Table 2. Frequency distribution of Age

Umur	Frekuensi	Persentase
<49 Tahun	21	47,73%
≥49 Tahun	23	52,27%
Total	**44**	**100%**

Based on the age frequency distribution table, it is known that most brick-making workers are ≥49 years old. Workers aged <49 years were 21 people (47.73%) while workers aged ≥49 years were 23 people (52.27%).

Table 3. Frequency distribution of Preseption of OHS

Persepsi K3	Frekuensi	Persentase
Good	19	43,18%
Bad	25	56,82%
Total	**44**	**100%**

Based on the frequency distribution table of OHS perceptions, it is known that brick-making workers mostly have poor OHS perceptions. Workers who have poor OHS perceptions are 25 people (56.82%) while workers who have good OHS perceptions are 19 people (43.18%)

Table 3. Pengetahuan **K3**

Pengetahuan K3	Frekuensi	Persentase
Baik	12	27,27%
Kurang	32	72,73%
Total	**44**	**100%**

Based on the frequency distribution table of OHS knowledge, it is known that brick-making workers mostly have poor OHS knowledge. Workers who have good OHS knowledge are 12 people (27.27%) while workers who have poor OHS knowledge are 32 people (72.73%).

Bivariate Analysis

Bivariate analysis in this study is to determine the relationship between the dependent variable, namely Unsafe Action and the dependent variable, namely age, K3 perception, and k3 knowledge. Bivariate analysis in this study used the chi-square test. The following bivariate analysis in this study is as follows:

Tabel 4. Bivariate Analysis between Age And Unsafe Action

Umur	Unsafe Action						*P- Value*
	Safe		Unsafe		Amount		
	n	%	n	%	N	%	
<49 Tahun	13	61,9	8	38,10	21	47,73	0,001
≥49 Tahun	3	13,04	20	86,96	23	52,27	
Amount	**16**	**36,36**	**28**	**63,64**	**43**	**100**	

In the cross tabulation table between the age variable and Unsafe Action, it can be seen that workers aged < 49 years who performed unsafe actions were 8 brick makers (38.10%) and workers aged ≥ 49 years who performed unsafe actions were 20 (86.96%) brick makers. The results of the bivariate test between Age and Unsafe Action obtained a p value of 0.001 ($p < 0.05$).

Tabel 5. Bivariate Analysis between preseption of OHS and Unsafe Action

Presepsi K3	Perilaku tidak aman						*P Value*
	Safe		Unsafe		Amount		
	n	%	n	%	N	%	
Good	9	56,25	10	35,71	19	43,18	0,2
Bad	7	43,75	18	64,29	25	56,82	
Amount	**16**	**36,36**	**28**	**63,64**	**44**	**100**	

In the cross tabulation table between the K3 perception variable and Unsafe Action, it can be seen that workers who have good K3 perceptions who perform Unsafe Action are 10 brick makers (35.71%) and workers who have poor K3 perceptions perform unsafe actions are 18 (64.29%) brick

makers. The results of the bivariate test between OSH perceptions and Unsafe Action obtained a p value of 0.2 (p > 0.05).

Tabel 6. Bivariate Analysis between Knowledge of K3 and Unsafe Action

Pengetahuan K3	Unsafe Action				Amount		*P Value*
	Safe		Unsafe				
	n	%	n	%	N	%	
Good	8	50	4	14,29	12	27,27	0,01
Bad	8	50	24	85,71	32	72,73	
Amount	16	36,36	28	63,64	42	100	

In the cross tabulation table between the OHS knowledge variable and Unsafe Action, it can be seen that workers who have good OHS knowledge who perform Unsafe Action are 4 (14.29%) brick workers and workers who have insufficient OHS knowledge perform unsafe actions are 24 (85.71%) brick workers. The results of the bivariate test between OHS knowledge and Unsafe Action obtained a p-value of 0.01 (p <0.05).

Discusion

Based on the results of data analysis using the chi-square test between age and Unsafe Action, the p-value is 0.001 (p <0.05). Based on the results of univariate analysis, it was found that Unsafe Action was mostly carried out by workers with age ≥49 years. This shows that there is a relationship between age and Unsafe Action. This study is in line with research conducted by Wuni C (2022) in workers in Industry X that there is a relationship between age and Unsafe Action with a p-value of 0.001. Unsafe Action is mostly carried out by workers with advanced age. In general, human physical capacity will decrease at the age of 30 years. The decline in physical capacity such as reaction speed and vision. At an advanced age a person will be more tired and less careful. With age, the level of knowledge and experience of workers at work also increases and workers have mastered the points of error that exist in the workplace. (Sebriana et all, 2021). However, the habit factor is also one of the reasons why workers take unsafe actions. The factor of being comfortable in doing the work even though it is not in accordance with K3 procedures is also the cause

