Knowledge and Perception of Nurses about *Occupational Hazard* with Nurse Characteristics

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ABSTRACT

Nurses' level of knowledge about hazards *is* essential in maintaining the safety of patients and nurses themselves. However, nurses' perceptions of *threat* are not all the same. Following the theory of planned behavior, a perception applied to a person's behavior is influenced by beliefs preceded by knowledge of something about hazards experienced while working in healthcare facilities such as hospitals. The vulnerability of health workers' jobs threatens the quality of health care delivery in developing countries, especially nurses. Meanwhile, this study analyzes the knowledge and perceptions of nurses about occupational hazards among health workers whose job descriptions require direct contact with patients almost every day in most health care facilities.

Furthermore, this research aims to know the relationship between nurses' knowledge and perceptions about *occupational hazards* in RSUD Kanjuruhan Malang. This quantitative research method uses a *cross-sectional* number of respondents, as many as 52 nurses who work in RSUD Kanjuruhan Malang. This study shows a strong relationship between nurses' knowledge and perceptions about *occupational hazards* with a positive correlation with R = 0.836.

Keywords: Occupational hazard, Nurse knowledge, Nurse perception

INTRODUCTION

Health care facilities are workplaces that have a high risk with a high level of exposure to hazardous agents and can significantly pose a *hazard* to the health and life of health workers (Aluko O, 2016). Occupational health and safety in medical facilities ensure that workers, patients, patient companions, visitors, and the community around medical facilities are healthy and safe, free from health problems and side effects related to work activities, work, and the environment. Accidents at work are detrimental to the workforce and detrimental to the company or the Health Service Facility because they can hamper the service process. For this reason, all parties involved in the service process at a Health Service Facility are expected to

understand and apply occupational safety and health to prevent work accidents. Because the workforce, especially health workers, is an essential asset for Health Service Facilities that must be maintained and cared for (Robby, 2018).

According to the ILO (2019), the latest figures and estimates show a huge problem in workplace accidents. Globally an estimated 1,000 people die every day from work accidents and a further 6,500 from work-related illnesses. The aggregate figures show an overall increase in deaths attributable to work from 2.33 million deaths in 2014 to 2.78 million deaths in 2017. In 2017, data from the Social Security Administration (BPJS) for Employment and Social Security (BPJS) recorded work accidents as many as 123,041 people, but in 2018 workers' claims for work accident compensation benefits (JKK) reached 173,105 worth IDR 1.2 trillion. Of these, 4,678 or 3.18% were disabled and 2,575 (1.75%) died. Based on this figure, around 12 BPJS participants who employ employees are disabled, and seven die in one day. (BPJS Employment, 2019). Meanwhile, according to data from the Indonesia Nursing Association, from February 2020 to February 2021, 246 Indonesian nurses died due to Covid-19 infection. It was obtained when they were carrying out their duties, and the highest case was in East Java Province with cases of 98 nurses who died due to Covid 19.

Health workers face various hazards in the workplace. These hazards can be in the form of disease transmission, sharp object injuries, exposure to hazardous chemicals, dangerous drugs, back injuries, latex allergies, violence, and stress. In carrying out their roles, duties, and functions, health workers, especially nurses, may be exposed to hazards that can significantly damage their health and quality of life, with a multiplier effect on immediate family members and their extended family. Therefore, health workers need to be equipped with protective equipment from hazards in the workplace, such as workers working in mining or construction work (Aluko O, 2016).

The consequences of *illness* and injury include physical, economic, and psychological harm to health care workers and their dependents. In Indonesia, health workers (doctors, nurses, and nursing assistants) are poorly prepared to deal with occupational hazards and therefore suffer injury/illness while performing their duties. Staff vulnerability in health care facilities is compounded by the lack of equipment that can enhance best practices in developing countries. Patient safety is still the main thing that is considered related to safety in the hospital environment, so socialization related to safety has not been intensified to all workers in hospitals, especially regarding *health nursing* or the safety of nurses while caring for patients.

