



Factors Related to Nurses Compliance in Hand Hygiene Businesses in Kudungga District of East Kutai

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ABSTRACT

In an effort to reduce the incidence of HAIs, hand hygiene is very important because nurses always interact directly with the patient and the patient's environment. The objective is to analyze the factors related to the compliance of nurses in the implementation of hand hygiene in the hospital room of RSUD Kudungga district of Eastern Kutai in 2023. This research method is a type of quantitative researcher with analytical studies and with cross sectional design. In this study, the sampling technique used is Non-probability sampler with purposive sampler. There are several factors in the implementation of hand-hygiene where these factors are facility factors, reward and punishment, compliance, attitude, knowledge and role of the PPI Team influence on the execution of hand hygiene to be maximum especially in Mutiara RSUD Kudungga district east quarter in 2023.

INTRODUCTION

Nosokomial infection or Health Care Associated Infections (HAIs) is an infection that occurs in patients during treatment in hospitals and other health care facilities where there is no infection at the time of entry and not during the incubation period, including infection in the hospital but appears after the patient returns, as well as infection due to work on hospital staff and health personnel related to the health care process in the healthcare facilities. (Sari et al., 2021).

According to data from the WHO and the European Centers for Disease Control and Prevention (European CDC), the prevalence of HAIs in countries with high per capita income or commonly referred to as developed countries varies from 3.5% to 12% (Sinulingga & Malinti, 2021). On the continent of America, a survey of 183 hospitals in the United States found 504 cases of health care-associated infections. Of the 504 infections, 452 out of 11,282 patients were detected, so 4.0% of all patients had one or more health-care-related infection. (Diantoro, 2021).

The WHO has launched another patient safety program under the slogan Save Lives: The Next Clean Your Hands Program, which aims to contribute to the implementation of hand hygiene in healthcare services around the world. Hand hygiene is an effective and cost-effective method to prevent infections transmitted through the hands by removing dirt and dirt as well as preventing or killing microorganisms from the hand skin caused by contact between the patient and the environment by performing a five-minute hand hygiene routine practice i.e. washing hands before contact with the patient, before clean and sterile procedures, with patient body fluids after contact, after contact with patients and following contact with patient's environment, and with proper hygiene of hands can contribute to reducing the incidence of HAIs by up to 50% (Delinda, 2018).

The prevalence of HAIs in Indonesia is 7.1% where Indonesia is among the middle-income countries. Low- and middle-income countries do not have a good nosokomial infection surveillance system and have not yet data or have no representative data, therefore the prevalence of HAIs in low- and medium-incoming countries is highly likely not to reflect the actual data (Sari et al., 2021).

A nurse is a 24-hour medical staff with a patient treated in a hospital. The role of nurses is enormous in the patient's healing process. Nurses are required to have knowledge, skills and a good attitude during the care of patients. Nurses' compliance with proper nursing procedures, including hand hygiene, is one of the determinants of successful prevention of nosokomial infections. (Sari et al., 2021).

Nurses' compliance with hand hygiene can be influenced by individual factors, organizational factors, and environmental factors. These three factors have interdependence affecting nurses in performing hands hygiene, individual factors that influence knowledge, attitude, workload, and motivation, while organisational factors are regular procedures, sanctions, appreciation, support,

training and availability of facilities and facilities, as well as environmental factor including water and building architecture (Fauzia, 2014).

Based on a research journal conducted by (Nurahmani, 2019), The results show that there is a relationship between knowledge and nurses' compliance in performing Hand Hygiene. This suggests that nursing who have knowledge is 18x less likely to be disobedient in doing Hand Hygiene compared to a nurse who has good knowledge.

In a research journal (Wulandari, Suminar, 2022) on nurses' compliance factors in the implementation of hand hygiene where the research data showed no relationship Education, length of work, motivation with the compliance of hands hygiene with a significant rate ($< 0,05$). In another study journal (Octaviani, Fauzi, 2021) the results of the study show the level of compliance washing hands according to the standard in nurses.

