



The Influence of Counseling with Audiovisual Media on Knowledge and Attitudes about the Use of Personal Protective Equipment (PPE) in Employees at PT. SSC Works Kutai Kartanegara

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ABSTRACT

Some cases of work accidents state that industrial workers who do not use Personal Protective Equipment are at risk of work accidents by 20 times compared to workers who use Personal Protective Equipment. This study aims to determine the effect of counseling with audiovisual media on knowledge and attitudes about the use of Personal Protective Equipment in employees at Pt. SSC Works Kutai Kartanegara. This research method is experimental with One group pretest-posttest design without control design. The sample technique used in this study is total sampling. The results of biivariate analysis on the two independent variables in this study showed that there was a difference in knowledge with a p-value of 0.003 which means there was a difference in respondents' knowledge and 0.025 which showed there was a difference in respondents' attitudes before and after being given counseling with audio-visual media. This analysis confirms that the increase in employee knowledge will be directly proportional to the attitude they have. The better the knowledge you have, the more positive the attitude of employee.

INTRODUCTION

The implementation of Occupational Safety and Health (K3) is a form of effort to create a healthy, safe, and accident-free work environment. According to government regulation of the Republic of Indonesia Number 88 of 2019, occupational health is an effort shown to protect everyone in the workplace to live a healthy life and be free from health problems and adverse influences resulting from work. (Tonapa, 2022). Therefore, it is necessary to make real efforts to prevent and reduce the risk of work accidents. According to ILO data in 2018, more than 1.8 million deaths occurred in the Asia and Pacific region and 374 million incidents of occupational injuries and illnesses were recorded every year. The Manpower Social Security Agency noted that the number of work accidents in Indonesia was 234,270 cases in 2021, an increase of 5.65% from the previous year which was 221,740 cases.

In the city of Samarinda itself, the number of work accidents also continues to increase where in 2016 there were 303 cases of work accidents (Central Statistics Agency 2019). Efforts are made to control work accidents by using Personal Protective Equipment (PPE). The use of PPE in the workplace is adjusted to the potential hazards faced. Several cases of work accidents state that industrial workers who do not use PPE are at risk of being swept away by workers who use PPE 20 times.

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PT. SSC WORKS is a national company engaged in manufacturing and repairing heavy equipment and construction equipment equipped with complete equipment and expert workforce in their fields. Based on a preliminary study conducted at PT. SSC WORKS Kutai Kartanegara in December 2022 through an interview with the Company's HSE, there were still 116 cases of work accidents in 2017-2022 as many as 116 workers. Some workers experience First Aid Cases, which are like unavoidable terhoes and are close to experiencing Nearmiss Cases or almost dying.

From the results of the above problems, researchers are interested in researching the influence of Health Counseling with Audio Visual Media on the Use of Personal Protective Equipment.

THEORETICAL REVIEW

Workforce

Labor is every person who is able to do work to produce goods and services both to meet the needs of themselves and the community (article 1 paragraph 2 of Law Number 13 of 2003 concerning Manpower). The level of labor is higher than that of workers, because the condition that must be met in

the workforce is to be able to do work. Being able to do work in this case is having conditions set by the employer. (Telaumbanua, 2019)

Discipline of Personal Protective Equipment (PPE)

PPE is a tool or equipment that must be used to protect and maintain the safety of workers when doing work that has the potential for danger or risk of work accidents. In manufacturing companies, especially those engaged in electronics production, several occupational risks that have the potential to endanger occupational safety and health have the potential to cause occupational accidents, among others, the soldering process, the process of cutting the legs of electronic components, the process of using chemicals and so on to protect themselves so as to reduce the risk of work accidents. This PPE is one of the important requirements in the implementation of the Occupational Safety and Health (K3) management system (Halajur, 2019)

Types of PPE

a. Protective Hats or Safety Helmets

A helmet or protective hat is used to protect the head from exposure to hazards such as falling objects or exposure to electrical hazards. Protective hats are commonly used by machine technicians and warehouse attendants

b. Protective Glasses or Safety Glass

Protective Glasses are a tool used to protect the eyes from the danger of sharp objects, dust, small particles, reducing glare and splashing of small materials. Protective glasses consist of two types, namely safety spectacles in the form of ordinary glasses and can only protect the eyes from the danger of sharp objects, dust, and small particles in the soldering process. Safety goggles are glasses that are shaped to stick right on the face.

