
Factors Related To Compliance With The Use Of Personal Protective Equipment (PPE) Against Employees At Pt.Mas Batang Toru Mine 2023

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Abstract

Indonesia is a country that still has a high number of work accidents, especially well-known companies. This is supported by data from the Ministry of manpower which noted an increasing trend in the number of work accidents in Indonesia which has continued to increase in recent years. In 2022, there have been 157,313 cases of work accidents, or an increase compared to work accident cases that occurred in 2019 of 154 thousand cases. One of the main causes of work accidents is the low awareness of the importance of K3 compliance and non-compliance in the use of personal protective equipment in the industry. The design of this study uses an analytical survey with a cross sectional approach. The sample in this study as many as 50 workers of PT Tambang Mas Batang Toru. Statistical tests used are chi square test and logistic regression. The results showed that of the total respondents 51.0% aged 23-38 years, 32.0% have high school education, 76.0% have worked for 15-20 years. The results of bivariate analysis using chisquare showed that knowledge ($p=.000$), attitude ($p=.000$), the availability of PPE ($p=.000$), regulation ($p=.000$) and control ($p=.000$). From the multivariate analysis of the factors that are very influential in this study is the availability of PPE with a value of OR is 745.00 means that respondents whose PPE availability is less than 745 times have the opportunity to cause non-compliance respondents in the use of PPE. From the results of this study is expected to management of PT.Mas Batang Toru mine to be able to further maintain promotive efforts towards the use of personal protective equipment in order to influence the knowledge and attitude of the workforce to wear complete personal protective equipment and maintain the condition of personal protective equipment in good condition before the replacement period by adding demonstration methods for the use and maintenance of personal protective equipment during safety talk.

Keyword : Compliance, Employee PPE, Knowledge And Attitude

INTRODUCTION

The main contributing factor to the occurrence of work accidents is the low awareness of the importance of the application of K3 and non-compliance in the use of personal protective equipment in the industry. So far, the application of K3 is often considered as a cost or expense, not as an investment to prevent work accidents. BPJS Ketenagakerjaan itself throughout 2020 has paid work accident claims with a value reaching trillion. Increased compared to 2019, where the claim value was only billion.

Law no. 13 of 2003 affirms that every company must implement an occupational safety and health management system that is integrated with the company's management system, which means that the Occupational Safety and health management system is part of the company's overall management system which includes organizational structure, planning, implementation, responsibilities, procedures, processes, and resources needed for the development, implementation, achievement, assessment, and maintenance of, and productive.

Work that has a high enough intensity is characteristic of the sector engaged in the world of construction. The absorption of Labor absorbed in this sector is also very large, in 2009, there were about 5.4 million people or 5.3% of the national workforce. The increase continues to occur up to 5.8 million people in 2011. The predictions made by the Ministry of Public Works say that after

2012, the number of workers in this sector will reach more than 6 million people. The Data stated that in the case of work accidents, almost 32% came from the construction sector.

According to data ILO (International Labour Organization) 2018 latest estimates issued 2.78 million workers die each year due to work accidents and occupational diseases. About 2.4 million (86.3 percent) of these deaths were due to occupational diseases, while more than 380,000 (13.7 percent) were due to work accidents. Every year, there are almost a thousand times more non-fatal work accidents than fatal work accidents. Non-fatal work accidents affect an estimated 374 million workers each year and many of these accidents have serious consequences on workers ' earning capacity.

The number of work accidents in Indonesia is still considered high. This is supported by data from the Ministry of manpower which noted an increasing trend in the number of work accidents in Indonesia which has continued to increase in recent years. According to the Minister of manpower (Menaker), Hanif Dhakiri, throughout 2018 there have been 157,313 cases of work accidents, or an increase compared to work accident cases that occurred in 2017 by 123 thousand cases.

From the results of the examination of the Medan City Disnaker team, there are several companies that successively get awards. For companies that are awarded, they must be clean of K3 cases for 2 years and reassessed in Year 3. Therefore, of the 6000 medium and large category companies with high risk, only 1223 companies are zero accident or about 21-22 percent. Likewise with companies that implement SMK3, only 405 companies or about 7-8 percent. That is, there are still more than 3/4 of the companies that have not been built well.

