

Implementation of Occupational Health and Safety Behavior among Nurses in Hospitals

Devi Damayanti^{1*}, Tri Martiana², Ratna Setyaningrum³, Hadrianti H.D Lasari⁴, Laily Khairiyati⁵
Ihya Hazairin Noor⁶

¹Occupational Safety and Health Study Program Master's Program, Faculty of Public Health, University Airlangga, Indonesia

²Departement of Occupational Health and Safety, Faculty of Public Health, University Airlangga, Indonesia

³Departement of Occupational Health and Safety, Public Health Study Program, Faculty of Medicine and Health Sciences, Lambung Mangkurat University, Indonesia

⁴Departement of Biostatistics, Public Health Study Program, Faculty of Medicine and Health Sciences, Lambung Mangkurat University, Indonesia

⁵Departement of Environmental Health, Public Health Study Program, Faculty of Medicine and Health Sciences, Lambung Mangkurat University, Indonesia

⁶Departement of Hygiene Industri and Manajement Risk, Public Health Study Program, Faculty of Medicine and Health Sciences, Lambung Mangkurat University, Indonesia

Correspondence Email: dvdamayanti8@gmail.com

ABSTRACT

Based on Riskesdas 2018 data, 9.2% of work accident cases occurred in hospitals. The hospital in this study experienced minor work accidents. The results of interviews with emergency room nurses found that minor work accidents that may occur is scratches when opening the ampoule lid, the head nurse will warn to be careful or can use a cloth when opening it. The purpose of this study is to explain the relationship between knowledge, perception and attitude towards the behavior of implementing Occupational Health and Safety (OHS) in nurses. This study employed an analytical observational method with a cross-sectional design. This research was conducted at one of Hospitals in Banjarbaru City. The sampling technique used was purposive sampling, and a sample of 53 respondents was obtained. The data analysis used was the chi-square test with a 95% confidence level. The results of this study indicate that the knowledge variable has a p-value = 1,000 the perception variable has a p-value = 0.010, and the attitude variable has a p-value = 0.092. The conclusion is that there is a relationship between perceptions towards the behavior of implementing OHS on the nurses, and there is no relationship between knowledge and attitude towards the behavior of implementing OHS on the nurses.

Keywords: Knowledge, perception, attitude, behavior, occupational health and safety

INTRODUCTION

Nurses constitute a significant proportion of healthcare workers and play an essential role in health service delivery and who also play an important role in providing health.¹ Some cases that often occur to nurses in hospitals include needle sticks, sprains, back pain, scratches, burns and other infectious disease.² The National Safety Council (NSC) reported in 2015 that the health services sector had a greater risk of work accidents than other industrial sectors, one of which could happen to nurses.³

Based on World Health Organization (WHO) data from 2019, the total number of nurses worldwide was recorded at 28 million.⁴ Nurses in Indonesia make up the largest proportion of health workers in 2020, namely

40.85% of the total health workers.⁵ Meanwhile, the highest number of health resources in health facilities in South Kalimantan Province are nurses, amounting to 8,081 people.⁶ The data shows that the majority of health workers working in health facilities in Indonesia and especially in South Kalimantan Province are nurses.

The Bureau of Labor Statistics and the National Insurance Council of America report that occurrence of Occupational Diseases (PAK) in health are slightly higher than in other sectors.⁷ Based on 2018 Riskesdas data, there were 9.2% of work accident cases in hospitals.⁸ Research conducted by Fatma at King Fahad Hospital, Madinah Al-Munawwaroh, found that there had been minor work accidents, the cause of which was the negligence of nurses and inadequate

equipment. In 2020, there were 5.98% of work accident with 19 category of minor work accidents and 7 serious work accidents. Meanwhile in 2021, the percentage of work accidents reached 4.01% with category of 18 minor work accidents and 5 serious work accidents.⁹

The latest data related to occupational accidents and occupational diseases (PAK) in health workers in Indonesia hospital have not been recorded and reported properly, so that it is necessary to make efforts to improve and increase the application of occupational health and safety (OHS).⁷

The hospital in this study was no exception, as minor work accidents also occurred there. The work accident occurred to the hospital's electrical technician while working, and medical treatment was immediately carried out at the hospital. The results of interviews with nurses in the Emergency Room (ER) installation found that minor work accidents that could occur were scratches when opening the ampoule cap, generally the head nurse immediately reminded the nurse to be careful or to use a cloth when opening it.

Based on preliminary studies, it is known that the hospital has understood and implemented several programs related to Occupational Health and Safety in Hospital (K3RS), in addition the hospital also facilitates its workers to take K3RS training. However, the implementation of the OHS program has not been handled directly by a special OHS unit. It can be seen in several programs that have been transferred to the administration and personnel sector and environmental health installations. This is because the application to form a OHS unit at the hospital has not received approval from the owner, and the limited human resources who are competent in the field of OHS.

Behavior is an act carried out by a person and can be seen from attitudes and actions, as well as in the form of knowledge and perception. In Notoatmojo's book based on Green's theory in 1980, it is stated that a person's healthy behavior is influenced by three factors, namely predisposing factors, enabling factors and reinforcing factors. Research from Mantiri in 2020 found that there are psychological and behavioral factors that influence the implementation of occupational health and safety management in hospitals, including knowledge, perception and attitude.¹⁰

Research by Kumayas, Paul and Finny in 2019 obtained (p-value=0.019) which means that there is a significant relationship between knowledge and the implementation of OHS in nurses at the Bhayangkara Hospital Class III Manado.¹¹ But different result were obtained

from the research by Noviyanti in 2020 obtained (p-value=0,553) which means that there is no signifacant relationship between knowledge and the implementation of OHS in nurses at Hospital X, Batam City.¹²

In addition, research by Mantiri, Odi and Sylvia in 2020 was based on the results obtained (p-value=0.007), which means that there is a significant relationship between perception and the implementation of K3RS at Pobundayan Hospital, Kotamobagu City.¹⁰ And research related to perception regarding the implementation of OHS behavior, especially among nurses is very rarely found. So there is no previous research that states that perception is no signifacant relationship with OHS implementation behavior.