c. Ear Plugs

Earplugs serve to protect the ears against noise or pressure. Wearing earplugs for field workers is the right thing to do in terms of price and comfort in a hot work environment. Its small size and easy to carry are also its own advantages (Winata, 2022)

d. Ear

Ear or Ear is a device used to protect the hearing from high sound intensity. It can reduce the sound intensity by 20 to 30 Db.

e. Mask

A mask is a device used to protect respiratory devices such as the nose and mouth from the risk of hazards such as solder fumes, dust and mild chemical odors. Masks are usually made of fabric.

f. Apron

An apron is a body protector from chemical splashes and hot temperatures. Aprons or aprons are often used in the preparation process of chemicals in production such as oils and adhesives.

g. Gloves or Hand Glove

Gloves are equipment used to protect hands from contact with chemicals, scratches or wounds on the hands due to contact with pointed and sharp objects, gloves are usually worn in the process of preparing

chemicals, installing slightly sharp components, heating processes and so on.

h. Safety Shoes

Protective shoes are ordinary shoes, but they are made of leather coated with metal with a thick and strong rubber sole. It serves to prevent fatal accidents that befall the feet due to being hit by sharp or heavy objects, hot objects, and chemical liquids. (halajur 2019)

Health Promotion Media

Definition of Media

Health promotion media is a health facility that is able to display messages or information that communicators want to convey, both through print media, electronics, and outdoor media, so that the goal can increase knowledge which is expected to change positive behavior towards health (Ediana, et al. 2020) in (Pakpahan, 2021)

a. Types of Media

1) Media Audio

Audio media functions to channel audio messages from the source of the message to the reader, examples of audio media are: radio, *tape recorder*, telephone, and language laboratory

2) Media Visual

Visual media, namely, media that controls the sense of sight, for example, photos, illustrations, *flash cards*, pictures, diagrams, posters.

3) Media Audio Visual

Audio visual media is a communication medium that combines audio and visual elements that are able to display sound and images, for example: film, television and video.

Health Counseling

Health counseling is an activity of health education through the process of disseminating messages to build target beliefs so that they are willing and able to carry out suggestions related to health. The goal is to grow and increase target awareness, improve target capabilities, change target behaviors that can be detrimental to health. There are various methods of health counseling based on goals (Badi'ah, 2022)

Individual Special Way

Health counseling activities using special individual methods are used to create new behaviors for individuals who are beginning to be aware of changes for the better, methods that can be applied include: Guidance, Individual questions and answers, group methods, large groups, small groups,

Knowledge

Knowledge is an understanding or information about a subject that is obtained through experience or study that is known either from one or more people. (Cambridge, 2020) in (Swarjana, 2022). In research on knowledge, we know Bloom's Cut Off Point. Where Bloom divides the level of knowledge into

three, namely, Good/High Knowledge with a score of 80-100%, Fair/moderate Knowledge with a score of 60-79%, and Low/Poor Knowledge with a score of <60% (Swarjana, 2022).

Attitude

Attitude is a way of behaving a person towards something that shows how we think and feel (Oxford, 2021) in (Swarjana, 2022). Attitudes are also influenced by personal experiences, the influence of others, the use of culture, mass media, educational and religious institutions, and emotional factors. (Bernadetha, 2020). In research, the measurement of attitude variables can be done by giving questions or statements to respondents. Furthermore, respondents are given the freedom to respond to the statement or question with general answer choices on a likert scale such as Strongly Agree with the score (SS) with, Agree (S), Hesitate (RR), Disagree (TS), and Strongly Disagree (STS).

Behaviour

Behavior is the real activity of organisms including humans that can be observed in a given situation. Health behaviors are actions and habits related to health maintenance, health restoration and health improvement. The way to measure behavior can be done by observation, namely observing the behavior of respondents. Furthermore, the data that has been collected using the checklist sheet is entered and analyzed. The results of measuring behavioral variables can be in the form of scores or converted to percent. Bloom's Cut off Points can be used as such. Good behavior if the score is 80-100%, Adequate behavior if the score is 60-79%. Behavior is less if the score < 60%. (Swarjana, 2022).