Therefore, the vulnerability of health workers' jobs threatens the quality of health care delivery in developing countries, especially among Physicians, Nurses, and Nursing Assistants. A higher percentage of studies on occupational hazards among health workers in developing countries focus on specific job assignments in health care delivery systems. Meanwhile, this study analyzes the knowledge and perceptions of nurses about occupational hazards among health workers whose job descriptions require direct contact with patients almost every day in most health care facilities.

METHODS

Method survey used is survey quantitative. The research design used in this study is a cross-sectional approach with a correlation study. The population in this study were all nurses in RSUD Kanjuruhan Malang, amounting to 257 people. While the samples taken were 20%, x 257 nurses = 51.4, and rounded up to 52 nurses. The sampling method used in this research is random sampling. This study used a questionnaire consisting of 3 parts, namely a questionnaire to obtain data on the characteristics of nurses, questionnaire A to examine nurses' knowledge, and questionnaire B to explore nurses' perceptions. First, the survey instrument used in this study distributed the survey to a set of non-study subjects who have the same characteristics through the Google Forms application. To test the effectiveness and reliability

of the tool, 10 respondents in the inpatient ward hospital have the same characteristics as the research location. The research was carried out at Kanjuruhan Hospital, Malang Regency, in January 2021. In this study, the data collection process asked for permission from the Director of Kanjuruhan Hospital Malang with a copy addressed to the Head of the Education and Training Division, then to each Head of the Room of each department which would later be submitted to the Head of the Department of Education and Training. Each respondent. Furthermore, using *a google form* questionnaire on knowledge and perceptions of respondents to obtain primary data in this study. Analysis of the data used is non-parametric statistical *Spearman rho test.*

RESULTS

This research was conducted on nurses at RSUD Kanjuruhan Malang following the criteria set by the researcher. The study was conducted on 17 – 28 January 2022 at Kanjuruhan Hospital, Malang. Data was collected by distributing questionnaires directly to 52 respondents.

Table 1 Frequency distribution based on the characteristics of respondents (n=52)

Variable	Total	Percentage (%)
Age		
20 years	4	7,7
21-30 years	18	34.6
31-40 years	21	40.4
41-50 years	7	13.5
51 years	2	3.8
Gender		
Male	21	40.4
Female	31	59.6
Education Level		
D3	28	53.8
D4/S1	23	44.2
S2	1	1.9
S3	0	0
Length of employment		
$\leq$ 5 years	27	51.9
6-10 years	6	11.5
11-15 years	6	11.5
16-20 years	7	13.5
21-25 years	3	5.8
$\geq$ 26 years	3	5.8

Based on table 1 shows that most of the respondents aged 31-40 years were 40.4%. Meanwhile, in terms of gender, most of the respondents were women, as much as 59.6%. In terms of education level, most of the respondents have the latest D3 education and work length. Most of the respondents have worked for less than five years.

Table 2. Frequency Distribution Based on Knowledge Level and Attitude (n=52)

Variable	Total	Percentage (%)
Nurse's Knowledge		
Good	20	38.5
Enough	22	42.3
Less	10	19.2
Nurse's Perception		
Negative	18	34.6
Positive	34	65.4

Table 2 shows that most of the respondents have sufficient knowledge with a percentage of 42.3%. While on nurses' perception, most of the respondents have a positive perception with a percentage of 65.4%.

Table 3. Results of Analysis of the Relationship between Knowledge and Nurses' Perceptions About *Occupational Hazards*

			Nurse Knowledge Nurse	Perception
Spearman's rho	Nurse Knowledge	Correlation Coefficient	1,000	.836[**]
		Sig. (2-tailed)	.	.000
		N	52	52
	Nurses Perception	Correlation Coefficient	.836[**]	1,000
		Sig. (2-tailed)	.000	
		N	52	52

From table 3. it can be concluded that there is a significant relationship between nurses' knowledge and perceptions of *occupational hazards* using the *Spearman rho*, the *p-value = 0.000* (p<0.01), and the *Correlation Coefficient* of 0.836, which indicates there is a significant relationship. There is a strong correlation between nurses' knowledge and perceptions about *occupational hazards* with a positive correlation, which means that the higher nurses' ability, the higher the perceptions of nurses about *occupational hazards*.