The highest infection rate in 2019 was plebitis with a rerate of 18.4%. 0,IDO (Infection Area Operations) with a rate of 0.008%. Audit results of the nursing environment of RSUD Kudungga according to the PPI standards of 2018 and 2019 and 2020 on all staff working in the hospital are still in the range of 76-84% (moderate compliance) where the target is to be achieved at $> 85\%$ (good compliance data). The results of audits of compliance with handwashing of nurses based on 5 moments obtained data prior to contact with 53% of patients, prior to performing aseptic actions 78%, after contact with body fluids of patients 87%, following contact with 85%, and after contacting patients of the environment 45% (Trivalent Report IV Committee of PPI data, 2019). The medical environment audit facility is based on the standard PPI of the RSUDI of 2020, i.e. patients performed between 93% of the actions prior to the contact with the body, 83% after having done the action, 100% before contacting the body with the environment and approximately 100% before the patient's contact with an environment. (Laporan triwulan IV Komite PPI, 2022). The results of the audit for 2019-2022 vary with the number of officers performed the audit varies from 141 to 200 people with different workplaces according to the competence of their respective fields of expertise.

In order to reduce the incidence of HAI, hand hygiene is important because nurses always interact directly with the patient and the patient's environment, and the lack of compliance with hand hygienic procedures can have a certain impact. In this case, compliance refers to situations where individual behavior is in accordance with the actions suggested or suggested by the health practitioner. A good hand wash is a hand wash that is done in accordance with the procedure and in five moments. (Windyastuti, 2018).

Based on the preliminary study carried out by the researchers in the hospital room of the RSUD nursing nurses, I performed random observations of 10 nurse persons, which obtained data: who did not perform hand hygiene before the action of 5 people (50%) and after the operation of the treatment of 3 people (30%), before and after two people (20%). In addition to the results of PPI audits on compliance of nurses performing 5 moments are not available.

Based on the above background, it is still necessary to carry out research with the title "Factors related to nurses compliance in hand hygiene management in the Kudungga district of Eastern Kutai district in 2023".

THEORETICAL REVIEW

Hand Hygiene

Hand hygiene is a method of cleaning your hands using antiseptic soap or by rubbing your hands with alcohol in order to reduce the number of bacterial colonies on your hands. (Utami, 2017).

According to Damanik (2012), factors influencing hand hygiene compliance among other factors include age, knowledge, availability of workforce, supervisory support, working time, avails of facilities, attitude, rewards and punishment as well as the role of the PPI team.

METHODOLOGY

This research is quantitative research. The research method used is analytical with a cross sectional approach. The population in this study is all nurses in the hospital room nilam and Mutiara RSUD Kudungga with a total of 43 nurse, sampling using the technique of Accidental Sampling, the study time from January to March 2023 at the hospital Nilam and the hospital kudungga district of East Kutai. The research instrument used in this study is a hand wash compliance observation sheet based on five moments for hand hygiene yang adopted from the Rofiani 2018 study with 25 statements using a likert scale including a sheet of observation of the HAIs criteria as well as a questionnaire of factors related to compliance and attitude questionnaires that have been tested for validity and realisticity.

The data obtained will be processed and the results will be displayed as a percentage of the frequency distribution table using the univariate analysis formula. The data is then processed with the help of computerization using statistical tests. Where the bi-variation test in this study uses a chi square with a fertility limit of $\alpha=0,05$.

RESULTS

Univariat Analysis

Tabel 1. Distribusi Frekuensi Responden Berdasarkan Jenis Kelamin Di Ruang Nilam dan Ruang Mutiara RSUD Kudungga Kabupaten Kutai Timur Tahun 2023

No	Jenis Kelamin	Frekuensi (N)	Persentase (%)
1.	Laki-Laki	2	5,1
2.	Perempuan	37	94,9
	Jumlah	39	100

Based on table 1 it was obtained that the characteristics of respondents based on gender, respondents with gender Women were 37 (94.9%) compared to gender Men 2 (5.1%).

Tabel 2. Distribusi Frekuensi Responden Berdasarkan Usia Di Ruang Nilam dan Ruang Mutiara RSUD Kudungga Kabupaten Kutai Timur Tahun 2023

No	Usia	Frekuensi (N)	Persentase (%)
1.	20-35 Tahun	5	12,8
2.	36-50 Tahun	30	76,9
3.	>51 tahun	4	10,3
	Jumlah	39	100

Based on table 2, it was obtained that the characteristics of respondents based on age, respondents with category 36-50 Years more is 30 people (76.9%) compared with 20-35 Years 5 people (12.8%) and .51 years 4 people (10.3%).