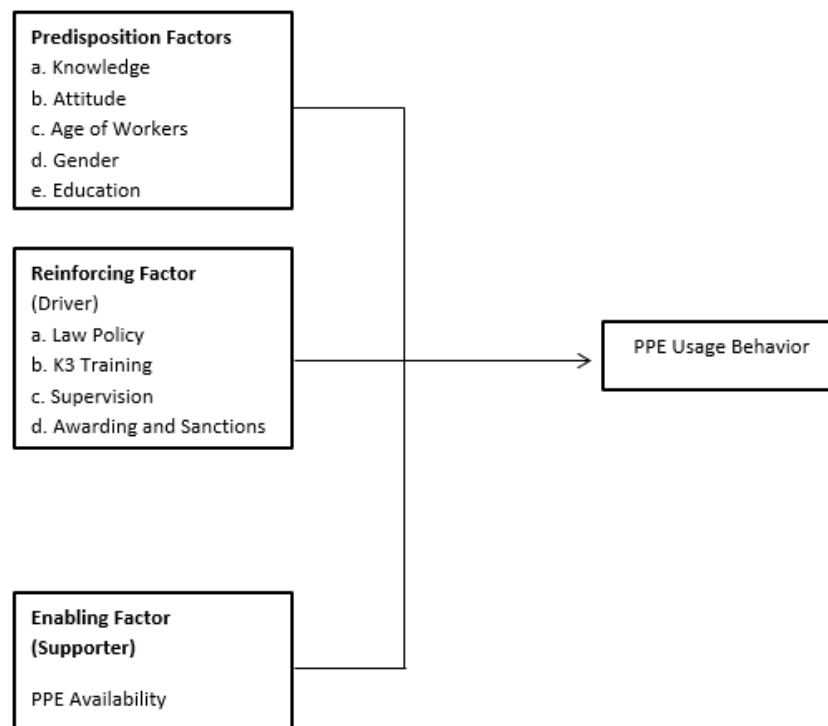


Figure 1. Source Theory Framework: Lawrence Green's Theory Modification

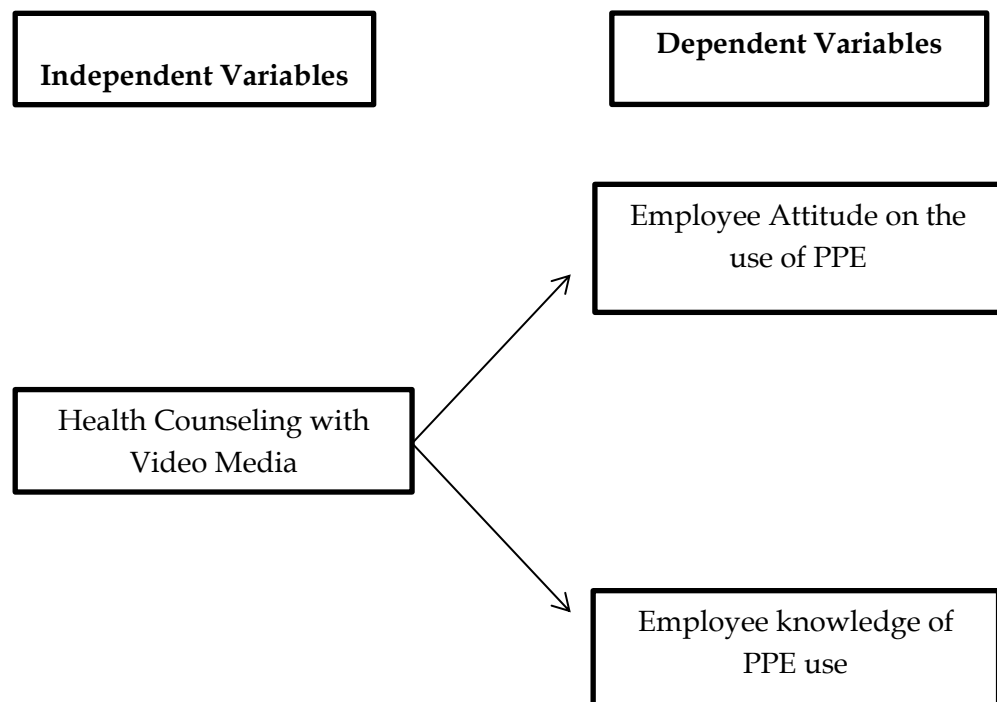


Figure 2. Conceptual Framework

Research Hypothesis and Statement

HO : There is no influence of audio visual media on knowledge and attitudes about the use of PPE in employees at PT SSC Works Kutai Kartanegara

HA : There is an influence of audio-visual media on knowledge and attitudes about the use of PPE in employees at PT SSC Works Kutai Kartanegara

