

## Risk Factors Of Workplace Accidents In Furniture Workers In Samadua District, South Aceh Regency In 2018

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### ABSTRACT

In Samadua District, there are 27 furniture industries where on average each furniture consists of 2 to 4 workers. Based on a survey conducted, out of 10 workers surveyed, 4 had experienced injuries due to incorrect use of machines when cutting wood, 6 workers had been hit by wood which caused head, hand and foot injuries. The purpose of this study was to determine the risk factors for work accidents in furniture workers in Samadua District, South Aceh Regency. This research method uses an analytical survey research type with a cross-sectional research design. The population of this study was 108 furniture workers and the minimum number of samples required in this study was 52 people. The analysis of this study used the chi-square test. Based on the results of the study, it is known that knowledge (P.Value = 0.014 <  $\alpha$  = 0.05), work period value (P.Value = 0.027 <  $\alpha$  = 0.05) use of personal protective equipment (P.Value = 0.006  $\alpha$  = 0.05). The conclusion of this study is that there is a relationship between knowledge, work period, and use of personal protective equipment with work accidents in furniture workers in Samadua District, South Aceh Regency. It is recommended to the South Aceh Regency Manpower Office to provide Occupational Safety and Health (K3) training to workers in furniture workers which is also accompanied by the implementation of a health promotion program by the South Aceh Regency Health Office on K3 which aims to improve the knowledge of furniture workers about occupational safety and health.

Keywords : Knowledge, Length Employment, Self Protection, Accident, Piece of Furniture.

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## INTRODUCTION

The number of work accidents in the world is quite high, as reported by the ILO (International Labor Organization) which states that as many as 337 million work accidents occur each year (Novianto, 2015). Based on ILO data in 2013, every 1 worker in the world is declared dead every 15 seconds due to work accidents. Then the number of cases of work-related diseases is estimated to be 160 million each year increasing with the number of deaths around 2.02 million each year. A population study conducted by the ILO in 2014 estimated that 8% of deaths due to cancer, 7.5% of cardiovascular and cerebrovascular diseases, 10% of chronic respiratory diseases and 100% of Pneumoconiosis are work-related (ILO, 2015).

The number of work accidents in Indonesia is estimated at 121.9 million in August 2014. The number of workers in August 2012 was almost the same, while from 2013 to 2014 the workforce in Indonesia increased by 1.7 million, the same as the number of workers, in 2012 and in August 2013 were almost the same. Every worker always contains the potential risk of danger in the form of work accidents, the magnitude of the potential for accidents and occupational diseases depends on the type of production, the technology used, the materials used, the layout and environment of the building and the quality of management of the implementing personnel, the number of work accident cases in 2001-2014 was highest in 2013, namely 35,917 cases of work accidents (in 2011 there were 9,891 cases, in 2012 there were 21,735, in 2014 there were 24,910 cases (Indonesian Health Data and Information Center, 2015).

Labor supervision data from the Aceh Manpower Office shows that 78,135 workers are placed in 642 companies, both formal and non-formal industries, and the number of diseases caused by work in companies includes 28.4% shortness of breath (textile and cement companies), 32.1% dermatitis (tofu, tempeh, dosmir factories and cleaning service workers), 19.3% eyes (including workshops), 11% ears (industry) and other diseases 10.2% (Aceh Provincial Manpower Office, 2015).

Data from the South Aceh Regency Manpower Office in 2017 showed that the number of companies registered with the social, labor and transmigration office was recorded at 102 companies where these companies had absorbed 3,788 workers. The number of accidents or diseases caused by work risks based on data obtained from the South Aceh Regency BPJS in 2016 showed that there were 156 workers who experienced work accidents. Then in 2017 there were 175 workers who experienced work accidents. And in 2018 per August there were 102 workers who experienced work accidents. Accidents that are often experienced by workers such as serious accidents (broken bones, burns, bruises, hand injuries due to negligence in using machines while working and being hit by objects while working. (South Aceh Regency Manpower Office, 2018).

Data from the Health Insurance Agency of South Aceh Regency specifically in Samadua District, South Aceh Regency, stated that in 2016 there had been cases of work accidents in workers in various sectors of workers amounting to 179 workers. This accident rate increased in 2017 to 192 cases of work accidents, and in 2018 per August there had been 139 cases of work accidents. Work accidents that occurred throughout 2016 to 2018 per August that had befallen workers were accidents that did not cause death, because the accidents that occurred were minor accidents such as injuries due to worker errors in using machines, falls to broken bones, bruises and burns (BPJS South Aceh Regency, 2018).

The furniture industry spread across Samadua District, South Aceh Regency is a type of informal industry because there is no single management that regulates the safety of workers at the furniture location. Based on data obtained in Samadua District, there are 27 furniture industries where on average each furniture consists of 2 to 4 workers. In working, they use machines so that it can cause potential hazards of work accidents caused by furniture work. This is as per the results of a survey conducted that out of 10 workers surveyed, 4 workers had experienced injuries due to incorrect

use of machines when cutting wood/boards, 6 workers had been hit by wood which caused head, hand and foot injuries.