Age is the life span of a person since birth. Increasing age will be followed by a decrease in, among others, sharp vision, hearing and speed of distinguishing things, making decisions and short-term abilities, so it can be said that young people are more dexterous than adults. (Tarwaka, 2018). In general, old age experiences a decrease in cognitive functions such as understanding, learning, understanding, attention which causes slower reactions and behavior. Decrease in psychomotor functions such as: will such as movements, actions, actions, coordination which results in the elderly being less responsive. (Ajeng Pangestu, 2020). Old has decreased reflexes to avoid danger. Although old age has good emotional control that is accustomed to doing and recognizing work hazards at the work site, this age group tends to ignore and underestimate the hazards that exist in the workplace. (Jalu Prakoso, 2022).

Based on the results of bivariate analysis using the chi-square test between K3 perceptions and Unsafe Action, a p-value of 0.2 was obtained. This shows that there is no relationship between OSH perception and Unsafe Action. The results of the univariate analysis show that most workers have a poor perception of OHS (56,82%). Even workers who have good OHS perceptions still take unsafe actions (56.26%). Perception is the initial stage of a series of information processing. Perception is the process of using existing knowledge that is used to detect and interpret stimuli received by the sensory organs such as eyes, ears, and nose. (Shiddiq et al., 2014). So K3 perception is a process of interpreting information about occupational safety and health obtained in the workplace. This information can be in the form of audio, visual, and audio visual. If workers do not get good information about OHS in the workplace, their OHS perception will also be unfavorable. The research shows that workers who have good perceptions still take unsafe actions. This is because this behavior has become a habit in the workplace

Ramsey in Iqbal Hardio (2019) mentioned that the ability of workers can prevent workers from accidents and potential hazards. This ability begins with the stage of the emergence of perceptions of occupational risks, knowledge of hazards in the workplace, attitudes towards hazards in the workplace, and skills possessed by workers to accept and avoid hazards in the workplace. If each

individual at this stage of perception has an unfavorable perception of OHS, then the next will also take unsafe actions. OHS perceptions do not appear suddenly. There are several factors that influence a person's perception depending on the ability of each individual to respond to each stimulus. This ability causes the perception of each individual to vary. Unsafe actions depend on how a person perceives occupational safety and health. Changes in K3 behavior in a worker can be known through his perception.

Based on the results of data analysis using the chi-square test between OHS knowledge and Unsafe Action, the p-value is 0.01 (p <0.05). This shows that there is a relationship between age and Unsafe Action. Based on the results of univariate analysis, it was found that Unsafe Action was mostly carried out by workers with insufficient OHS knowledge (84.71%). This study is in line with research is conducted by Uyun & Widowati (2022) in workers at PT Pijar Sukma that there is a significant relationship between K3 knowledge and Unsafe Action with a p-value of 0.039. Unsafe actions are caused by two factors, namely personal factors and work environment conditions. One of the personal factors that can influence Unsafe Action is cognitive ability. Cognitive abilities include judgment, understanding information, process, memory and perception. A person's cognitive ability in the learning process can bind knowledge to the workplace (Larasatie et al., 2022). Good cognitive intelligence will make memory or memory easy to understand science. If cognitive abilities are good, workers will be better at understanding OSH knowledge. Cognitive ability can be done through training and learning. Most of the workers making bricks have elementary and junior high school education, some high school. This is what causes OSH knowledge in brick-making workers to be lacking.

Lack of OHS knowledge can lead to ignoring the hazards around them and not doing work in accordance with existing regulations so that they will not realize the risks accepted. (Umniyyah et al., 2020). Lack of OHS knowledge can lead to ignoring the dangers around them and not doing work in accordance with existing provisions so that they will not be aware of the risks receivedKnowledge is one of the factors that shape behavior. So if knowledge about OHS is good, safe behavior will also be formed. The Safety Triad explains that if one worker takes safe action, that worker will influence other workers to take safe action. Good OHS knowledge can be obtained through education, counseling, training and installing OHS signs in the workplace. Knowledge of OSH may be important before a personal health action occurs, but the expected OSH action may not occur unless a person gets a strong cue to motivate him to act on the basis of his OSH knowledge (Septiani, 2018)

4. CONCLUSION

Based on the results of the study, it was found that there were 2 variables that had a relationship with Unsafe Action, namely age with a p-value of 0.001 and K3 knowledge with a p-value of 0.01. The variable that is not related to Unsafe Action is K3 perception with a p-value of 0.2.

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