And based on Kumayas, Paul and Finny in 2019, it was obtained (p-value=0.000) which means that there is a significant relationship between attitudes and the implementation of OHS in nurses at the Bhayangkara Hospital Class III Manado¹¹. But different result were obtained from the research by Rachman in 2020 obtained (p-value=0,84) which means that there is no signifacant relationship between perception and the implementation of OHS.¹³

There are differences in the results of previous studies related to knowledge, perception and attitudes towards the implementation of OHS behavior. And there is sill very little research on perceptions of OHS implementation behavior, so it is important to study this topic in more depth. The implementation of K3 must be carried out in all workplaces, because every job has the potential for danger that poses a risk to workers. Therefore, this study aims to analyze the relationship between knowledge, perception and attitude towards the implementation of OHS behavior in nurses at hospital.

METHOD

This study uses an analytical observational design, wiith a cross-sectional research design. This study aims to determine the relationship between knowledge, perception and attitudes of nurses towards the implementation of OHS behavior in Hospital. This research was conducted at a hospital in Banjarbaru City in March 2022 – February 2023 with data collection on 3,4, and 6 February 2023.

The population in this study was 74 nurses at the Hospital, consisting of head nurses, polyclinic nurses, inpatient nurses on floors 3 and 2, emergency room nurses, ICU nurses, NICU nurses, and operating room nurses. The sampling technique used was non-probability sampling, with a purposive sampling type that took into account inclusion criteria. Determination

of the minimum sample size using the finite population sample formula (population known) and obtained 53 samples.

The research uses a questionnaire instrument to measure the independent variables included knowledge, perception and attitude, and the dependent variable was the behavior of implementing OHS. The knowledge, perception, attitude and behavior questionnaire is a modification of the questionnaire in previous research. The research instrument was first tested for validity and reliability. Validity and reliability tests were conducted in one of the hospitals in Banjarbaru City to 30 nurses. The hospital was selected due to its similar characteristics to the main research site.

This validity test uses the product moment correlation test technique with the help of the SPSS application. Questions and statements are declared valid if the calculated r value is $> r$ table, which is above 0.361 because the number of samples is 30 respondents. It is known that there are 12 valid knowledge questions, 15 valid perception questions, 14 valid attitude questions, and 14 valid K3 behavior questions. Invalid results were removed from the research questionnaire, because valid questions and statements already represent the indicators in each variable.

The method used in conducting reliability testing is the Cronbach's Alpha method. This method uses a limit of 0.6 to determine whether a variable is reliable or not. The results of the reliability test show that all questions and statements used are reliable, as seen from the Cronbach's Alpha value > 0.6 . The Cronbach's Alpha value of the knowledge variable is 0.933, the perception variable is 0.911, the attitude variable is 0.895 and the K3 implementation behavior variable is 0.891.

Knowledge variable

Nurses' knowledge of OHS implementation behavior can be assessed by considering several aspects, namely nurses' understanding of K3RS policies and programs, nurses' understanding of work accidents in hospitals, and nurses' understanding of the importance of using PPE in hospitals. The assessment of this variable uses the Guttman scale, if the answer "Correct" gets a score of 1 and the answer "Wrong" gets a score of 0. The highest score is 15 and the lowest score is 0. Knowledge is categorized into two, namely:

- a. knowledge is said to be good ≥ 12
- b. knowledge is said to be less < 12

Perception variables

Nurses' perceptions of OHS implementation behavior can consider several

aspects, namely nurses' perceptions of K3RS policies and programs, nurses' perceptions of work accidents in hospitals, nurses' perceptions of the use of PPE in hospitals and nurses' perceptions of complying with Standar Operational Prosedure (SOPs) in hospitals.

This variable was assessed using a Likert scale, where positive statements were scored as follows: Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1 and negative statement scores: Strongly Agree = 1, Agree = 2, Disagree = 3, Strongly Disagree = 4. Perception is categorized into two, namely:

- a. Perception is said to be Positif ≥ 49
- b. Perception is said to be Negatif < 49

Attitude variable

Nurses' attitudes towards OHS implementation behavior include several aspects including nurses' attitudes towards K3RS policies and programs, nurses' attitudes towards work accidents in hospitals, nurses' attitudes towards the use of PPE in hospitals, and nurses' attitudes in complying with SOPs in hospitals.

The assessment of this variable uses a Likert scale, with positive statement scores: Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1 and negative statement scores: Strongly Agree = 1, Agree = 2, Disagree = 3, Strongly Disagree = 4. Attitude is categorized into two, namely:

- a. Attitude is said to be Positif ≥ 42
- b. Attitude is said to be Negatif < 42

Behavior of OHS implementation variabel

The assessment of OHS implementation behavior includes aspects of K3RS risk management, occupational health services, management of hazardous and toxic materials (B3) and fire prevention and control.

