Check for updates

The Description of Nurses Knowledge Level About Healthcare Associated Infections (HAIs) at dr. Soehadi Regional Hospital Prijonegoro Sragen

Farida Mabrurah[1]*, Hermawati[2] (ID)

[1] Faculty of Health Sciences, University of 'Aisyiyah Surakarta, Indonesia
[2] Department of Nursing, Faculty of Health Sciences, University of 'Aisiyah Surakarta, Indonesia

ARTICLE INFO

ABSTRACT

The incidence of Healthcare Associated Infections (HAIs) in Indonesia is higher than in developed countries, in Indonesia it is 15.74% while in developed countries it is only 4.8-15.5%. In the Sragen district, the highest HAIs were in dr. Soehadi Regional Hospital Prijonegoro Sragen with 9.1%. The most common cause of HAIs is because nurses do not comply with hand hygiene. Nurses knowledge level about HAIs must be increased to reduce the incidence rate. to determine the characteristics and description of nurses' knowledge level about Healthcare Associated Infections (HAIs) at dr. Soehadi Regional Hospital Prijonegoro Sragen. This study used a questionnaire measuring instrument, this research method is descriptive analysis with sampling using a random sampling technique with a total sample of 73 respondents. The results showed the characteristics of the majority of nurses aged 41-55 years, female, Bachelor of Nursing education, and description of the nurses knowledge level about Healthcare Associated Infections (HAIs) at dr. Soehadi Regional Hospital Prijonegoro Sragen is in the high category (87.7%). Nurses' knowledge level about Healthcare Associated Infections (HAIs) at dr. Soehadi Regional Hospital Prijonegoro Sragen in the high category.

Keywords: HAIs, Infections, Knowledge, Nurse

Corresponding Author:
Farida Mabrurah
Faculty of Health Sciences, University of 'Aisyiyah Surakarta, Indonesia
Bangsri Gede RT 004 / RW 007, Kriwen, Sukoharjo, Central Java, 57551
Email: faridamabruroh111@gmail.com

1. INTRODUCTION

Healthcare Associated Infections (HAIs) are infections acquired in health facilities that are not a disease currently being suffered, can occur in health workers, patients, visitors and everyone in the hospital (Dasirin, 2019). The period 48–72 hours after admission to the hospital is at risk of developing Healthcare Associated Infections (HAIs), which are also referred to as "nosocomial" or "hospital" infections. Infections that occur in patients while being treated in hospitals or other health facilities. Nurses are health workers who

have the most contact with patients and are in continuous contact with patients within 24 hours. So that nurses have a considerable influence on the occurrence of nosocomial infections (Gurning et al., 2022).

Surveillance data from the World Health Organization (WHO), the prevalence of Healthcare Associated Infections (HAIs) in the world shows that there is an 8.7% incidence of infection in 55 hospitals from 14 countries representing 4 regions (Europe, Middle East, Southeast Asia and the West Pacific), as carried out by the World Health Organization (WHO) reaching 1.4 million in world hospitals or at least 9% of inpatients worldwide experience nosocomial infections (WHO, 2018). The results of a study in the United States (US) Centers for Disease Control and Prevention identified that nearly 1.7 million inpatients each year acquire HAIs while being treated for other health problems and that more than 98,000 patients die from HAIs (Haque et al., 2018).

The Indonesian Minister of Health policy stipulates that the standard incidence of nosocomial infections, related to nosocomial infections in hospitals and other health facilities in Indonesia, is <1.5% (RI Ministry of Health, 2019). The prevalence of HAIs in Indonesia is far worse than in developed countries. In Indonesia it is 15.74% while in developed countries it is only 4.8-15.5% (Sindoro et al., 2020) HAIs are a benchmark for assessing the quality of hospital services which is carried out on several indicators (Syamsiyah, 2020). The high prevalence rate of HAIs in Indonesia is accompanied by low adherence rates of health workers in performing hand hygiene. HAIs can be prevented by 90% of behavior and 10% of the environment. One of the behaviors that can prevent the spread of HAIs from one person to another or from equipment to people is to perform hand hygiene to prevent the microorganisms that cause HAIs from moving (Wulandari, 2017).

