

IMPLEMENTATION OF HAND HYGIENE BEHAVIOR IN NURSES INPATIENT ROOM BHAYANGKARA HOSPITAL TK II MEDAN

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Abstract: *The low number of adherence to the application of hand hygiene in nurses in the hospital can increase the incidence of nosocomial infections, because nurses interact with patients for 24 hours. The method in this research is quantitative analytic which aims to determine the implementation of the behavior of applying hand hygiene to nurses in the inpatient room of Bhayangkara Hospital TK II Medan in 2019. The sampling method used is total sampling with a total sample of 38 nurses. Data collection using a questionnaire. From the results of the statistical test analysis showed that there was a significant influence between the training variables on the behavior of applying hand hygiene to nurses in the inpatient room with a p-value of 0.001, between the variables of knowledge on the behavior of applying hand hygiene to nurses in the inpatient room with the result of the p-value. 0.000, between the attitude towards the behavior of applying hand hygiene to nurses in the inpatient room with a p-value of 0.001, between the facility variables on the behavior of applying hand hygiene to nurses in the inpatient room with a p-value of 0.016. The conclusion of this study that the variables that have a significant relationship are the variables of training, knowledge, attitudes, and facilities. It is recommended for the hospital to continue to hold training, especially on hand hygiene and improve facilities and infrastructure to support hand hygiene.*

Keywords: *Behavior, Application, Hand Hygiene, Nurses, Nosocomial Infection.*

1. INTRODUCTION:

Nosocomial infections or currently known as Health-care Associated Infections (HAIs) are the most common cause of patient mortality and morbidity in hospital. In a hospital that has an infection prevention and control program (PPI) it will reduce the incidence of infection by about 32%. One of the causes of HAIs is related to the health service process, such as the professional behavior involved. The hands of the healthcare workers in the hospital are the most common carriers of microorganisms from one patient to another. Hand Hygiene is the most important measure in preventive action because it is more effective, low cost, short time, and is estimated to reduce the number of HAIs by 50% (Widyanita and Listiowati, 2014).

Based on Kepmenkes number 129 of 2008 concerning minimum hospital service standards, the tolerable incidence of nosocomial infections in the inpatient room was $\leq 1.5\%$. Hospital as a health service system, which in general provides services to the community in the form of health services that include medical services, medical support services and nursing services. These services are carried out through the emergency unit, outpatient unit, and inpatient unit. Hospitals are required to be able to provide quality services according to predetermined standards (Marfu'ah and Sofiana, 2018). Patient safety is a variable to measure and evaluate the quality of services in hospitals that have an impact on health services.

The hand hygiene of health workers is very helpful in preventing and transmitting dangerous germs and preventing infections related to health care. This is because hands are the main route of transmission of germs during health care. The purpose of Hand Hygiene is carried out routinely in patient care is to remove dirt and organic matter as well as microbial contamination from patient contact or the environment (Karuru, 2016). WHO issued the First Global Patient Safety Challenge where Clean Care is Safety Care which contains 5 moments for hand hygiene including: Before touching the patient, Before doing aseptic measures, After being exposed to the patient's body fluids, After touching the patient and after touching the patient's environment.

Health workers as health service providers in the hospital are people who have direct influence on patients so that they have a big role in the chain of transmission of infection. The important role of health workers in the occurrence of hospital infections is supported by a study conducted by Bady et al. (2007) at IRNA I RSUP Dr.

Sardjito. This study found that the performance of nurses in controlling nosocomial infections was very good (85.96%) so that the contribution of nurses in reducing the number of nosocomial infections.

In another study conducted at Roemani Hospital Semarang by Kasmad (2010), it was found that the incidence of urinary tract nosocomial infections that received catheter treatment with poor quality was 83.33%. This shows that there is an influence between the quality of catheter care with the incidence of urinary tract nosocomial infections with a p value (0.029). In another study conducted by Prastika (2012) at Majalaya Regional Hospital, it was also found that there was a significant effect between infusion that did not pay attention to the principle of sterility and the incidence of phlebitis with a p value (0.031).

Research conducted by Evie (2013) in the inpatient ward of the Sukoharjo Regional General Hospital with a total of 7830 inpatients and 37 cases of HAIs from treated patients (Syahrir, Tirmaridhana and Raodah, 2018).