The assessment of this variable uses a Likert scale, with positive statement scores: Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1 and negative statement scores: Strongly Agree = 1, Agree = 2, Disagree = 3, Strongly Disagree = 4. Behavior of OHS Implementation is categorized into two, namely:

- a. Behavior of OHS Implementation is said to be good ≥ 44
- b. Behavior of OHS Implementation is said to be less < 44

The research procedure includes the preparation stage, implementation stage, and reporting stage. Secondary data is obtained from questionnaires filled out by respondents. Secondary data is obtained from the results of observation interviews with the Head of Administration and General Affairs, Environmental Health Installation Staff who have handled K3 and nurse representatives

represented by the Emergency Room Installation at the Hospital. Data analysis included univariate and bivariate analysis. Using the chi-square test for data analysis, with a confidence level of 95%. If the value (p -value <0.05) then the variable has a significant relationship.

RESULT AND DISCUSSION

Characteristics of respondent

Respondents came from the 3rd floor nurse unit, 2nd floor nurses and polyclinic nurses with a total of 53 respondents.

Respondents were mostly in early adulthood (26-35 years old), namely 26 respondents (49.1%), dominant in women 42 respondents (79.2%), and most with more than 1 year of service 28 respondents (52.8%). Respondents were spread across several work

units, namely 2nd floor nurses totaling 20 respondents (37.7%), polyclinic nurses totaling 20 respondents (37.6%) and 3rd floor nurses totaling 13 respondents (24.5). As for the history of occupational health and safety training, 7 respondents (13.2%) had received OHS training in 2019 which was organized from outside the hospital and 46 respondents (86.8) had never received training on OHS in the hospital which was carried out directly either from internal or external hospitals. In addition, most of the 46 respondents (86.6%) have never received training on occupational health and safety, either from internal or external hospitals.

The distribution and frequency of respondent characteristics based on age, gender, education, length of work, work unit and occupational health and safety training history.

Tabel 1. The Distribution and Frequency of Respondent Characteristics Based on Age, Gender, Education, Length of Work, Work Unit and Occupational Health and Safety Training History

Characteristics Responden	Frequency	Percentage (%)
Age		
Last Teenagers (17-25 thn)	22	41,5
Early Adulths (26-35 thn)	26	49,1
Last Adulths (36-45 thn)	5	9,4
Gender		
Male	11	20,8
Female	42	79,2
Education		
Diploma of Nursing	29	54,7
Bachelor of Nursing dan Nurse Profession	24	45,3
Period of Employment		
> 6 Month	15	28,3
> 1 Year	28	52,8
> 5 Year	10	18,9
Work Unit		
Nurse Floor 3	13	24,5
Nurse Floor 2	20	37,7
Nurse Polyclinic	20	37,7
Training History of OHS		
Ever	7	13,2
Never	46	86,8
Total	53	100

Resouce: Primary Data, 2022

Univariate Analysis

The frequency and distribution of respondents based on behavior, knowledge, perception and attitude is as follows:

Table 2. Distribution and Frequency based on Occupational Health and Safety Implementation Behavior, Knowledge, Perception and Attitude of Nurses in Hospitals

No.	Variabels	Category	Amount (n)	Percentage (%)
1.	Behavior	Good	29	54,7
		Less	24	45,3
2.	Knowledge	Good	31	58,5
		Less	22	41,5
3.	Perception	Positive	29	54,7
		Negative	24	45,3
4.	Attitude	Positive	32	60,4
		Negative	21	39,6
Total			53	100

Resouce: Primary Data, 2022

Based on Tabel 2 behavior variables 29 respondents (54.7%) behaved good and 24 respondents (45.3%) behaved poorly. Behavior of OHS implentation play an important role in reducing accidents in a safe, comfortable workplace and achieving the ultimate goal of high productivity¹⁴. Behavior of OHS implementation measured by indicators namely risk control in hospital, occupational health services, hazardous waste management and fire prevention and contol.

Based on these indicators, nurses who have good behavior if they meet all indicators. Ther nurses lack of behavior is based on health service indicators, where there are several respondents who have not routinely participated in the examination because they have just started working at the hospital, and the program temporarily stopped during the Pandemic Covid-19.

Based on the knowledge variable, 31 respondents (58.5%) were knowledgeable and 22 respondents (41.5%) were less knowledgeable. Knowledge is predisposing factor that can determine a person's behavior¹⁵. Respondents knowledge in this study was measured by indicators in the form of K3RS policies and programs, work accident in hospitals and the use of Personal Protective Equipment (PPE).

Based on this, nurses who fulfill all indicators of knowledge assessment can be said to have good knowledge. The respondents lack of knowledge came from the question indicator of K3RS policies and programs. It known that there are still many responses that have never carried our OHS tranining, so they do not know the purpose of implementing OHS in hospital. Based on perception variables 29 respondents (54.7%) had positive perceptions and 24

respondents (45.3%) had negative perceptions. Perception is a feeling that is realized in the form of feelings of agreement or disagreement, is either self driven or based on the involvemnt of others. Perception is inherent in a person, so it is sensory in nature¹⁶. Perception between a person will be different, depending on how the person's ability to respond to a stimulus. Respondent perception in this study were measured by indicators in the form of K3RS policies and programs, work accident in hospitals, use of PPE and Standard Operating Procedure (SOPs) in hospital.

Based on this, nurses who fulfill all indicators of perception assessment can be said to have a positive perception. Nurses with negative perceptions tend not to care about their coworkers. Respondents with negative perceptions believed that the health and safety of each individual is a personal responsibility, so there is no obligation to warn coworkers who do not comply with regulations and SOPs even if it is potentially dangerous.