### METHOD

This research is a type of analytical survey research with a cross-sectional research design. According to Riyanto (2011) the type of analytical survey research is a study that tries to find out health problems can occur, then analyzes the relationship between risk factors and effect factors. A cross-sectional research design is a study that studies the relationship between risk factors (independent) and effect factors (dependent) where researchers measure variables once and at the same time.

### RESULTS

Table 1. Relationship between Knowledge Factors and Work Accidents in Furniture Workers in Samadua District, South Aceh Regency in 2018.

Knowledge	Work Accidents in Furniture Workers				Amount	
	Never		Ever		f	%
	n	%	n	%		
<b>Good</b>	15	68,2	7	31,8	22	100
<b>Not good</b>	9	30,0	21	70,0	30	100
<b>P. Value = 0,014</b>				<b>RP = 5,000</b>		

Source: primary data 2018

Table 2. Relationship between Work Period Factors and Work Accidents in Furniture Workers in Samadua District, South Aceh Regency in 2018.

Years of service	Work Accidents in Furniture Workers				Amount	
	Never		Ever		f	%
	n	%	n	%		
<b>&gt; 5 Years</b>	16	64,0	9	36,0	25	100
<b>&gt; 5 Years</b>	8	29,6	19	70,4	27	100
<b>P. Value = 0,027</b>				<b>RP = 4,222</b>		

Source: primary data 2018

Table 3. The Relationship between the Use of Personal Protective Equipment (PPE) Factors and Work Accidents in Furniture Workers in Samadua District, South Aceh Regency in 2018.

Use of PPE	Work Accidents in Furniture Workers				Amount	
	Never		Ever		f	%
	n	%	n	%		
Complete	13	76,5	4	23,5	17	100
Incomplete	11	31,4	24	68,6	35	100
<b>P. Value = 0,006</b>				<b>RP = 7,091</b>		

Source: primary data 2018

## DISCUSSION

### 1. Relationship between Knowledge Factors and Work Accidents in Furniture Workers in Samadua District, South Aceh Regency in 2018

Knowledge can influence a person's way of thinking in dealing with work, as well as how to avoid work accidents. A person's knowledge is very important to pay attention to in order to increase awareness of the importance of work safety. Because good knowledge can influence a person in absorbing information so that workers who have good knowledge will minimize the risk of work accidents (Abrar, 2010).

The researcher's assumption is related to the low or poor knowledge of furniture workers which has an impact on accidents in some workers, because workers have never attended training on occupational safety and health. This can happen because furniture is an informal industry that does not support training from the owner. The absence of training has had an impact on work accidents in workers because furniture workers lack information on occupational safety and health.

This study is in line with the study conducted by Priyambodo (2012) that the study showed that respondents who had high knowledge and did not wear masks were 5 people (17.2%). Respondents with low knowledge and wearing masks were 7 people (33.3%), while respondents who had high knowledge and wearing masks were 24 people (82.8%). The results of the statistical analysis obtained a P.Value = 0.001, meaning that there is a relationship between worker knowledge and the practice of using respiratory personal protective equipment in production workers at PT. Albisindo Timber (Sukun Group) Kudus.

The next study is a study conducted by Indrasto (2017) that from the study conducted showed that respondents who had high knowledge and did not have symptoms of eye pain were 23 (60.5%) and respondents with high knowledge who had symptoms of eye pain were 15 (39.5%). While workers who had low knowledge but did not have symptoms of eye pain were 9 (14.3%) and had low knowledge who had symptoms of eye pain were 16 (25.4%). The results of the statistical analysis obtained a P.Value value = 0.032, meaning that there is a relationship between worker knowledge and symptoms of eye pain in furniture industry workers in Ngeemplak District, Boyolali.

### 2. Relationship between Work Period Factors and Work Accidents in Furniture Workers in Samadua District, South Aceh Regency in 2018

Each worker has a different work period which can be seen from how long a person has worked from when they first started working until they are still working. This is in accordance with the opinion of Suma'mur (2010) who stated that work period is the length of time a person has worked from when they first started working until they are still working. Furthermore, Suma'mur said that the longer a worker works, the more experience the worker in question has. Conversely, the shorter the

work period, the less experience is gained. Work experience provides a lot of expertise and work skills. Conversely, limited work experience results in a lower level of expertise and skills.

The researcher's assumption is related to workers who have a working period of <5 years who experience accidents because many workers who change jobs who previously worked as carpenters, so that workers still lack experience, especially in using machines to process or produce wood into household furniture. Errors that occur due to careless use of machines have caused workers to experience accidents such as hand injuries when using machines to cut wood or injuries to the feet because they are not careful in lifting wood to be processed into raw materials for furniture, not to mention some of the workers do not use personal protective equipment so that it is very risky for workers to have work accidents.