METHODOLOGY

The type of research used in this study is pre-experimental with a one-group pretest-posttest without control group design before being given treatment, the group is first given a pretest, then treated with audiovisual media and then after that is given a posttest. The population in this study is all employees of PT SSC Works Kutai Karta, the state of the workshop as many as 100 people consisting of Inclusion and Exclusion criteria using a total sampling technique of 39 people. The sample in this study must meet the following criteria:

- a. Inclusion Criteria :
 - 1) Be willing to be a respondent at the time of the research
 - 2) Employees of PT SSC Works Kutai Kartanegara
 - 3) Employees who work in the workshop
- b. Exclusion Criteria
 - 1) Absence during data collection
 - 2) Not present in the research intervention process

Data collection is carried out using primary data. Primary data was obtained using questionnaires that have been tested for validity and reliability. Univariate data analysis was carried out to describe the frequency distribution and proportion of each variable which included age, gender, and education level. Bivariate analysis was carried out on two variables that were allegedly related or different (Umami, 2019). By using *the Wilcoxon test* to find out whether or not there is a difference in respondents' knowledge and attitudes about the use of PPE.

RESULT

Univariate Analysis Results

Table 1. Frequency Distribution of Respondents (Age) 2023

	Characteristic	n	%
Age			
21 - 28 Year		14	35,9%
30 - 35 year		25	64,1%
	Total	39	100%

Based on the table above, most of the respondents are employees aged 21-28 years as many as 14 people (35.9%) and 30-35 years old as many as 25 people (64.1%).

Table 2. Respondent Frequency Distribution (Education) 2023

	Characteristic	n	%
Education			
Basis		7	17,9%
Intermediate		19	48,7%
Tall		13	33,3%
	Total	39	100%

Based on the table above, it is known that the employees who have the highest level of education are at the secondary education level, which is 19 people (48.7%). Then the higher education level is 13 people (33.3%), the last of which is the basic education level of 7 people (17.9%).

Table 3. Frequency Distribution of Respondents Working Length 2023

	Characteristic	n	%
Length of Work			
< 5 Year		16	41,0%
> 5 Year		23	59,0%
	Total	39	100%

Based on the table, it can be concluded that the average employee who works at PT SSC Wokrs Kutuai Kartanegara works for more than 5 years as many as 23 people (59.0%).

Results of Bivariate Analysis

Table 4. Distribution of Respondents' Knowledge Between Before and After the Intervention

	Indikator		
	Baik	Cukup	Rendah
Pre Test	3 (7,7%)	14 (35,9%)	22 (56,4%)
Post Test	22 (56,4%)	17 (43,6%)	0 (0%)

Based on the table above, it is known that some respondents who have knowledge with good categories at the time of the pretest are 3 people (7.7%), responses with good knowledge at the time of the posttest are 22 people (56%), this shows that the respondents who have good knowledge increased by 19 people after being given an intervention using audio visual media.

Table 5. Results of Analysis of Differences in Respondents' Knowledge Between Before and After Counseling with Audio Visual Media

Test	Pengetahuan						p-value	Ket
	Baik		Cukup		Rendah			
	n	%	n	%	n	%		
Prtest	3	7,7	14	35,9	22	56,4	0,003	Ada
Posttest	22	56,4	17	43,6	39	43,6		Beda

Based on the table above, it can be seen that the results of the analysis with the Wilcoxon test produced a p-value of 0.000 ($p < 0.05$). This shows that H_0 is rejected and means that there is a difference in the knowledge of the respondents before and after being given counseling with audio-visual media.

Table 6. Distribution of respondents' attitudes before and after being given Intervention

Test	Attitude			
	Positive		Negative	
	n	%	n	%
Prtest	29	74,3	10	25,7
Posttest	34	87,1	5	12,9

Based on the table above, it can be seen that at the time of the pretest, the number of respondents who had a positive attitude about the use of PPE (74.3%) was more than respondents who had a negative attitude (25.7%). And at the time of the Posttest, the number of respondents who had a positive attitude about the use of PPE increased by as much as (87.1%) compared to respondents who had a negative attitude (12.9%). This shows an increase in the

number of respondents who have a positive attitude about the use of PPE after being given the Intervention.

Table 7. Results of Analysis of Differences in Attitudes Between Pretest and Posttest 2023

Test	Attitude				p-value	Ket
	Positif		Negatif			
	n	%	n	%		
Prtest	29	74,3	10	25,7	0,025	Same Different
Posttest	34	87,1	5	12,9		

Primary Data Sources 2023

Based on the table above, it can be seen that the results of the Wilcoxon test analysis produced a p-value of 0.025 ($p < 0.05$), this means that H_0 was rejected and the tone of the respondents' attitudes differed between before and before they were given counseling with audio-visual media.