Tabel 3. Distribusi Frekuensi Responden Berdasarkan Status Pekerjaan Di Ruang Nilam dan Ruang Mutiara RSUD Kudungga Kabupaten Kutai Timur Tahun 2023

No	Pekerjaan	Frekuensi (N)	Persentase (%)
1	PNS	8	20,5
2	Pegawai Tetap	27	69,2
3	Lain-Lain (Kontrak,Honor)	4	10,3
	Jumlah	39	100

Based on table 3, 27 respondents (69.2%), followed by PNS 8 respondents (20.5%), and 4 other respondents (10.3%).

Table 4. Distribution of Frequency of Respondents Based on the Level of Education in the Nilam Room and Gutiara Room of RSUD Kudungga District of Eastern Kutai in 2023

No	Pendidikan	Frekuensi (N)	Persentase (%)
1.	SPK	0	0
2.	D-III Keperawatan	27	69,2
3	D-IV/S1 keperawatan	0	0
4	Ners	12	30,8
5	S2	0	0
	Jumlah	39	100

Based on table 4, the highest number of respondents on the level of education was D-III Nursing of 27 persons (69.2%), followed by Ners of 12 persons (30.8%), while for SPK, D-IV/S1 Nurses and S2 nurses there were nothing.

Table 5. Frequency distribution of respondents based on the length of work in the Nilam Room and Gutiara Room of RSUD Kudungga District of Eastern Kutai in 2023

No	Lama Kerja	Frekuensi (N)	Persentase (%)
1	1-5 Tahun	8	20,5
2	6-10 Tahun	25	64,1
3	11-15 Tahun	6	15,4
4	16-20 Tahun	0	0
	Jumlah	39	100

Based on table 5 obtained old work data the most respondents were 6-10 Years 25 people (64.1%), followed by 1-5 years 8 people (20.5%), 11-15 Years 6 people (15.4%).

Table 6. Frequency Distribution of Respondents Based on Facilities Factor in Nilam Space and Mutiara Space of RSUD Kudungga East Kutai District 2023

No	Fasilitas	Frekuensi (N)	Persentase (%)
1	Mendukung	27	69,2
2	Tidak Mendukung	12	30,8
	Jumlah	39	100

Based on table 6, 27 (69.2%) facilities in the premises support the implementation of hand hygiene, and 12 (30.8%) facilities do not support hand-hygiene.

Tabel 7. Distribusi Frekuensi Responden Berdasarkan Faktor Reward And Punishment Di Ruang Nilam dan Ruang Mutiara RSUD Kudungga Kabupaten Kutai Timur Tahun 2023

No	Reward And Punishment	Frekuensi (N)	Persentase (%)
1	Setuju	26	66,7
2	Tidak Setuju	13	33,3
	Jumlah	39	100

Based on table 7, 26 respondents (66.7%) agreed with the reward and punishment of hand hygiene and 13 (33.3%) disagreed with rewarding and punishing of hand-hygiene.

Table 8. Frequency Distribution of Respondents Based on Coherence Factors in the Nile Space and Gulag Space of RSUD Kudungga District of Eastern Kutai in 2023

No	Kepatuhan	Frekuensi (N)	Persentase (%)
1	Patuh	29	74,4
2	Tidak Patuh	10	25,6
	Jumlah	39	100

Based on table 8, data were obtained that 29 respondents (74.4%) obeyed in the implementation of hand-hygiene and 10 respondents (33.3%) did not obey in the application of hand hygiene.

Table 9. Frequency Distribution of Respondents Based on Attitude Factors in Nilaam and Gutiara Space of RSUD Kudungga District of Eastern Kutai in 2023

No	Sikap	Frekuensi (N)	Persentase (%)
1	Sikap Patuh	33	84,6
2	Sikap Tidak Patuh	6	15,4
	Jumlah	39	100

Based on Table 9, data were obtained that 33 respondents (84.6%) were obedient to the implementation of hand hygiene and 6 respondents (15.4%) were not obediently to the application of hand-hygiene.

Table 10. Frequency Distribution of Respondents Based on Nurses' Knowledge Factors of Hand Hygiene in the Nursing Room and Guwahara Room of RSUD Kudungga, East Kutai District, 2023

No	Pengetahuan	Frekuensi (N)	Persentase (%)
1	Tahu	30	76,9
2	Tidak Tahu	9	23,1
	Jumlah	39	100

Based on table 10, data were obtained that 30 respondents (76.9%) knew the implementation of hand hygiene and 9 respondents (23.1%) did not know the practices of hands hygiene.