Central Java Province, in Tugurejo Hospital in 2018 there was a decubitus indicator HAIs incidence rate of 3.66%, this figure has increased, because in the previous year the incidence rate was 2.97%. In the Ventilator Associated Pneumonia (VAP) incidence indicator, there was a significant increase from the word 0% to 8.52% in September-December 2018. And the incidence of UTI was higher than other hospitals in Semarang. In Central Java Province the increase in HAIs occurred because members of the Infection Prevention and Control Committee (PPI) had not received training evenly (Agusti et al., 2019). Preliminary data for 2018 in the ICU of RSUP Dr. Kariadi shows that it is

always below the minimum target that has been set for the number of incidents. The incidence of VAP in the ICU room in January was 4.30‰, February and March 0.00‰, and April 2.13‰ (Ramadan, 2019) At the Hospital dr. Soehadi Prijonegoro Sragen, the incidence of HAIs in 2021 is 1.6%, and in 2022 it is 9.1%, exceeding the national standard of only ‹1.5% (Sigit, 2021).

Nurses are health workers with the most contact with patients and are in continuous contact with patients within 24 hours. So that nurses have a considerable influence on the occurrence of nosocomial infections (Gurning et al., 2022). The attitude and behavior of nurses is one of the factors that has a major influence on the health of nurses in preventing nosocomial infections (Sihombing, 2020). The ability of first-level paramedics to provide quality services by protecting against infection and prevention efforts. Nurses must be positioned in preventing HAIs infection, this is because paramedics are a member of the health work unit that deals directly with patients and infectious materials in the wards. Nurses are also responsible for maintaining patient welfare by preventing accidents, injuries, trauma, and the spread of HAIs infections (Zainaro et al., 2021).

Cases of nosocomial infections in a number of facilities can worsen the health conditions of sufferers, in some cases they can even cause death. The impacts of HAIs include increasing microorganism resistance, financial problems for clients, families, health institutions and funding agencies and increasing mortality (Parwa et al., 2019). Some of the effects of HAIs that must be watched out for and always occur, include: bloodstream infections, surgical wound infections, urinary tract infections and Ventilator Associated Pneumonia (VAP). Performing hand hygiene can be an effort to prevent and fight HAIs.

Based on preliminary study data conducted by researchers, the 10 nurses at dr. Soehadi Regional Hospital Prijonegoro Sragen, respondents who have a high level of knowledge about Healthcare Associated Infections (HAIs) are 8 people (80%). Respondents with a moderate level of knowledge about HAIs (Healthcare Associated Infections) were 2 people (20%), and there were no respondents with a low level of knowledge. From the background above, the researcher is interested in research related to "Description of the Knowledge Level of Nurses About Healthcare Associated Infections (HAIs) in dr. Soehadi Regional Hospital Prijonegoro Sragen".

2. METHODS

The type of research used is descriptive analytic with probability sampling technique. The research location was carried out at dr. Soehadi Prijonegoro Sragen. When this research began in May-July 2023. The population used in this study was obtained from the latest nurse data in May 2023, namely 278 nurses. After being calculated using the Slovin formula, the sample in this study is as many as 73 respondents. The inclusion criteria in this study were nurses who worked at dr. Soehadi Prijonegoro Sragen, nurse aged <26-55 years, the nurse with education D3, S1 Nurse, S2. The sampling technique used a random sampling method.

This study's variable is the knowledge level about Healthcare Associated Infections (HAIs). The instrument in this study used a knowledge questionnaire about Healthcare Associated Infections (HAIs). Data collection techniques with questionnaires, interviews, and documentation. Data collection in this study used primary data obtained from interviews with nurses who entered the shift at dr. Soehadi Regional Hospital Prijonegoro Sragen, as well as the results of distributing questionnaires to nurses about Healthcare Associated Infections (HAIs) and secondary data obtained from internet sites, journals, or from a reference that is the same as what is being researched by the author. This study uses univariate analysis in the form of descriptive percentages.

3. RESULTS

The results of this study are displayed in the form of univariate analysis which is used to analyze the knowledge level variable. Univariate analysis was used to determine the frequency distribution of the variables studied, namely the variables of gender, age, level of education, and level of knowledge.