DISCUSSION

Identify Respondent Characteristics

a. Age

The results of this study show that most of the respondents in this study belong to the age group of 30-35 years (64.1%), the age of the respondents is a sign of the length of the worker's life at birth, counting from the date of birth to the time of the study. Age can be interpreted as one of the factors that can affect a person's activities in their daily life, the older a person is, the more work experience he has. This is in line with previous research (Sa'adah et al., 2021) and (Arifin et al., 2022) which stated that workers who have older age tend to have more experience, for example work experience, experience in solving a problem.

b. Education Level

The results of this study show that most of the research respondents have a secondary education level of (48.7%), this shows that the higher the education a person has, the higher the level of knowledge and attitude of a person. This is in line with previous research which states that there is an influence of education level and work experience on employee performance (Wirawan et al., 2019)

c. Length of Service

The results of this study show that at PT SSC Works Kutai Kartanegara, employees who work for more than 5 years (58.9%), the longer the employee works, the more the employee's work experience increases. This is in line with previous research which stated that the length of work of employees determines performance. Work ability shows a person's potential to carry out their work activities (Harahap, 2019). Robbins and Judge (2008) explain that length of work is the capacity of an individual to do a variety of jobs well.

Differences in Respondents' Attitudes Before and After Counseling with Audio Visual Media

The results of the study showed that at the time of the pretest, the number of respondents who had a positive attitude about PPE was (74.3%) more than the respondents who had a negative attitude (87.1%) after providing counseling. The results of the analysis with the Wilcoxon test produced a p-value of 0.025 ($p < 0.05$). This means that H_0 is rejected and means that there is a difference in respondents' knowledge between before and after counseling with audio-visual media.

The results of this study are in accordance with the research (Syafriani et al., 2019) in Riau. The study stated that health education with video media succeeded in increasing positive attitudes about the use of PPE from danger, The results of this study are also in line with the results of the study (Amalia et al., 2022) in Malang. The results of the study confirmed the influence of health education with audio-visual media on the improvement of the attitude of sanitation workers regarding the use of respirators as PPE.

Differences in Respondents' Knowledge Between Before and After Counseling with Audio Visual Media

The results of this study showed that at the time of the pretest, the number of respondents who had less knowledge about the use of PPE was (56.5%), after being given the intervention, the number of respondents who had good knowledge about the use of PPE during the posttest increased by as much as (66.7%, this shows an increase in respondents who had good knowledge about PPE after being given the intervention. The results of the analysis with the Wilcoxon test produced a p-value of 0.003 ($p < 0.05$). It shows that H_0 is rejected, which means that there is a difference in the attitude of the respondents between before and after being given counseling with audio-visual media.

The results of this study are in accordance with the research (Subakti, 2023). Which states that health counseling with video media has succeeded in improving the domain of worker behavior at PT. Wijaya Karya Beton in Medan related to the use of PPE. The results of this study are also in line with the results of the study (Napitupulu et al., 2022) in Medan. The results of the study confirmed that there is an influence on health counseling with video media to increase the knowledge of furniture workers at PT. Gema Kasih Galang. The results of the two studies are evidence that health counseling with video media is effective in increasing the knowledge domain of respondents in their research. (Notoatmojo, 2018) states that the more and more information exposure received, the better the knowledge a person will have.

CONCLUSION AND RECOMMENDATION

The results of this study show that counseling on the Use of Personal Protective Equipment (PPE) with Audio Visual media to employees at PT SSC Works Kutai Kartanegara is effective, this is evident from:

1. Age, high education, and length of service of employees affect employee productivity at work, the older the age and higher the education of employees, the better the employee's work experience will be.
2. There is a difference in employee knowledge about the use of PPE after being given counseling with audio visual media, the number of employees who have good knowledge as many as 3 employees increased to 22 employees.
3. There is a difference in employee attitudes after the provision of intervention in the form of counseling with audio visual media about the Use of Personal Protective Equipment (PPE), this can be seen from the increase in positive attitudes at the time of the pretest as many as 29 employees increased to 34 employees at the time of the posttest.

FURTHER STUDY

The researcher is then expected to develop the research method into a pseudo-experimental research.

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