DISCUSSION

Knowledge reflects one's understanding of something. Nurses' knowledge of *Occupational* Hazards reflects nurses' understanding of occupational hazards in hospitals. The results of research conducted on 52 respondents showed that nurses who know in good categories are 38.5%, with suitable types as much as 42.3%, while those who are not good are 10%. These results indicate that almost all nurses at Kanjuruhan Hospital Malang have sufficient knowledge about *Occupational Hazards*.

Knowledge is an important thing that a person has in shaping one's behavior. In addition, knowledge is the result of knowing someone and occurs after people observe and sense a specific object. Knowledge of *occupational hazards* is one essential aspect of nurses' understanding of the importance of understanding the occupational hazards in hospitals. This is very important to protect themselves, their families, and the people in the surrounding environment. The factors that influence knowledge according to (Notoatmodjo, 2014), namely: Internal Factors (Age, experience, education, and gender) and External Factors (Information/training, environment, and socio-culture).

The results conducted by researchers on 52 respondents showed that nurses who had a positive perception category about *occupational hazard* were 65.4%, while the harmful perception category was 34.6%. These results indicate that most nurses at Kanjuruhan Hospital Malang positively perceive *Occupational Hazard*.

Perception is the final process that begins with the sensing process, which is the process that is received by stimuli by the senses for attention, then to the brain, and only then is the individual aware of something, which is the beginning of perception. With perception, individuals can understand the state of the environment around them and about something that exists within the individual concerned (Hasibuan, 2019).

The relationship between nurses' knowledge and perceptions about *occupational hazards* by using the *Spearman rho* obtained a *p-value = 0.000* (p <0.01) and a *Correlation Coefficient* of 0.836. The data indicate a strong relationship between nurses' knowledge and perceptions about *occupational hazards* with correlation is positive, which means that the higher the ability of nurses, the higher the nurse's perception of *occupational hazards*. These results show that 0.837 means a strong relationship between nurses ' knowledge and perceptions about *occupational hazards*.

The results of the research conducted on nurses at Kanjuruhan Hospital Malang show a strong relationship between the knowledge and perceptions of nurses about *occupational hazards* and leads to a positive relationship. Nurses as hospital professionals act as the frontline who are very vulnerable to exposure to *risks*. Therefore, nurses need to know *occupational hazards* to increase positive perceptions about occupational hazards indirectly.

So it can be concluded that the higher the level of knowledge of nurses about *occupational hazards*, the nurses' perceptions about *occupational hazards* also lead to positive perceptions or, in this case, the correct perception. Vice versa, the lower the nurses' knowledge about occupational hazards, the nurses' perceptions about occupational hazards are more likely to lead to negative perceptions or be said to be wrong perceptions.

CONCLUSIONS AND RECOMMENDATIONS

The conclusion of this study is the relationship between knowledge and perceptions of nurses about *occupational hazards* by using the *Spearman rho*, the *p-value = 0.000* (p<0.01), and the *Correlation Coefficient* of 0.836, which indicates there is a strong relationship between the knowledge and perceptions of nurses. About *occupational hazards* with a positive correlation, which means the higher nurses' knowledge, the higher the perception of nurses about *occupational hazards*.

The suggestion from the researcher is that first, it is hoped that from the results of this study, nurses at RSUD Kanjuruhan Malang will always increase their knowledge about *occupational hazards* and, at the same time, increase their perception of *occupational hazards*. So that work-related accidents or occupational diseases do not occur or the incidence is minimal. Secondly, it is hoped that this research can be helpful in RSUD Kanjuruhan Malang as a place for health services to patients in terms of providing regular training on Occupational Health Safety, especially in terms of *occupational hazards*. Third, it is hoped that the results of this study can be used as a reference by further researchers to conduct more specific research and develop knowledge, especially in the science of occupational health and environmental management.

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