Based on the attitude variable 32 respondents (60.4%) were positive and 21 respondents (39.6%) were negative. Attitude is a persone closed response to a stimulus or object. The manifestation of attitudes cannot be seen, but can be interpreted in the form of closed behavior. Responden attitude in this study were measured by indicators in the form of K3RS policies and programs, work accidents in hospitals, use of PPE and SOPs in hospital.

Based on this, nurses who fulfill all the indicators of attitude assessment can be said to have a positive attitude. Nurse with a negative attitude means that the attitude manifested has not come from the individual, but rather because of the coercion that requires individuals to perform.

Relationship between knowledge and behavior of OHS implementation

Based on the results of the chi-square

test, there is a relationship between knowledge and Behavior of OHS Implementation:

Tabel 3. Relationship between Knowledge and Behavior of OHS Implementation

Knowledge	Behavior of OHS Implementation				Total		(p-value)
	Good		Less				
	n	%	n	%	n	%	
Good	17	54,8	14	45,2	31	100	1,000
Less	12	54,5	10	45,5	22	100	

Resouce: Primary Data, 2022

The result (p-value = 1.000) means that there is no significant relationship between knowledge and the behavior of implementing OHS in nurses in hospitals. In line with the research results of Yanti and Erna in 2020 which was carried out at one of the Hospitals in Batam City, with the Quantitative Analytical method with a cross-sectional research design. The number of samples was 35 respondents using the Total Sampling method. The research results showed that there was no significant relationship between knowledge and the implementation of OHS program in nurses at Hospital X in Batam City (p-value = 0.553). This is because in this study the level of knowledge of respondents in implementing OHS programs was good, as seen from the large number of respondents with high education levels.¹⁷

Ther same results were also found in research from Farhan's in 2018, it is know that there is no significant relationship between knowledge and aspects of the implementation OHS at the USU Hospital (p-value = 0,324).¹⁸ In addition, the results of this study are in line with research from Dwiarti and Partha in 2019, which is known that there is no relationship between knowledge and implementation of OHS at the General Hospital in Denpasar City (p-value = 0,326).¹⁹

Knowledge is everything that is obtained as a result of the five senses' contact with a particular object. Knowledge comes from the process of seeing, hearing, feeling and thinking which becomes the basis of a person's behavior and actions. Behavior adoption is based on a process of knowledge, awareness and positive attitudes, then the behavior will be long-lasting when compared to behavior that is not based on the process.²⁰

Knowledge is not related to OHS implementation behavior in nurses in hospitals. This is because low knowledge does not make nurses' OHS implementation behavior low. This result is supported by the large number of highly educated respondents, so that it affects

especially knowledge about the application of OHS in hospitals.²¹ A person's extensive knowledge is due to high education. However, it needs to be emphasized that someone with low education is not absolutely also low knowledge. Because knowledge can also come from non-formal education such as one's personal experience or others.¹⁷

Knowledge can have a positive or negative impact, because that is what will determine one's opinion which will then determine one's attitude.²² Based on the analysis of the questionnaire, it was found that most respondents were aware of the OHS policy or program organized in the hospital. Respondents can also answer questions regarding the important objectives of implementing OHS in the workplace, especially in hospitals. This result is also supported by the knowledge of several respondents who have attended OHS training in 2019.

The majority of respondents with good knowledge and poor behavior were found in respondents with Bachelor of Nursing and Nursing Proffesion and Diploma Nursing education levels with more than 1 year of service. This can occur because knowledge about the application of OHS is not always applied or applied, so it does not turn into an inherent habit and become a behavior.¹⁶

The knowledge gained has gone through the stages in the level of knowledge, namely knowing, understanding, application, analysis, synthesis, and evaluation. However, at the stage of adoption into behavior, there are obstacles at the adoption stage, namely when someone has behaved in accordance with knowledge, awareness and positive attitudes towards the stimulus.²⁰

Respondents who are less knowledgeable with good OHS implementation behavior are the majority of respondents at the Diploma Nursing education level with a work period of more than 5 years. The extent of one's knowledge is not only based on the height of education, one's

knowledge can also come from non-formal education such as personal experience of others. In addition, with the regulations and Standard Operasional Procedures (SOPs), nurses must continue to do so so that good behavior is naturally formed in nurses.

One of the reasons for a person's lack of knowledge can be because memory has decreased. Knowledge has been adopted so well that it forms a behavior even though knowledge has decreased. In addition, it is known that there are regulations that bind nurses in work activities, forcing them to continue to do so and eventually become a behavior.

Therefore, it was found from the results of this study that no relationship between knowledge and the behavior of implementing OHS in nurses in hospitals. A high educational background supports a person to have broader knowledge, which will ultimately lead him to behave well. The better a person's level of

knowledge, the higher the level of implementation OHS. Because the person already understands the reasons, benefits, and objectives of implementing OHS at work, good behaviour is encouraged.

Good occupational health and safety implementation behaviour can coexist with low levels of knowledge because knowledge has been well-adopted to form a behaviour despite its decline. Furthermore, nurses are bound by legislation that govern their work activities, which means they must continue to act appropriately when implementing occupational health and safety.