Table 1. Characteristics of Respondents (n = 73)

Characteristics	Frequency	Percentage (%)
Age		
<26 years old	5	6,8
26-40 years old	32	43,8
41-55 years old	36	49,3
Gender		
Male	18	24,7
Female	55	75,3
Educational level		
Nursing Diploma	24	32,9
Bachelor of Nursing/Ners	45	61,6
Master of Nursing	4	5,5

Based on table 1, the distribution of respondents' characteristics based on age shows that respondents who are ‹26 years old are 5 respondents (6.8%), respondents who are 26-40 years old are 32 respondents (43.8), and the highest respondents who are having the age of 41-55 years as many as 36 respondents (49.3%).

Distribution of the characteristics of respondents based on gender shows that there are 18 male respondents (24.7%), and 55 female respondents (75.3%). The distribution of the characteristics of the respondents based on the level of education shows that 24 respondents (32.9%) had a Nursing Diploma education, the highest respondents had a Bachelor of Nursing education, 45 respondents (61.6%), and respondents had a Master of Nursing education as many as 4 respondents (5.5%).

Table 2. The level of knowledge of nurses about Healthcare Associated Infections (HAIs) (n = 73)

Level of knowledge	Frequency	Percentage (%)
High	64	87,7
Moderate	9	12,3

Based on Table 2, the distribution of respondents based on the knowledge category shows that 64 respondents (87.7%) have a high level of knowledge, and 9 respondents (12.3%) have a moderate level of knowledge.

4. DISCUSSIONS

Distribution of frequency characteristics of respondents based on age

The results of the research distribution for the age category of respondents at dr. Soehadi Regional Hospital Prijonegoro Sragen, the majority are aged 41-55 years as many as 36 respondents (49.3%).. Age affects a person's comprehension and mindset, the older you are, the more your comprehension and mindset will develop. When viewed from the age of the respondents the majority were aged 41-55, including the adult age group. In terms of public trust, someone who is more mature will be trusted more than someone who is not yet mature enough (Banowati, 2020).

Age is closely related to the maturity or maturity of a person. If you get older, you will show more maturity of your soul and you will be able to think rationally, be able to control your emotions, be wiser, and be more open to the views of others. This development allows for proper assessment and the best thinking for nurses so that

nurses can provide nursing care in a professional manner (Araujo, 2022).

This research is in line with (Reyaan et al., 2022) if someone gets older, they are more responsible and will be more careful in carrying out their duties. In addition, work experience allows the development of nurse's knowledge because of the various cases of patients in emergency conditions encountered.

Based on the results of the research and related theories, the researchers assume that maturity can be seen from one's responsibility for what one does in one's life. Maturity can be interpreted as maturity in thinking, behaving, acting, and making decisions wisely. Age, education, and life experience can influence a person's maturity.

Distribution of frequency characteristics of respondents based on gender

The results of the research distribution for the gender category of respondents at dr. Soehadi Regional Hospital Prijonegoro Sragen, the majority are female as many as 55 respondents (75.3%). This relates to women's daily roles in the household such as cooking, cleaning the house, and taking care of and caring for children so women generally choose work related to health, education and social services. When you hear the word nurse, what comes to your mind is a woman wearing a white dress, so the work of a nurse is constructed as a woman's job. Because women are motherly, patient and gentle (Rahim & Ilham, 2019).

Gender affects a person directly and indirectly (Susilo, 2019). In this regard, it may be considered that there is a biological basis that allows the two sexes to develop different behaviors. From a biological point of view it seems acceptable that there are differences that cause behavior between men and women (Barnas & Ridwan, 2019).

This relates to men tend to have better knowledge than women. This is due to various reasons, such as men being able to socialize better, broader knowledge and having broader activities and knowledge, and opportunities to obtain greater information due to the activities that accompany it (Susilo, 2019). This research is in line with research conducted by (Yohani, 2018), obtaining the results that male and female genders are because they are in the same environment and have the same level of knowledge.

Based on the research results and related theories, the researchers assume that most nurses are female because women are more identical to the tasks in the nurse's duties. Nursing requires one to be patient, compassionate, and gentle like a mother's instinct. This attitude can also

speed up the patient's healing process because nurses always interact with patients.

