

Analysis of Determinants of Nurses' Perception of Hospital Occupational Health and Safety at Hospital X Batam City

Wan Intan Parisma*, Chinta Yolanda Sari, Trisna Jayati

Universitas Ibnu Sina, Indonesia

wanintan@uis.ac.id

Article Information

Submitted: 31 October 2025

Accepted: 11 November 2025

Publish: 15 November 2025

Keyword: Hospital
Occupational Health and Safety;
Nurses; Perception;

Copyright holder: Wan Intan
Parisma, Chinta Yolanda Sari,
Trisna Jayati

Year: 2025

This is an open access article
under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Abstract

Introduction: Nurses are the health workers with the largest presentations and play an important role in the provision of health services. Hospital Occupational Safety and Health is all activities to ensure and protect the safety and health of hospital human resources. **Objective:** The purpose of this study is to find out the perception of nurses about hospital occupational safety and health at Regional General Hospital X Batam City. **Method:** The research design is cross sectional. The research population is nurses who work at Regional General Hospital X Batam City with a sample of 73 people who were taken by the proportional sampling method. Data analysis was carried out using chi-square. **Result and Discussion:** The results of the analysis showed that there were 53.4% of respondents with a bad perception of Occupational Safety and Health, 71.2% of respondents with a new working period, 56.2% of respondents who had never participated in HOHS training, 90.4% of respondents who had good knowledge and 69.9% of respondents with undergraduate education. **Conclusion:** The results of the statistical test showed that there was a significant relationship between the length of service (p-value 0.007), HOHS training (p-value 0.000), knowledge (p-value 0.003) and education level (p-value 0.001) with the perception of nurses about hospital occupational safety and health at Regional General Hospital X hospital safety, knowledge and nurse education level.

How to Cite

Wan Intan Parisma, Chinta Yolanda Sari, Trisna Jayati/Analysis of Determinants of Nurses' Perception of Hospital Occupational Health and Safety at Hospital X Batam City, Vol. 5, No. 2, 2025

DOI

<https://doi.org/10.54543/kesans.v5i2.479>

e-ISSN/p-ISSN

2808-7178 / 2808-7380

Published by

CV Rifainstitut/KESANS: International Journal of Health and Science

Introduction

Occupational Health and Safety (OHS) is an effort to reduce the risk of accidents and occupational diseases through the creation of a safe and healthy work environment (Pangkey, Lengkong, & Saerang, 2023); (Sudarsono, 2021); (Fauzi, Rhomadhoni, Wijaya, & Handayani, 2023). According to the International Labour Organization (ILO), OHS aims to improve and maintain workers' physical, mental, and social well-being, as well as protect workers from risks that can interfere with health in the workplace (Agustin, 2021).

In the hospital environment, the implementation of OHS is very important because of the complexity of health service activities that can cause various risks such as work accidents, nosocomial infections, and occupational diseases (Ministry of Health of the Republic of Indonesia, 2010); (Nawawi, Sukwika, & Hasibuan, 2023); (Bando, Kawatu, & Ratag, 2020). Nurses are one of the human resources in hospitals that experience the most work accidents, considering that they have the largest presentations and play an important role in the delivery of health services (Anjaswarni, Milwati, & Marpaung, 2022); (Rifai, 2021)

Nurses' perception of OHS has a significant influence on their work behavior, that perception, attitude, knowledge, and workplace simultaneously affect employee safety behavior (Scott, Scott, & Mandey, 2020). Poor perception of OHS can lead to harmful unsafe behaviors, and unsafe behavior is one of the main factors that cause work accidents.

Regional General Hospital X Batam City is a government hospital with service activities that are quite complex so that they have the potential to pose various work risks. Although the implementation of hospital OHS has been running, the potential for work accidents for nurses still remains. This is suspected to be related to the perception of nurses' OHS which is not optimal, but there has been no specific study that identifies the factors that affect this perception. Therefore, this study aims to analyze the determinants of nurses' perception of Hospital Occupational Safety and Health (HOHS) at Regional General Hospital X Batam City, so that it can be the basis for the development of a more effective OHS awareness and behavior improvement program.

Methods

The research design used in this study is descriptive and analytical using a *cross sectional* approach. The independent variables in this study are the length of work, training, and education level, while the dependent variables in this study are the perception of nurses regarding HOHS. The population in this study is all nurses at Regional General Hospital X Batam City in 2025 as many as 73 respondents, the number of

The sample was 73 respondents with *the proportional sampling* technique, where the samples taken for each section/work unit were adjusted to the number of each population divided/work unit. Primary and secondary data sources, univariate data analysis to find out the distribution picture by displaying frequency tables to obtain an overview of each variable, both independent and dependent variables. Bivariate analysis was carried out through statistical testing using the *Chi square Test* with a significance limit of α (*alpha*) = 5% and a confidence level of 95%. In this study, a questionnaire containing questions was used to explore information about the perception of HOHS, working period, training, and level of education of nurses at Regional General Hospital

Wan Intan Parisma, Chinta Yolanda Sari, Trisna Jayati/KESANS
Analysis of Determinants of Nurses' Perception of Hospital Occupational Health and Safety at Hospital X Batam City

X Batam City. Primary data collection was carried out using a questionnaire by conducting direct interviews and secondary data from Batam City Hospital data.