Relationship between perception and behavior of OHS implementation

Based on the results of the chi-square test, there is a relationship between Perception and Behavior of OHS Implementation:

Tabel 4. Relationship Between Perception and Behavior of OHS Implementation

Perception	Behavior of OHS Implementation				Total		(p-value)
	Good		Less				
	n	%	n	%	N	%	
Positif	21	72,4	8	27,6	29	100	0,010
Negatif	8	33,3	16	66,7	24	100	

Resouce: Primary Data, 2022

The result (p-value=0.010) means that there is a significant relationship between perceptions and the behavior of implementing OHS in nurses in hospitals. In line with the results of previous research from Pinontoan, Ezra and Sylvia in 2020, which was carried out at the Pobundayan Regional Hospital in Kotamobagu City. This research is an analytical observational study, with a sampling technique using the Slovin formula and obtained 60 respondents. The results of the study are known that there is a significant relationship between the implementation of K3RS at Pobundaya Hospital, Kotamobagu City (p-value=0.007).¹⁰

Perception is realized in the form of feelings of agreement or disagreement, which comes from a person or the involvement of others¹⁶. Therefore, someone with good perceptions will tend to have behavior that is in accordance with their perceptions²³. This study resulted in a significant relationship between perceptions and the behavior of implementing OHS in nurses in hospitals This is because respondents who have a positive perception will also tend to behave well and vice versa, respondents who have a negative perception will have less behavior. A person's awareness in

assessing and giving meaning to something or condition will be very important in the realization of a behavior.¹⁰

Risk perception is a person's thought process about the danger that will result from an action. Person consciously in their thought process assesses a risk. Risk perception is influenced by several factors such as personal factors, experience, ability and comparison. The comparison factor in the formation of a person's perception is his ability to detect danger and also the ability to avoid error. These factors shape perceptions and influence a person in making decisions, and have an impact on a person's attitude and behavior towards safety.²⁴

Respondents who have positive perceptions with good OHS implementation behavior are dominant at the last Diploma Nursing education level with more than 1 year of service. This can occur due to a positive assessment of the application of OHS, which is then realized in the form of a response. This means that a perception has been formed in a person which begins with the reception process, followed by the process of selecting stimuli, organizing and interpreting information that has previously been received into a meaningful

picture.

Positive responses that continue to be carried out will become good behavior. In line with Mullen's research in Rahadi in 2013, it is said that individual perceptions of the risks that will be incurred are one of the factors influencing a person's behavior.²⁵

Studied further with the health belief model theory, the results of this study are in line with the explanation in the theory. The health belief model explains about decision making regarding the ability of individual perception to have alternative health behaviors. This study describes how the ability of nurses' perceptions to make decisions or actions for health and safety²⁶. The implementation of training, health and safety promotion, and the implementation of SOPs in hospitals can play a role in changing the perception and belief of nurses regarding the importance of implementing OHS in hospitals.

The health belief model emphasizes on perceived susceptibility, perceived severity, perceived benefits and perceived barriers. Nurses with good perceptions in implementing occupational health and safety behavior means they have understood the four aspects of the health belief model theory.²⁷ Perceived vulnerability means that nurses feel vulnerable while working, thus giving a positive influence on taking action. The more vulnerability is felt, the higher the nurse's action to implement occupational health and safety which is then adopted into behavior. Vulnerability here means the risk of safety and health hazards that exist around nurses.

Perception of severity can mean the nurse's perception of the impact that will be caused by the risk of safety and health hazards that exist around when doing work. The more severity is felt from the consequences of the risk of hazards at work, the higher the ability of a person to adopt safe behavior. Perceived benefits can mean nurses' perceptions of the benefits that will be felt when implementing health and safety while doing work. Implementing OHS can provide protection for nurses from the risk of work accidents and work-related diseases. The more benefits are felt, the greater the possibility of someone adopting safe behavior. This will also strengthen the assumption that prevention is better than cure.

Perception of barriers can be interpreted as any barriers that prevent nurses from implementing OHS behaviors. For example, in this hospital there is no special unit tasked with implementing OHS, which is likely to hinder its implementation. It is possible that some nurses will argue that in the absence of a clear policy,

there is no obligation to implement it. At this stage, a person in adopting behavior will conduct a cost-benefit analysis. This is in accordance with the statement that states that when readiness to behave is low and barriers are high, then behavior tends not to occur.

Respondents who have a negative perception of the behavior of implementing OHS are less dominant at the Bachelor of Nursing and Nursing Profession and Diploma Nursing education levels with a working period of more than 1 year. This is because the perception formed is a negative perception. Respondents do not feel that OHS has a big effect on their work activities, so that the behavior formed is less behavior towards the application of OHS.

In line with the results of the review of the answers to the questionnaire, several respondents answered disagree on the statement regarding discipline in using Personal Protective Equipment (PPE) can reduce the risk of work accidents. Respondents who have a perception that their work environment is not hazardous and are not required to use PPE, will argue that discipline in using PPE does not necessarily reduce the risk of accidents in the workplace.

The results of this study also showed that there were several responses that had positive perceptions with less OHS implementation behavior as many as 8 respondents, and negative perceptions with good OHS implementation behavior as many as 8 respondents. Basically, respondents already have a positive perception of the application of OHS, but because it is not carried out on an ongoing basis, it does not form good behavior in the application of OHS.

Therefore, to support nurses' perceptions that can be influenced by factors of perceived susceptibility, perceived severity, perceived benefits and perceived barriers to the formation of a behavior, an external stimulus is needed. The external stimulus can come from training conducted by the hospital to improve nurses' knowledge of the implementation of OHS. Provision of information through posters, signs, social media and others can also influence nurses' perceptions in forming behavior. And support between colleagues can shape the behavior of implementing OHS in nurses.