Personal protective equipment (PPE) is a equipment that must be used when working according to occupational hazards and risks to maintain the safety of the worker himself and those around him. PPE regulations are made by the government as the implementation of statutory provisions on Occupational Safety. Companies or businesses that employ workers or workers have an obligation to provide PPE in the workplace in accordance with the Indonesian national standard (SNI) or applicable standards. In addition, the company must announce in writing and install signs regarding the obligation to use PPE and carry out PPE management in the workplace.

PPE (personal protective equipment) plays an important role in Occupational Safety and health. In national development, especially on a project, the safety of labor or Labor has an important role and position. The occurrence of work accidents can result in casualties, defects, equipment damage, declining quality and production results, the cessation of the production process which will then have an impact on the national economy.

Factors affecting compliance with the use of personal protective equipment such as knowledge, attitudes, regulations, availability of PPE and supervision. Some of these factors are very influential and related to each other to raise awareness of workers to avoid work accidents.

The safety and health of workers needs to be considered to reduce or prevent work accidents that result in mental losses. Therefore, K3 experts seek to study the phenomenon of accidents, causative factors, as well as effective ways to prevent them. Prevention efforts in Indonesia still face various obstacles, one of which is a traditional mindset that considers accidents as disasters so that people are resigned. However, prevention efforts have not been carried out in real terms in the implementation of daily work.

The padang sidempuan mas mine production plant has 2 divisions, namely permanent employees as many as 315 employees while non-permanent or THM (Daily Foreman) as many as 360 workers and has 5 sections, the first permanent employee section is the production evaluation planning section as many as 19 employees, Finance and personnel section as many as 9 employees, engineering and quality section as many as 30 employees, equipment section as many as 52

employees, and in the production section there are about 70 employees who are permanent employees in the company. Therefore, each work shift is divided into 3 shifts, namely morning at 07.00 wib – 15.00 wib, afternoon at 15.00 wib – 22.00 wib, and night at 22.00 wib-07.00 wib. Then each shift and line of employees as many as 33 workers plus 1 Foreman in charge of the section.

Based on the initial survey conducted, the researchers looked at the daytime work shift, it was seen that in line 1 of compaction production there were 10 employees who did not use masks, ear plugs, and used helmets, gloves and 9 employees did not wear shoes. Then there are 15 employees do not use masks, the next 26 employees do not use ear plugs. Furthermore, on track 2, 3, 4 and 5 do not look more clearly because on track one researcher can see clearly with the naked eye when heading to the K3 office.

Based on the initial survey, the researchers also conducted a short interview with Inspector K3 at PT. Mas batang toru mine later obtained information that although the company has provided personal protective equipment needed by workers and must be used at work, namely in the form of helmets, earplugs, masks, protective glasses, vests and gloves. Then there are still some workers who do not comply or ignore the rules to always use PPE when working for various reasons. He said that some workers feel uncomfortable, overheated and get in the way of work. Whereas in each division there is a foreman / supervisor who always supervises and is responsible for coordinating each job.

Non-compliance in the use of PPE greatly affects the number of work accidents in PT. It's the Toro mine. Mandatory PPE that must be used on all tracks is a helmet and boots. Although in each lane there is one supervisor / Foreman, but still there are those who do not obey in using the mandatory PPE, namely helmets. Workers who do not use helmets at work can cause fatal work accidents such as being hit by building materials to cause the head to leak, or even being hit by heavy equipment at work.

Factory PT. Tambang Mas has provided some adequate PPE, one of which is a helmet in accordance with the Indonesian national Standard (SNI), adjusting the shape of the size of the head of each worker, and has also been socialized how to wear a good helmet so that workers feel comfortable at work.

The company also evaluates the PPE used, whether it is still worth using or not within a period of several months and its size is also adjusted to the needs of the workforce so that workers remain comfortable in using the helmet and keep working as much as possible. However, back again to human nature that sometimes has a selfish nature or even feels no problem if occasionally does not obey using PPE in the form of a helmet. But they argue for various reasons such as feeling hot or sultry and feel sore using the helmet. Therefore, the company issued a policy that is to make the application of rules of conduct in the factory environment.