This study is in line with the study conducted by Savitri (2016) that from the study conducted it was found that the 43 respondents who were the most were respondents with a new work period group of <3 years, namely 26 people (60.5%), and a group of old work period  $\geq 3$  years as many as 17 people (39.5%). The results of the statistical analysis obtained a P.Value value = 0.045, meaning that there is a relationship between work period and work accidents at the Aluminum Furniture Industry Center in Hulu Sungai Utara Regency.

Another study that is in line with this study is a study conducted by Mahardhika (2017) that from the study conducted it was found that with a new category of 4 (8.0%), the distribution of work period with a fairly long category of 3 (6.0%), the distribution of work period with an old category of 20 (40.0%), and the distribution of work period with a very long category of 23 (46.0%). The results of the statistical analysis obtained a P.Value value = 0.000, meaning that there is a relationship between work period and work accidents in the winding section workers at PT. Iskandar Indah Printing Textile Surakarta.

### **3. Relationship between Personal Protective Equipment (PPE) Use Factors and Work Accidents in Furniture Workers in Samadua District, South Aceh Regency in 2018**

According to Budiono (2013), personal protective equipment (PPE) is a set of tools used by workers to protect part or all of their bodies from potential hazards or work accidents. PPE cannot perfectly protect the body, but it can reduce the severity of potential hazards in the workplace. Therefore, it is important for workers to use PPE to minimize the impact or even prevent work accidents.

Personal protective equipment that should be used by furniture workers consists of protective hats, masks, glasses, gloves, and shoes. Because in working, furniture workers use wood cutting machines, drills, saws that can hit the eyes from pieces of wood and if not careful in using the machine can injure workers and can cause work accidents for furniture workers. The researcher's assumption is related to the still low use of PPE in furniture workers, because furniture is an informant business that does not have occupational health and safety management, especially providing personal protective equipment for its workers. Thus, if the workforce intends to reduce the risk of work accidents, then each owner or furniture worker provides their own personal protective equipment.

This study is in line with research by Handayani (2010) which shows that rustic workers that the PPE that is widely used in working is masks, which is 36 people (97.29%) and hats/helmets as many as 29 people (78.37%) and the PPE that is least used by rustic workers is gloves only 1 person (2.70%) and shoes only 1 person (2.70%). The results of the statistical analysis obtained a P.Value value = 0.009 meaning that there is a relationship between the use of PPE and accidents of Rustic Workers at PT Borneo Melintang Buana Ekspor Yogyakarta.

This study is in line with research conducted by Marsaid (2010) which showed that the results of cross-tabulation between the habit of using masks and the occurrence of coughing in furniture industry

workers, namely severe coughing and rarely using masks as much as 7%, moderate coughing and rarely using masks as much as 27%, moderate coughing and often using masks as much as 33%, mild coughing and often using masks as much as 33%. The results of the statistical analysis obtained a P.Value value = 0.028, meaning that there is a relationship between the habit of using masks and the occurrence of coughing in furniture industry workers in Karangsono Village, Sukorejo District, Pasuruan Regency.

## CONCLUSIONS AND RECOMMENDATIONS

### CONCLUSIONS

1. There is a relationship between knowledge and work accidents in furniture workers in Samadua District, South Aceh Regency as shown in the P.Value = 0.014  $< \alpha = 0.05$ . The RP value = 5,000 (1.522-16.425) indicates that respondents who have poor knowledge will be at risk of 5,000 times having a work accident compared to respondents who have good knowledge.
2. There is a relationship between work period and work accidents in furniture workers in Samadua District, South Aceh Regency as shown in the P.Value = 0.027  $< \alpha = 0.05$ . The value of 4.222 (1.322-13.490) indicates that respondents who have a work period of  $\leq 5$  years will be at risk of 4.222 times having a work accident compared to respondents who have a work period of  $> 5$  years.
3. There is a relationship between the use of PPE and work accidents in furniture workers in Samadua District, South Aceh Regency as shown by P.Value = 0.006  $< \alpha = 0.05$ . The RP value = 7.091 (1.878-26.773) indicates that respondents who do not fully use PPE have a risk of 7.091 of experiencing work accidents compared to respondents who fully use PPE.

### RECOMMENDATIONS

1. It is recommended for the South Aceh Regency Manpower Office to provide Occupational Safety and Health (K3) training to workers in furniture workers which is also accompanied by the implementation of a health promotion program by the South Aceh Regency Health Office about K3 such as the attachment of K3 banners or K3 billboards containing the importance of using PPE for furniture workers to increase the knowledge of furniture workers about occupational safety and health.
2. It is recommended for furniture workers to be able to use personal protective equipment at work to prevent and avoid workers from accidents while working.
3. It is recommended for further researchers to conduct research on accidents in furniture workers in other locations to find out whether knowledge, length of service, and use of PPE are related to the occurrence of accidents, and can also add other variables according to the problems that occur in the field.

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