Distribution of frequency characteristics of respondents based on educational level

The research results were distribution for the education level category to respondents at dr. Soehadi Regional Hospital Prijonegoro Sragen, the majority of them have a nursing bachelor's degree in nursing as many as 45 respondents (61.6%). The higher education level of nurses with a bachelor's degree in nursing will make it easier to receive and develop knowledge and technology. Nurses with a bachelor's degree in nursing education and a higher level of education have better work performance and work efficiency than nurses with D3 education. Therefore, education is an important factor so that nurses can maximize their performance of nurses in providing nursing care (Pawa, 2021).

In Indonesia, one of the efforts to become a professional nurse is to convert graduates of the Nursing Academy (Diploma 3 and 4) to continue their undergraduate education. Because education is one of the factors that influence perception. Each level of education has different knowledge and

perspectives. The nursing profession is required to have intellectual, interpersonal, technical and moral abilities. This can improve the quality of nurses through the Nurse Education program. The level of education can increase the knowledge of nurses to be able to apply patient safety guidelines, so that the number of unexpected events (KTD) can decrease (Araujo, 2022).

The level of education affects a person, and how to absorb information and implement it in life, formal education can provide more value for individuals, and has an important role in improving one's quality of life and accepting new things (Ramadhana & Meitasari, 2023). Education is the most important aspect of life because it is also a social means to achieve goals, which is useful for ensuring one's survival (Ramadhana & Meitasari, 2023). The higher a person's education level, the greater the alternatives to obtaining the desired job (Hidayatulloh, 2018).

Education can also affect work productivity because adequate education can increase knowledge and skills through training, and this is the most important factor in developing human resources (Adnan, 2022). This research is in line with research (Hermawan, 2018) because experience and level of education will

influence mindsets, behavior, and attitudes.

Based on the research results and related theories, the researchers assume that the level of education is very influential on a person's mindset in carrying out an action, and how to solve problems. The level of education can also affect performance, because a high level of education can increase knowledge and expertise.

Description of the level of knowledge of nurses about Healthcare Associated Infections (HAIs)

The results of the research distribution for the frequency category of respondents based on the level of knowledge about Healthcare Associated Infections (HAIs) in respondents at dr. Soehadi Regional Hospital Prijonegoro Sragen, indicated that 64 respondents (87.7%) had a high level of knowledge. The existence of this study, is to determine the level of knowledge of nurses about Healthcare Associated Infections (HAIs), because nurses are health workers who most often interact with patients so nurses or patients are at very high risk of getting Healthcare Associated Infections (HAIs) or often called nosocomial infections (Soy , 2019).

The results of this study showed that respondents answered incorrectly, namely in the statement "NaCl does not include solvents" there were 42.5% of respondents who answered incorrectly, in the statement "Officers who handle linen do not have to use complete PPE" there were 33.8% of respondents wrong answer. In the statement "Nosocomial infections cannot be prevented by hand hygiene" there were 25% of respondents who answered incorrectly.

Healthcare Associated Infections (HAIs), at dr. Soehadi Prijonegoro Sragen, data collection is carried out once a month and recapitulated once a year. This is done to monitor the incidence of Healthcare Associated Infections (HAIs) in a health facility, in order to guarantee health workers, workers, patients and visitors at the health facility, so that people in the health facility feel safe (Rosyida, 2021).

Age is closely related to the maturity or maturity of a person. If you get older, you will show more maturity of your soul and you will be able to think rationally, be able to control your emotions, be wiser, and be more open to the views of others. This development allows for proper assessment and the best thinking for nurses so that nurses can provide nursing care in a professional manner (Araujo, 2022).

Gender affects a person directly and indirectly (Susilo, 2019). In this regard, it may be considered that there is a biological basis that allows the two sexes to develop different behaviors. From a biological point of view it seems acceptable that there are differences that cause behavior between men and women (Barnas & Ridwan, 2019).

The level of education affects a person, and how to absorb information and implement it in life, formal education can provide more value for individuals, has an important role in improving one's quality of life and accept new things (Ramadhana & Meitasari, 2023). Education is the most important aspect of life because it is also a social means to achieve goals, which is useful for ensuring one's survival (Ramadhana & Meitasari, 2023). The higher a person's education level, the greater the alternatives to obtain the desired job (Hidayatulloh, 2018).