In order for the goals of Occupational Safety and health policies can be achieved properly, workers must be able to comply with existing K3 policies, especially in terms of the use of PPE, thus the risk of being exposed to work accidents will decrease.

Based on this background, researchers are interested to conduct research in the company under the title “factors related to compliance with the use of Personal Protective Equipment against employees at PT.Batang Toru Mas mine in 2023.

RESEARCH METHODS

The design of this study uses an analytical survey with a cross sectional approach to analyze the relationship between independent variables (independent variables) in the form of knowledge, attitudes, availability of Personal Protective Equipment (PPE), regulations and supervision and dependent variables (dependent variables), namely compliance use of personal protective equipment.

1) Primary Data

Source data obtained directly from the company that became the object of research. This Data on compliance with the use of personal protective equipment on workers obtained by distributing questionnaires to employees at PT. Gold Mine.

2) Secondary Data

Additional data sources are sources of data obtained from other sources by asking to find additional data. This Data includes data on the condition of the company on issues of organizational structure, legal form of the company, the number of employees and operational activities of the company.

Data Collection Techniques

In this study the data collection techniques used are :

1. Interview is a method of collecting data orally by conducting direct interviews to the competent authorities.
2. Questionnaire (questionnaire) is a way of collecting data by providing a list of questions or questionnaires that have been provided to respondents, the questionnaire given to respondents is a closed questionnaire in the sense of expecting a short question by choosing the answer options that have been available.
3. Observation (Observation) is a direct observation on an object to be studied to get the right picture of the object of study

Research Variables

The variables in the study are :

1. Independent variables or independent variables are knowledge, attitudes, availability of PPE, regulations and supervision.
2. Dependent variable or dependent variable is compliance with the use of personal protective equipment on workers.

Operational Defense

Operational definition of the variables studied are :

1. Workers are workers who work at PT. Tambang Mas
2. Knowledge is the worker's understanding of the importance of using personal protective equipment when carrying out the entire work process.
3. Attitude is a tendency towards personal protective equipment that is, to like or agree or dislike or disagree with Personal Protective Equipment. (APD)
4. The availability of Personal Protective Equipment (PPE) is the presence of protective equipment that is mandatory in the company for workers in accordance with their work.
5. Regulations are guidelines / rules for companies that must be complied with and carried out according to applicable procedures.

6. Supervision is the activity of inspection, checking, matching, inspection, control and various similar actions carried out by superiors so that work is carried out according to the established plan and the desired results.

Data Analysis

a. Univariate Analysis

Univariate analysis aims to obtain/describe the characteristics of each variable studied. These variables consist of knowledge, attitudes, regulations, availability of PPE and supervision.

b. Bivariate Analysis

This analysis was conducted to see the relationship of each independent variable, namely knowledge, attitudes, regulations, availability of PPE and supervision with the dependent variable, namely compliance with the use of Personal Protective Equipment. To prove the significant influence between the independent variable and the dependent variable used Chi-square analysis, at the limit of the meaningfulness of statistical calculations p value (0.05). If the measurement results $p < \text{value (0.05)}$ then it is said (H_0) is rejected, meaning that the two variables have a statistically significant relationship. Then to explain the association (relationship) between the dependent variable and the independent variable is used cross-tabulation.

c. Multivariate Analysis

This analysis aims to the meaning of the relationship between independent variables (independent variables) with dependent variables (dependent variables) at the study site simultaneously as well as determine the factors that are more dominant in relation to compliance with the use of Personal Protective Equipment (PPE).

RESULTS AND DISCUSSION

Relationship Of Knowledge With Compliance With The Use Of Personal Protective Equipment

From the results showed that most of the respondents good knowledge about the use of Personal Protective Equipment is 87.0% while the less knowledgeable about the use of Personal Protective Equipment is 13.0%. Respondents who obediently use personal protective equipment are the majority of well-informed (98.9%). while the majority of respondents who do not comply in using personal protective equipment are less knowledgeable (84.6%).