Relationship between attitude and behavior in implementing of OHS

Based on the results of the chi-square test, there is a relationship between Attitude and Behavior of OHS Implementation:

Tabel 5. Relationship Between Attitude and Behavior of OHS Implementation

Attitude	Behavior of OHS Implementation				Total		(p-value)
	Good		Less				
	n	%	n	%	n	%	
Positif	21	65,6	11	34,4	32	100	0,092
Negatif	8	38,1	13	61,9	21	100	

Resouce: Primary Data, 2022

The result (p-value=0.092) means that there is no significant relationship between attitude and OHS implementation behavior in nurses at Hospital. In line with what was known in previous research from Rachamn in 2020, the research method is analytical observation with a cross-sectional approach, and it is known it was produced (p-value=0.84) which means that there is no significant relationship between attitude and K3 implementation behavior.²⁸ However, it is inversely proportional to the results of Tumulun's research in 2016 at the TK III R.W. Monginsidin Manado Hospital which shows that there is a significant relationship between attitude and K3RS implementation behavior (p-value = 0.000).²⁹

Attitude means a closed reaction to a stimulus or object, where one's opinions and emotions are involved.³⁰ Attitude is not yet classified as action, but predisposes to action in a behavior. Attitudes can also arise, as a result of the experience of the individual concerned or the influence of the experience of others.³¹ A proactive person in applying something will have an impact on a positive attitude towards the thing he is applying.

The results of this study found that the attitude of nurses in hospitals was not significantly related to OHS implementation behavior due to the fact that most respondents already had a positive attitude with good OHS implementation behavior, and a positive attitude with poor OHS implementation behavior. In addition, it is also known that there are respondents with negative attitudes but have good OHS implementation behavior. It can be said that someone with a positive attitude does not rule out the possibility of having less OHS behavior, and vice versa someone with a negative attitude does not rule out the possibility of having good OHS behavior.

The positive attitude of nurses can be due to nurses having an understanding of the importance of implementing OHS in work activities in hospitals, because this has an impact on themselves, patients, and the image of the hospital where nurses work. Nurses will make maximum efforts in following hospital programs related to the application of OHS, comply with SOPs, and obediently use PPE when taking action on patients and are also willing to take part in OHS training provided by the hospital.³²

A positive attitude alone does not guarantee that someone will also have good behavior. There are several other factors that also influence the formation of OHS behavior such as knowledge, skills, motivation and work environment. The results of this study found that there were still quite a lot of respondents who had a positive attitude with poor OHS implementation behavior.

This can be interpreted as a positive attitude toward OHS, does not mean that it will always carry out behavior that supports OHS in the workplace. Vice versa, someone with a negative attitude will not absolutely behave less. There are other factors that can influence a person's behavior to be good, one of which is the existence of awareness from the individual or motivation either from within or the support of others.

Respondents who have a positive attitude with less OHS implementation behavior are found in the majority of respondents with a Bachelor of Nursing education and Nurse working period of more than 1 year. Respondents with positive attitudes generally responded well, but infrequent application prevented the formation of consistent safe behavior. Attitude is a predictor of behavior formation.

This means that attitudes determine a person's behavior, but not all attitudes are manifested in the form of behavior.²⁹ Respondents with a positive attitude but have less behavior behavior is lacking, meaning that someone does not feel that the behavior they are about to behavior will have a positive impact, so they choose not to do it continuously.

A person with a positive attitude but has a lack of OHS implementation behavior can be influenced by several factors such as a lack of awareness about OHS, can be influenced by several factors such as lack of awareness about risks and hazards that exist in the workplace. High and busy work activities can also make a person rush. The results of the questionnaire review, showed that some respondents with positive attitudes but poor OHS implementation behavior basically understood the concept and purpose of using PPE, However, in using it, they did not check its appropriateness first. This can be because respondents are in a hurry or there is no concern for the PPE used, whether it is

appropriate or not.

Other factors can stem from a lack of supervision or the unavailability of proper OHS supervisors in the workplace. Lack of supervision can make a person feel unsupervised and less encouraged to comply with regulations. In line with the facts found in the field, where there is no OHS unit in the hospital, so there are no officers who are responsible for and supervise the implementation of OHS as a whole.

Respondents who have a negative attitude with good OHS implementation behavior are mostly found in respondents with a Diploma of Nursing education level, more than 1 year of service. The attitude formed is negative. As a result of other factors that make a person realize this behavior, so that it becomes a habit that turns into good behavior. Attitudes are not only influenced by personal experiences, but can also come from the experiences of others. A person's attitude is also influenced by other people. This means that it is possible that someone with a negative attitude will change to have good behavior.

The adoption of a new behavior goes through several stages, namely the stages of awareness, interest, evaluation, trial and adaptation. If each stage supports each other, it will produce a positive behavior. However, if the process of adoption does not support each other, the resulting behavior will be negative.

Person with a negative attitude can also have a high awareness of the hazards and risks of the work activities performed, so that they will tend to be careful and comply with safety regulations or SOPs in the workplace. A person with a negative attitude will also try to maintain their job by showing good performance, and try to comply with the OHS regulations that apply in the workplace. Being accustomed to applying the rules in the workplace every day, will also shape a person to behave well.