Table 11. Distribution of Respondents Based on the Role Factors of the Nurses' PPI Team on Hand Hygiene in the Nylam Room and Gutiara Room of RSUD Kudungga District of Eastern Kutai in 2023

No	Peran Tim PPI	Frekuensi (N)	Persentase (%)
1	Berperan	32	82,1
2	Tidak Berperan	7	17,9

Based on table 11, the data was obtained that 32 respondents (82.1%) PPI Team played a role in the implementation of hand-hygiene and 7 respondents (17.9%) PPI team did not play a part in hand-higiene implementation.

Table 12. Frequency Distribution of Respondents Based on Observations of Hand-Hygiene Compliance in the Nilam Room and Mutiara Room of RSUD Kudungga, East Kutai District, 2023

No	Observasi Kepatuhan	Frekuensi (N)	Persentase (%)
1	Patuh	24	61,5
2	Tidak Patuh	15	38,5
	Jumlah	39	100

Based on table 12, data obtained after observation that 24 respondents (61,5%) obey in the implementation of hand-hygiene and 15 respondents (38,5%) do not obey.

Table 13. Frequency Distribution of Respondents Based on observations of five moment hand hygiene in Nilam Room and Mutiara Room of RSUD Kudungga District of Eastern Kutai in 2023

No	Observasi Five Moment	Frekuensi (N)	Persentase (%)
1	Dilakukan	34	87,2
2	Tidak Dilakukan	5	12,8
	Jumlah	39	100

Based on table 13, data were obtained that after observation 34 respondents (87.2%) performed five moments of hand-hygiene and 5 respondents (12.8%) did not perform five moments.

Bivarian Analysis

Table 14. Factors of facilities and compliance with hand hygiene in the Nilam and Mutiara Room of RSUD Kudungga district of Eastern Kutai in 2023

Kepatuhan	Fasilitas		Tota	P-Value
	Mendukung	Tidak mendukung	1	
	g	g	N	
Patuh	20	9	29	
Tidak Patuh	7	3	10	0,000
Jumlah	27	12	339	

Sumber :Data Primer 2023

The statistical test results of Chi Square obtained a P-value < α where P-Value (0,000) < α (0,05) so it can be concluded there is a significant relationship between Facilities factor with the observance of nurses in the implementation of

hand hygiene in the nursing room and pearl room of RSUD Kudungga district of East Kutai

Table 15. Reward & punishment factors and hand hygiene compliance in the Nilam and Mutiara Room of RSUD Kudungga district of East Kutai in 2023

Kepatuhan	Reward and Punishment		Tota 1	<i>P- Value</i>
	Setuju	Tidak Setuju	N	
Patuh	17	12	29	0,000
Tidak Patuh	9	1	10	
Jumlah	26	13	39	

Sumber :Data Primer 2023

The statistical test results of Chi Square obtained a P-value $< \alpha$ where P-Value (0,000) $< \alpha$ (0,05) so it can be concluded there is a significant relationship between Reward and punishment factors with the observance of nurses in the implementation of hand hygiene in the nursing room and pearl room of RSUD Kudungga district of East Kutai

Table 16. Hand hygiene attitude and compliance factors in the Nilam and Mutiara Room of RSUD Kudungga district of East Kutai in 2023

Kepatuhan	Sikap		Tota 1	<i>P- Value</i>
	Sikap Patuh	Sikap Tidak Patuh	N	
Patuh	25	4	29	0,000
Tidak Patuh	8	2	10	
Jumlah	33	6	39	

Sumber :Data Primer 2023

The statistical test results of Chi Square obtained a P-value $< \alpha$ where P-Value (0,000) $< \alpha$ (0,05) so it can be concluded there is a significant relationship between attitude factors with the observance of nurses in the implementation of hand hygiene in the nursing room and pearl room of RSUD Kudungga district of East Kutai

Table 17. Factors of knowledge and compliance with hand hygiene in the Nilam and Mutiara Room of RSUD Kudungga district of Eastern Kutai in 2023

Kepatuhan	Pengetahuan		Tota 1	<i>P- Value</i>
	Tahu	Tidak Tahu	N	
Patuh	20	9	29	0,000
Tidak Patuh	10	0	10	
Jumlah	30	9	39	

Sumber :Data Primer 2023

The statistical test results of Chi Square obtained a P-value $< \alpha$ where P-Value (0,000) $< \alpha$ (0,05) so it can be concluded there is a significant relationship between the knowledge factor with the observance of nurses in the implementation of hand hygiene in the nursing room and pearl room of RSUD Kudungga district of East Kutai.