Knowledge is one of the domains that can shape a person's behavior. Knowledge about the use of PPE is one of the important aspects as an understanding of the importance of the role of Supervisors and company owners in the use of PPE. Good and correct use of PPE is based on the employee's knowledge of PPE. If the worker has insufficient knowledge of the potential or source of danger that exists in his work environment, then the worker will tend to make a wrong decision.

The results of this study are in line with Rahmiati's research (2019) on the relationship between knowledge and the use of PPE in brick industry workers in Lamseunong Hamlet, Baitussalam District, Aceh Besar regency. The results showed that there is a relationship between knowledge and the use of PPE on brick industry workers in Lamseunong Hamlet Baitussalam District Aceh Besar regency.

This is in accordance with The Theory of Safety Triad (triad of Safety which says that knowledge as one of the factors of the formation of safety culture in a person. In general, a worker who has a good level of understanding and knowledge about personal protective equipment must understand the risks of dangers that exist in his workplace, so that during his work, workers will have a high level of awareness, so that they can be obedient in applying the use of personal protective equipment in work and can create a safety culture.

According to the assumption of the authors during the study, Increasing knowledge is very important to add information and update the knowledge of workers the company needs to increase the knowledge of workers where there are some workers who do not obey many still do not know about personal protective equipment, especially the importance of the use of PPE while working so that the risk of injury and work accidents can be minimized or even eliminate work accidents and increase workers ' knowledge of safety. In addition, companies can do various ways to remind their employees by pasting posters or instructions on the use of PPE that can increase knowledge for workers.

Relationship Of Attitude To Compliance With The Use Of Personal Protective Equipment

Most of the positive attitude of respondents to the use of Personal Protective Equipment is 86.0% while the negative attitude of respondents to the use of Personal Protective Equipment is 14.0%. Respondents who obediently use personal protective equipment the majority are positive (96.5%). while the majority of respondents who do not comply in using personal protective equipment are negative (64.3%). From the results that have been done there is a relationship between attitudes with respondents. This is obtained from the results of research that has been done is the statistical test results in the table 2x2 which found the expected value (hope) is less than 5 can be concluded that p.value on the variable attitude of respondents to the compliance of the use of personal protective equipment against employees at PT Tambang Mas is 0.000 ($P < 0.05$) seen in the Fisher's Exact Test where H_0 is accepted which means there is a meaningful relationship between attitude and compliance respondents.

Compliance of a person in the use of personal protective equipment during work will form the character of the worker, where compliance is formed when a worker has been accustomed to doing things that according to the level of understanding and knowledge can create a safe attitude from the risk of accidents at work, these habits will form a safety culture in the workplace. The formation of a safety culture through compliance with the use of PPE is always at the beginning of the cognitive domain owned by the workforce. The results of this study are in line with the theory that states that knowledge is a power factor in the formation of a person's attitude.

The attitude of using personal protective equipment that is not good for workers is caused by factors such as low knowledge level of workers, where low knowledge can influence in making a decision. It can be concluded that a person with a positive attitude tends to behave well, especially in maintaining personal health and safety at work, and vice versa, a person with a negative attitude tends to behave badly in maintaining personal health and safety at work. This study is in accordance with the opinion of Ajzen and Fishbein, about the theory of reasoned action which says that attitudes affect behavior through a process of careful and reasoned decision-making, and the impact is limited.

According to the results of interviews with respondents above can be known the cause of non-compliance respondents in using PPE, among others :

1. Helmet is damaged so that it is not used and does not report
2. Dirty mask so that it can not be used
3. Torn gloves

4. Masks are not worn because of discomfort and difficulty breathing
5. Eye protection is not worn because it is uncomfortable .

CONCLUSION

From the results of a study conducted in January 2023 on factors related to compliance with the use of Personal Protective Equipment against employees at PT.Batang Toru Mas Mine In 2023. then came the conclusion:

1. The level of compliance in using is good
2. There is a significant relationship between knowledge and the use of PPE in which the majority of respondents who do not comply with less knowledge
3. There is a significant relationship between attitudes and the use of PPE in which the majority of respondents who do not comply are negative
4. There is a significant relationship between the availability of PPE with the use of which the majority of respondents who do not comply are not available PPE
5. There is a significant relationship between regulation and the use of PPE in which the majority of respondents who do not comply say there is no regulation on PPE.

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