The results of this study can also be reviewed based on the theory of planned behavior (TPB). The results of this study can also be reviewed based on the theory of planned behavior (TPB). In this case, behavioral intentions can be formed through several beliefs. The first is the belief about negative or positive consequences if it leads to behavior towards OHS. The second is the belief about the expectations or other people who play a role in the emergence of behavior towards OHS. This belief will provide pressure or encouragement in forming intentions for someone. Then the last is a person's belief in the existence of factors that support or inhibit the emergence of non-compliance behavior towards OHS. These two factors directly affect intention, while the perceived behavioral control factor affects the

intention of non-compliance behavior towards OHS.³³

The results of a study stated that workers who have a good attitude will also have good intentions. However, when the employee's attitude is bad, there will be an intention not to implement K3 in the workplace. This result is also in line with the results of the study obtained by the study, where nurses with a good attitude will tend to have good behavior towards the implementation of OHS. And vice versa, nurses with a negative attitude will tend to have poor behavior in the implementation of OHS. And workers who have strong self-control will have good behavior. However, if employees have weak self-control, then there will be behavior that does not apply K3 in working.³³

CONCLUSION

The results of this study show that knowledge is not significantly related to the behavior of OHS implementing among nurses in hospitals, and it is also known that attitudes are not related to the behavior of OHS implementing among nurses in hospitals. However, perception is significantly related to the behavior of OHS implementing among nurses in hospitals.

The results of this study found that knowledge and attitudes are not related to the behavior of implementing OHS in nurses in hospitals, and there is a significant relationship between perceptions and the behavior of implementing OHS in nurses in hospitals.

In the future, it is hoped that the hospital can organize once a year training related to OHS in the hospital, especially regarding the use of PPE to all human resources in the hospital. For workers who already have good knowledge, perceptions and attitudes towards the application of OHS, they can continue to improve their behavior in applying OHS at work. As for nurses who have not yet started, it is hoped that it can be a basis for applying OHS at work in the future. So as to create a safe, healthy work environment and reduce the risk of work accidents. In the end, the highest productivity will be achieved

Hospitals can also provide an understanding to all HR in the hospital of the importance of sensitivity and care for fellow coworkers, especially to remember to obey the SOPs when working with the aim of avoiding work accidents. As well as hospitals in improving the positive attitude of human resources in hospitals can be done by evaluating attitudes so that the resulting positive attitude comes from the workers themselves.

In order to maximize the implementation of OHS in hospitals, a special OHS unit can be formed in the hospital that is tasked with running, supervising and evaluating the implementation of

OHS in hospitals. In the future, OHS can be implemented in all hospitals.

ACKNOWLEDGMENTS

The author would like to thank the relevant parties involved in this research, so that researchers can complete this research well. And the author is grateful to the research sites that have been willing to be involved in this research, assist in the research process and graciously accept input from the results of this research. It is hoped that in the future there will be other studies that conduct research related to this topic, with other uniqueness.

REFERENCES

1. Program P.; Masyarakat PK, Arifuddin NF, Hardi I, Kalla R. Faktor yang mempengaruhi terjadinya kecelakaan kerja pada perawat di Rumah Sakit Dr. Tajuddin Chalid Makassar. *Journal of Muslim Community Health*. 2023;4(2):1–14.
2. Rosted E, Olesen ML. Scratching the surface—person-centered knowledge morally and professionally commits nurses: an interview study. *J Radiol Nurs*. 2024;43(1):68–74.
3. Susanto Y, Nopriadi N. Evaluasi pelaksanaan program keselamatan dan kesehatan kerja (K3) di rumah sakit. *Jurnal Kesehatan Masyarakat Mulawarman (JKMM)*. 2021;3(1):48–60.
4. Safir N, Mursal M, Akbar Y, Abrar A. Tingkat pengetahuan perawat tentang lima momen kebersihan tangan. *Lentera : Jurnal Ilmiah Kesehatan dan Keperawatan*. 2021;4(2):80–6.
5. Kementerian Kesehatan Republik Indonesia. *Profil Kesehatan Indonesia 2020*. 2023.
6. Dinas Kesehatan Provinsi Kalimantan Selatan. *Profil Kesehatan Provinsi Kalimantan Selatan*. Banjarmasin: Dinas Kesehatan Provinsi Kalimantan Selatan; 2021.
7. Azizah N, Setiawan S, Silaban G. Hubungan antara pengawasan, prosedur kerja dan kondisi fisik dengan terjadinya kecelakaan kerja pada perawat di Ruang Rawat Inap Rumah Sakit Permata Bunda Medan Tahun 2017. *JUMANTIK (Jurnal Ilmiah Penelitian Kesehatan)*. 2019;4(1):125–34.
8. Asfian P, Yani R, Meliahsari R. Gambaran penerapan sistem manajemen K3RS di Rumah Sakit Umum Daerah (RSUD) Bheramas Provinsi Sulawesi Tenggara Tahun 2020. *Jurnal Kesehatan dan Keselamatan Kerja Universitas Halu Oleo*. 2021;2(1):9–20.
9. Fatma K, Hasibuan B, Gusdini N. Pengaruh pelaksanaan sistem manajemen kesehatan dan keselamatan kerja (SMK3) terhadap kinerja perawat di Ruang Operasi Rumah Sakit King Fahad Madinah Al-Munawwaroh. *Jurnal Keperawatan Muhammadiyah*. 2022;7(2).
10. Pinontoan OR, Mantiri ES, Mandey S. Faktor psikologi dan perilaku dengan penerapan manajemen keselamatan dan kesehatan kerja rumah sakit. *Indonesian Journal of Public Health and Community Medicine*. 2020;1(3):19–27.
11. Kumayas PE, Kawatu PAT, Warouw F. Hubungan pengetahuan dan sikap dengan penerapan kesehatan dan keselamatan kerja (K3) pada perawat di rumah sakit bhayangkara TK III Manado. *KESMAS: Jurnal Kesehatan Masyarakat Universitas Sam Ratulangi*. 2019;8(7).
12. Yanti N, Ningsih ES. Hubungan pengetahuan, sikap dan tindakan perawat terhadap penerapan program kesehatan dan keselamatan kerja di Rumah Sakit. *Public Health and Safety International Journal*. 2021;1(01):33–44.
13. Rachman LA, Yulianto FA, Djojosingito MA, Andarini MY, Djajakusumah TS. Hubungan pengetahuan dan sikap terhadap perilaku penggunaan alat pelindung diri di PT Sarandi Karya Nugraha Sukabumi. *Jurnal Integrasi Kesehatan & Sains*. 2020. 30;2(2).
14. Gunawan I, Mudayana AA. Hubungan antara pengetahuan, sikap dan motivasi dengan perilaku penggunaan alat pelindung diri pada pekerja bagian produksi PT. Katingan Indah Utama, Kabupaten Kotawaringin Timur, Provinsi Kalimantan Tengah. *Unnes Journal of Public Health*. 2016;5(4):336–47.
15. Ahmalia R, Ahmalia R. Hubungan pengetahuan, pendidikan dan dukungan suami dengan kunjungan pemeriksaan antenatal care di Puskesmas Lubuk Alung Tahun 2017. *Human Care Journal*. 2018;3(1).
16. Notoatmojo S. *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta: Rineka Cipta; 2014.
17. Yanti N, Ningsih ES. Hubungan pengetahuan, sikap dan tindakan perawat terhadap penerapan program kesehatan dan keselamatan kerja di Rumah Sakit. *Public Health and Safety International Journal (PHASIJ)*. 2021;1(1):33–44.
18. Fauzi MF Bin. Hubungan tindakan tenaga perawat dengan pengetahuan dan sikap terhadap aspek kesehatan dan keselamatan kerja di Rumah Sakit USU Tahun 2018. *Universitas Sumatera Utara*; 2018.