Result and Discussion

Table 1

Distribution of HOHS Perception Frequency, Working Period, Training, Knowledge, and Education Level of Nurses

Variable	Total	%
HOHS Perception		
Less	39	53.4
Good	34	46.6
Tenure		
New	52	71.2
Old	21	28.8
HOHS Training		
Never	41	56.2
Ever	32	43.8
Knowledge		
Less	7	9.6
Good	66	90.4
Education Level		
Diploma III	22	30.1
Bachelor	51	69.9

Source: Primary data

Based on table 1, it can be seen that out of 73 respondents, there are 53.4% who have a poor perception of HOHS, as many as 52% who have a new working period, as many as 56.2% who have never done HOHS training, as many as 66% who have good knowledge and as many as 51% who have a bachelor's education level

Table 2

Results of Statistical Analysis of the Relationship of Free Variables and Nurses' Perception of HOHS

Variable	Perception				Total		P-Value	OR
	F	Less %	F	Good %	N	%		
Tenure								
New	33	63.5	19	36.5	52	100	0.007	2.813
Old	6	28.6	15	71.4	21	100		
HOHS Training								
Never	28	68.3	13	31.7	41	100	0.000	-4.772
Ever	6	18.8	26	81.3	32	100		
Knowledge								
Less	39	59.1	27	40.9	66	100	0.003	3.136
Good	0	0.0	7	100.0	7	100		
Education Level								
Diploma III	18	81.8	4	18.2	22	100	0.001	3.396
Bachelor	21	41.2	30	58.8	51	100		

Source: Primary Data. 2025

Based on table 2, it is known that there is a significant relationship between working period, HOHS training, knowledge, and education level with nurses' perception of HOHS at Regional General Hospital X Batam City. Respondents who have a low level of education (Diploma III) have a risk of 3.3 times having a poor perception of hospital OHS

Tenure

The results showed that nurses with a new working period (63.5%) tended to have a poor perception of HOHS compared to nurses with a long working period (28.6%). Statistical analysis showed a significant relationship ($p=0.007$; $OR=2,813$), which means that nurses with new working periods have a 2.8 times greater risk of having a negative perception of OHS RS.

These findings are in line with research by Wicaksana et al (2022) which also found a significant relationship between working time and nurses' perception of HOHS. Nurses with longer working hours (>5 years) generally have a better accumulation of experience, knowledge, and skills in identifying occupational risks and implementing safety protocols. Long work experience provides a contextual understanding of the importance of OHS through direct exposure to hazardous situations or observation of work accident events, thus forming a more positive perception and higher awareness (Setiyadi, 2022)

HOHS Training

HOHS training showed the strongest relationship with nurses' perception ($p=0.000$). Nurses who have never attended training have a much higher prevalence of poor perception (68.3%) than those who have attended training (18.8%). This shows that training has a very significant impact on the formation of HOHS perceptions.

These results are consistent with Tasha's (2024) research which states that OHS training plays an important role in improving employees' knowledge, skills, and awareness of work risks and how to prevent them. However, interestingly, although 56.2% of respondents had never participated in HOHS training, 90.4% of respondents had good knowledge of OHS. This shows that there is a gap between theoretical knowledge and practical knowledge gained through formal training.

Knowledge

The results showed a significant relationship between knowledge and perception of HOHS ($p=0.003$; $OR=3.136$). All respondents with good knowledge (100%) had a good perception of HOHS, while 59.1% of respondents with poor knowledge had a bad perception.

This finding is in line with Notoatmodjo's theory which states that knowledge is an internal factor that plays a very important role in interpreting stimuli and shaping a person's perception. Good knowledge allows individuals to understand the importance of OHS, identify work risks, and interpret OHS information more accurately, thus forming a positive perception (Wicaksono, 2022; Putri, 2018).

Education Level

Education level showed a significant relationship with HOHS perception ($p=0.001$; $OR=3.396$), with the highest OR value among all variables. Nurses with Diploma III education have a very high prevalence of poor perception (81.8%) compared to undergraduate nurses (41.2%).

This finding is interesting to study in more depth because it shows that differences in education levels have a very large impact on the perception of HOHS, even greater than other variables. Some explanations can be proposed:

First, the difference in curriculum and depth of OHS material between Diploma III and Bachelor of Nursing education. Undergraduate programs generally provide a more comprehensive understanding of the concepts of OHS, risk management, and patient safety through specialized courses and integration in various clinical courses. Meanwhile, the Diploma III program focuses more on practical technical skills with a more limited portion of OHS theory.

Second, the difference in critical and analytical thinking skills. Undergraduate education emphasizes the development of critical thinking and analytical skills that enable nurses to be better at identifying, analyzing, and evaluating OHS risks in the workplace. This ability forms a more holistic and proactive perception of the importance of HOHS.