The level of knowledge is closely related to the level of education, education is a factor of basic human needs which is indispensable for self-development, because the higher a person's education, the easier it will be to accept and develop knowledge and technology.

Based on the results of the study and related theories, the researchers assumed that age, gender, and education level affected the knowledge level of nurses at dr. Soehadi Regional Hospital Prijonegoro Sragen.

5. CONCLUSIONS

The conclusion that can be drawn from this study is nurses' knowledge level about Healthcare Associated Infections (HAIs) at dr. Soehadi Regional Hospital Prijonegoro Sragen is mostly in the high category. A periodic check of nurses knowledge would be advisable in order to fill any gaps, improve training, reduce HAI and increase prevention measures compliance.

AUTHOR CONTRIBUTIONS

Substantial contributions to conception, data collection, and analysis: Farida Mabrurah and Hermawati. Writing manuscript and revisions: Farida Mabrurah.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

DATA AVAILABILITY STATEMENT

The data are not publicly available due to privacy or ethical restrictions.

REFERENCES

Adnan, M. (2022). Pengaruh Tingkat Pendidikan Dan Kesehatan Terhadap Produktivitas Tenaga Kerja Di Provinsi Aceh. Journal of Students Islamic Economics and Business, 3(April), 1–6.

Agusti, Y. K., Suryoputro, A., & Kusumastuti, W. (2019). Analisis Pelaksanaan Manajemen Komite Pencegahan Dan Pengendalian Healthcare Associated Infections Di RSUD Tugurejo Provinsi Jawa Tengah. Media Kesehatan Masyarakat Indonesia, 18(4), 147–152.

Araujo, C. de. (2022). Gambaran Tingkat Pengetahuan Perawat Dalam Mengidentifikasi Keselamatan Pasien Di IGD RSUD Mgr Gabriel Manek, Svd Atambua Nusa Tenggara Timur. Keperawatan, 2, 1–8.

Banowati, L. (2020). Hubungan Karakteristik Perawat dengan Tingkat Kepatuhan Hand Hygiene. Jurnal Kesehatan, 9(2), 1179–1189. https://doi.org/10.38165/jk.v9i2.85

Barnas, S., & Ridwan, I. M. 2019. Perbedaan Gender dalam Pengetahuan, Sikap dan Perilaku Mahasiswa Pendidikan Fisika. https://doi.org/10.37058/diffraction.v1i2.1328. Difraksi, 1(2), 34–41.

Dasirin, W. (2019). Analisis Kepatuhan Perawat Dalam Melakukan Kewaspadaan Standar Mencegah Healthcare Associated Infections (HAI's) Di Rumah Sakit Islam NU Demak. Jurnal Keperawatan, 12(1), 13.

Gurning, M. Wahyuni Maria PH, N. L. P. D. R. (2022). Hubungan Pengetahuan dan Pengawasan dengan Perilaku Hand Hygiene untuk Pencegahan Infeksi Nosokomial pada Perawat Di Ruang Rawat Inap. 15(September), 74–77.

Hafsah Ashari Rahim, I. I., & Dan, P. L. (2019). Diferensiasi peran perawat

laki-laki dan perempuan di RSUD haji kota makassar. Jurnal Kesehatan Makassar, 2(1), 1–9

Haque, M., Sartelli, M., Mckimm, J., & Abu Bakar, M. (2018). Infection and Drug Resistance Dovepress Health care-associated infections-an overview. Infection and Drug Resistance, 11(1), 2321–2333. http://dx.doi.org/10.2147/IDR.S1772 47.

Hermawan, A. (2018). Produktivitas Kerja Dalam Perspektif. Jurnal Pendidikan Islam, 1(2), 23–41.

Hidayatulloh, M. I. (2018). Pengaruh Tingkat Pendidikan, Tanggungan Keluarga, Dan Status Pernikahan Terhadap Keputusan Perempuan Bekerja. Jurnal Ilmiah, 2(1), 1–15.

Kemenkes RI. (2019). Injeksi 2018. In Health Statistics. https://www.kemkes.go.id/downloa ds/resources/download/pusdatin/pr ofil-kesehatan-indonesia/profil-kesehatan-indonesia-2018.pdf

Parwa, D., Krisnawati, M. S., & Yanti, E. D. (2019). Hubungan Supervisi dan Motivasi Dengan Kepatuhan Perawat Mencuci Tangan Di RSUD.