19. Dwiari KE, Muliawan P. Faktor yang berhubungan dengan pelaksanaan keselamatan dan kesehatan kerja di Rumah Sakit Umum, Kota Denpasar. *Archive Of Community Health*. 2019;6(2):17–29.
20. Alsadaan N, Salameh B, Reshia FAE, Alruwaili RF, Alruwaili M, Awad Ali SA, et al. Impact of Nurse Leaders Behaviors on Nursing Staff Performance: A Systematic Review of Literature. *Inquiry (United States)*. 2023;60.
21. Diannita R, Indasah I, Siyoto S. Analysis of work accidents based on K3 knowledge and work behavior at muhammadiyah hospital in ponorogo. *Journal for Quality in Public Health*. 2020;3(2):383–9.
22. Widyawati C, Paskarini I. Correlation between age, work period, knowledge, and attitude's workers with behavior on the use of PPE. *Jurnal Berkala Kesehatan*. 2021;7(2):134.
23. Job P, Analysis S, Keselamatan P, Kerja K, Kecelakaan K, Di K, et al. Penerapan job safety analysis, pengetahuan keselamatan dan kesehatan kerja terhadap kejadian kecelakaan kerja di laboratorium perguruan tinggi. *Jurnal Berkala Kesehatan*. 2019;5(2):76–80.
24. Yang Berhubungan F, K3 P, Sopir P, Umum A, Padangsidimpuan K. Faktor yang berhubungan dengan perilaku K3 pada sopir angkutan umum di Kota Padangsidimpuan: Media Publikasi Promosi Kesehatan Indonesia (MPPKI). 2023;6(2):254–60.
25. Rahadi FD, Anward HH, Febriana SKT. Hubungan antara persepsi lingkungan kerja fisik dengan perilaku keselamatan karyawan. *Jurnal Ecopsy*. 2016;1(1):15–20.
26. Kurniawan MAF, Kurniawan B, Suroto S. Faktor penentu perilaku aman petani dalam penggunaan pestisida berdasarkan Health Belief Model: studi literatur. *Jurnal Kesehatan Masyarakat*. 2020;8(6).
27. Riana M, Latif A. The influence on fire games on the perception of fire safety in vocational student based on the Health Belief Model. *Journal of Scientech Research and Development*. 2024;6(1).
28. Rachman LA, Yulianto FA, Djojosingito MA, Andarini MY, Djajakusumah TS. Hubungan Pengetahuan dan sikap terhadap perilaku penggunaan alat pelindung diri di PT Sarandi Karya Nugraha Sukabumi. *Jurnal Integrasi Kesehatan & Sains*. 2020;2(2):154–9.
29. Kumayas PE, Kawatu PAT, Warouw F. Hubungan pengetahuan dan sikap dengan penerapan praktik keselamatan dan kesehatan kerja pada perawat rumah sakit TK III R.W Mongisidi Manado. Universitas Sam Ratulangi; 2016.
30. Putra TP, Adyatama S, Normelani E. Analisis perilaku masyarakat bantaran sungai martapura dalam aktivitas membuang sampah rumah tangga di Kelurahan Basirih Kecamatan Banjarmasin Barat. *JPG (Jurnal Pendidikan Geografi)*. 2016;3(6):23–35.
31. Ghasemi F, Aghaei H, Askaripoor T, Ghamari F. Analysis of occupational accidents among nurses working in hospitals based on safety climate and safety performance: a Bayesian network analysis. *International Journal of Occupational Safety and Ergonomics*. 2022;1–7.
32. Sitohang RB. Hubungan perilaku perawat dengan penerapan keselamatan dan kesehatan kerja (K3) di Instalasi Gawat Darurat (IGD) RSU Bunda Thamrin Tahun 2019. Institut Kesehatan Helvetia; 2019.
33. Perdana RM. Analysis of Theory of Planned Behavior (TPB) in Disobedience Behavior towards Occupational Health and Safety (K3). 2021;4(2):140–8.