Third, differences in exposure to evidence-based practice and research. Undergraduate nurses are more exposed to the scientific literature, research, and evidence-based practices related to OHS, which enriches their understanding of the long-term impacts of good or bad OHS practices. This forms a more informed and evidence-based perception.

Fourth, this phenomenon is consistent with human capital theory which states that investment in higher education results in improved cognitive capacity, problem-solving ability, and better work-related competencies, including in terms of awareness and perception of OHS.

However, these findings also raise an important question: Why is the perception gap between Diploma III and Bachelor so large (40.6% difference)? Does this indicate that the Diploma III education program needs to strengthen the OHS component in its curriculum? Or is the OHS orientation and training system in hospitals not effective in reaching Diploma III nurses?

The practical implications of these findings are crucial: Hospitals need to develop more intensive and targeted OHS training programs for nurses with Diploma III education, given that they are at the highest risk of having a poor perception of HOHS. This program must be designed with the differences in baseline knowledge and learning style between the two education groups in mind. In addition, there needs to be an effort to bridging education or continuous professional development that focuses on improving the understanding of OHS for Diploma III nurses so that this perception gap can be reduced.

Conclusions

This study shows that the majority of nurses at Regional General Hospital X Batam City have a poor perception of HOHS (53.4%). The results of bivariate analysis showed that there was a significant relationship between the working period ($p=0.007$; $OR=2.813$), HOHS training ($p=0.000$), knowledge ($p=0.003$; $OR=3.136$), and education level ($p=0.001$; $OR=3.396$) with nurses' perceptions of HOHS. The level of education showed the highest OR score (3,396), which means that nurses with Diploma III education had a 3.4 times greater risk of having a poor perception than undergraduate nurses. HOHS training showed the strongest relationship statistically ($p=0.000$), indicating that training is a crucial factor in shaping a positive perception of HOHS.

Reference

- Agustin, S. (2021). Pentingnya Penerapan Keselamatan Dan Kesehatan Kerja (K3) Bagi Produktivitas Kerja Karyawan. *Jurnal Kesehatan*.
- Anjaswarni, T., Milwati, S., & Marpaung, K. A. A. (2022). Analisis Faktor-Faktor Yang Mempengaruhi Kecelakaan Kerja Perawat Dalam Pelayanan Kesehatan/Keperawatan Di Rumah Sakit. *Jurnal Kesehatan Kusuma Husada*, 1–17.
- Bando, J. J., Kawatu, P. A. T., & Ratag, B. T. (2020). Gambaran Penerapan Program Keselamatan dan Kesehatan Kerja Rumah Sakit (K3RS) di Rumah Sakit Advent Manado. *KESMAS: Jurnal Kesehatan Masyarakat Universitas Sam Ratulangi*, 9(2).
- Fauzi, M., Rhomadhoni, M. N., Wijaya, S., & Handayani, D. (2023). Description of Knowledge, Attitudes, and Actions about Regarding Occupational Health and Safety in D-IV Students Health Analysts, Nahdlatul Ulama University, Surabaya. *KESANS: International Journal of Health and Science*, 2(8), 580–586.
- Nawawi, B. M., Sukwika, T., & Hasibuan, B. (2023). Penerapan sistem manajemen K3 dan pengaruhnya pada pengetahuan perawat rumah sakit. *Jl-KES (Jurnal Ilmu Kesehatan)*, 6(2), 110–115.
- Pangkey, S. J. I., Lengkong, V. P. K., & Saerang, R. T. (2023). Analisis Implementasi Kesehatan Dan Keselamatan Kerja (K3) Sebagai Upaya Terhadap Pencegahan Kecelakaan Kerja Di Pt. Pln (Persero) Up3 Manado. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, 11(4), 200–211.
- Pinontoan, O. R., Mantiri, E. S., & Mandey, S. (2020). Faktor Psikologi dan perilaku dengan penerapan manajemen keselamatan dan kesehatan kerja rumah sakit. *Indonesian Journal of Public Health and Community Medicine*, 1(3), 19–27.
- Rifai, A. (2021). Faktor Yang Memengaruhi Perilaku Perawat Terhadap Penerapan Sistem Manajemen Kesehatan Dan Keselamatan Kerja Di RSUD Langsa. *Jurnal Kesmas Prima Indonesia*, 5(2), 39–46.
- Setiyadi, A. (2022). Hubungan Pengetahuan Dan Persepsi Perawat Tentang Occupational Hazard Dengan Karakteristik Perawat Sebagai Variabel Moderator Di RSUD Kanjuruhan Malang. Universitas Sahid.
- Sudarsono, B. (2021). Pelatihan Kesehatan dan Keselamatan Kerja (K3) sebagai upaya pencegahan resiko kecelakaan kerja bagi calon tenaga kerja otomotif di era pandemi. *JURPIKAT (Jurnal Pengabdian Kepada Masyarakat)*, 2(3), 566–577.