Table 18. Factors of the role of the PPI team and compliance with hand hygiene in the Nilam and Mutiara rooms of RSUD Kudungga district of East Kutai in 2023

Kepatuhan	Peran Tim PPI		Tota 1	<i>P- Value</i>
	Berperan	Tidak Berperan	N	
Patuh	23	6	29	0,000
Tidak Patuh	9	1	10	
Jumlah	32	7	39	

Sumber :Data Primer 2023

The statistical test results of Chi Square obtained a P-value $< \alpha$ where P-Value (0,000) $< \alpha$ (0,05) so it can be concluded there is a significant relationship between the role factor of the PPI team with the observance of nurses in the implementation of hand hygiene in the nursing room and pearl room of RSUD Kudungga district of East Kutai.

DISCUSSION

According to the research journal Faridah, Winarni, & Saputra (2022), Ernawati, Mien, & Narmi, (2021), Octaviani, Fauzi, (2020), Suterisno, et al, (2022) and Hamdana, Alfira, Nurhidayah (2021) and Wandulari, Suminar, (202) that according to the results of the research there is a relationship between facility factors, reward andishment, attitude and knowledge, role with compliance with PPI where the implementation of the hygiene values of the P-

area facility (0,000.00), PPI can be related to the performance of the role of the sanitary facility, PPI, and the quality of hygiene.

Hand hygiene is a term used in washing hands using antiseptics. In 2009, WHO introduced hand hygiene for health workers with five moments to wash hands: wash hands before touching a patient, wash hands prior to clean and sterile procedures, after touching the patient's body fluids, after contacting the patients, and after touchin the patient's surroundings. (WHO, 2009).

Health care facilities such as hospitals, which have an important role to play in improving public health, are required to provide efficient health care to ensure patient safety in accordance with established standards. Reducing the risk associated with services is one of the indicators of patient safety. (WHO, 2012).

The nurses' compliance in performing the six steps of handwashing is very important because non-compliance can have consequences among others: (1) for patients, the addition of disease diagnosis and the extension of the number of days of care in the hospital to cause death; (2) for visitors, it can be transmitted to others after leaving the hospital; (3) for nursing, it will be a barrier (carrier of germs) that transmits to other patients and themselves; (4) for hospitals, the reduction of the quality of hospital service until the withdrawal of hospital operating permission, Jama, Yuliana, (2020).

Awareness of the importance of hand washing in the healthcare environment has become a global concern. Health services are the most vulnerable environment in the spread of various microorganisms. The health care personnel in the exercise of their profession are always in contact with body fluids, equipment that has been contaminated, as well as direct contact with the patient's body. Therefore, health workers are at high risk of becoming contagious or being the medium for transmitting pathogens. Octaviani, Fauzi, (2020) WHO states that effective hand hygiene involves health awareness, indications, and when to do hand hygienic. There are "five moments" when the health care provider has to do hand hygiene between them: before contact with the patient, before performing aseptic action, after exposure to the patient's body fluids, after contact with a patient, and after touch with the environment of the patient. (WHO, 2020).

CONCLUSIONS AND RECOMMENDATIONS

Based on the interpretation and description then conclusion The results of the statistical test of Chi Square program SPSS 25 in table 4.13 obtained a P-value $< \alpha$ where P- Value (0,000) $< \alpha$ (0,05) so it can be concluded there is a significant relationship between facility factors, reward and punishment, compliance, attitude, knowledge and role of the PPI Team with compliance of the implementation of hand-hygiene in the Nilam and Mutiara Room of RSUD Kudungga district of Eastern Kutai Year 2023.

The results of this study are expected to be used by hospital nurses to be more obedient and implement hand hygiene, especially at 5 moments during nursing care to patients.

FURTHER STUDY

As for the advice that can be given to further researchers, where the results of this research can be used as material or as a comparison for research with topics related to factors related to nurses compliance in the implementation of hand hygiene.

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