Jurnal Kepemimpinan dan Manajemen Keperawatan, 2(1), 28. https://doi.org/10.32584/jkmk.v2i1.2 81

Pawa, I. D. (2021). Faktor–Faktor Yang Berhubungan Dengan Tingkat Pengetahuan Perawat Terhadap Penerapan Model Praktek Keperawatan Profesional Ruang Rawat Inap RSUD Dr. M. Haulussy. Jurnal Penelitian Kesehatan Maluku Husada, 1(April), 7–13.

Ramadhan, H. N. (2019). Pelaksanaan Pencegahan dan Pengendalian Ventilator Associated Pneumonia (VAP) di Ruang ICU. The Journal of Hospital Accreditation, 1(1), 3–8. https://doi.org/10.35727/jha.v1i1.11

Ramadhana, B., & Meitasari, I. (2023). Kajian tingkat pendidikan terhadap kualitas hidup masyarakat. Jurnal Kesehatan Masyarakat, 8(2), 38–45.

Reyaan, H., Marti, E., Setya, C., Faktor, W., Ews, S., Ruang, D., Inap, R., Satu, S., Sakit, R., Yogyakarta, S., Dan, P., Tentang, B., Warning, E., & Ews, S. (2022). Faktor-Faktor Yang Berhubungan Dengan Tingkat Pengetahuan Pendahuluan Early Warning Score (EWS). Jurnal

Kesehatan Karya Husada, 10(2), 73–85.

Rosyida, A. (2021). Evaluasi Pelaksanaan Sistem Surveilans Healthcare Acquired Infections (Hais) Di Rsu Haji Surabaya Tahun 2020. 20(2), 1–13.

Sigit, W. (2021). Rencana Strategis RSUD dr. Soehadi Prijonegoro Sragen 2021-2026. 1–80.

Sihombing, L. A. (2020). Faktor-faktor yang Berhubungan dengan Infeksi Nosokomial di Rumah Sakit. https://media.neliti.com/media/publications/92770-ID-faktor-faktor-yang-berhubungan-dengan-pe.pdf

Soy, E. E. S. (2019). Hubungan Tingkat Pengetahuan Dan Motivasi Perawat Dengan Kepatuhan Five Moments Hand Hygiene Di Ruang IGD, ICU, HD Dan Rawat Inap Rumah Sakit Royal Surabaya. Jurnal Keperawatan Stikes Hang Tuah Surabaya, 2(September), 34–45.

Sundoro, T., Kesehatan Masyarakat, P., & Surya Global Yogyakarta, S. (2020). Program Pencegahan Dan Pengendalian Healthcare Associated Infections (HAIs) di Rumah Sakit X Yogyakarta Programme Prevention and Control Healthcare Associated Infections (HAIs) in Hospital X Yogyakarta. Jurnal Ilmu Kesehatan Masyarakat Berkala, 2(2), 25–35.

Susilo, A. (2019). Tingkat Pengetahuan Perawat tentang Infeksi. 2, 8–33.

Syamsiyah (2020). Gambaran Tingkat Pengetahuan Perawat Tentang Pencegahan Health Care Associated Infections (HAIs) Guna Menekan Angka Kejadian Phlebitis di Ruang Rawat Inap Rumah Sakit Regional Mamuju. Jurnal Universitas Hasanuddin. 1(3), 22-35. http://gg.gg/145za4.

WHO (2018). Pedoman Komponen Inti Program Pencegahan dan Pengendalian Infeksi di Tingkat Fasilitas Kesehatan Nasional dan Akut, Janewa. http://gg.gg/143lhx

Wulandari, R. (2017). Pengetahuan Dan Penerapan Five Moments Cuci Tangan Perawat Di RSUD Sukoharjo. GASTER, XV(1), 18–27.

Zainaro, A., Gunawan, R., & Mardani. (2021). Hubungan perilaku dan sikap perawat terhadap upaya pencegahan HAIs di Ruang Rawat

Inap RSUD Mayjend HM Ryacudu Kota Bumi Lampung Utara tahun 2020. Jurnal Ilmu Keperawatan Indonesia (JIKPI) E-ISSN, 2(1), 40–52.