Based on some of the research results above, it can be seen that the actions taken by health workers during treatment of patients have an influence on the occurrence of hospital infections. One of the efforts to control hospital infections is to break the chain of infection transmission by implementing isolation precautions where isolation precautions consist of standard precautions and precautions based on transmission (Rahfita, 2017).

The results of the initial survey conducted by researchers of 6 nurses on July 29 2019 in the inpatient room of the Bhayangkara TK II Medan Hospital found that 2 nurses did not follow the correct six-step hand hygiene procedure according to the SOP used by Bhayangkara Hospital TK II Medan. and 2 nurses did not apply 5 moment hand hygiene.

2. LITERATURE REVIEW:

A. Level of Education

Knowledge is very closely related to education, where it is hoped that someone with higher education will have broader knowledge. Education also affects a person in making decisions so that the higher the level of education a person understands and understands about a science and will affect their behavior. The level of education also affects a person's knowledge and acceptance of information (Rahfita, 2017).

B. Years of Service

The tenure affects a person's experience of work and the environment in which he works. The working period can make a person understand the duties of a job so that he can carry out his job well, where the longer he works, the more experience he has and the more skilled he will be in doing his job (Rahfita, 2017).

C. Training

Training in Green's theory is one of the enabling factors in the formation of one's behavior. This training is a medium for obtaining information and skills for nurses, especially regarding the application of standard precautions (Fauzia and Rahmawati, 2018).

D. Knowledge

Knowledge is the result of knowing that occurs through the process of sensing, especially the eyes and ears, to certain objects. Knowledge is the result of knowing and occurs after people sense a certain object (Atmadja, 2012).

E. Attitude

Attitude is a reaction or response of someone who is still closed to a stimulus or object, so that the attitude is not yet an action or activity, but is a predisposition to action or behavior (Atmadja, 2012).

F. Amenities

A person's behavior is influenced by enabling factors, such as the facilities or infrastructure provided in the workplace. Without adequate resources, a person will not be able to properly implement a behavior (Fauzia and Rahmawati, 2018).

G. The Basic Concept of Infectious Diseases

Health Care Associated Infections (HAIs) are infections that occur in patients during treatment in hospitals and other service facilities where there is no infection and not during the incubation period, including infections in the hospital but appearing after the patient is discharged. also infections due to employment of hospital staff and health workers related to the process of health services in health service facilities (Kemenkes RI, 2011).

H. Hospital Environment Control

Controlling the hospital environment or other health service facilities is one aspect of preventing HAIs control. Hospital environment or other health care facilities rarely cause transmission of nosocomial infectious diseases, but immune compromised patients must be more vigilant and careful because they can cause several other infectious diseases such as Aspergillus, Legionella, Mycobacterium TB, Varicella Zoster, Hepatitis Virus. B, HIV.

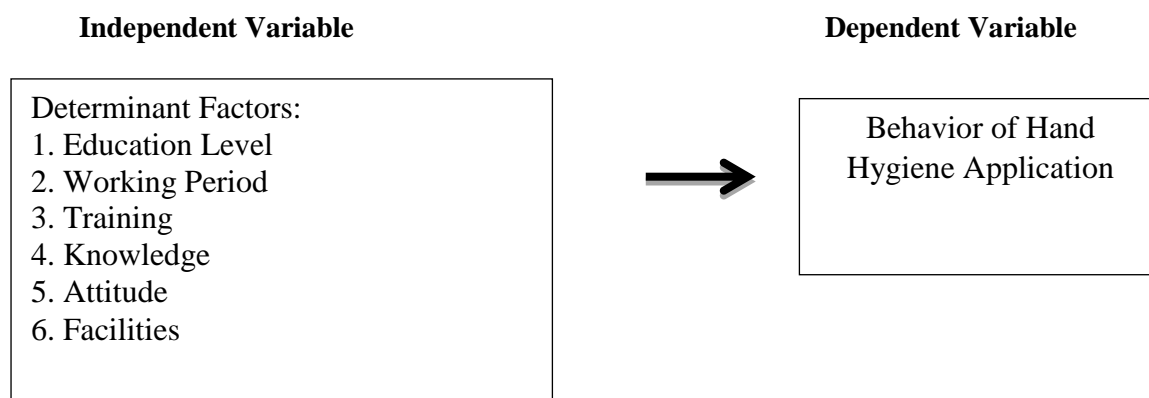


Figure 1 Conceptual Framework

Hypothesis

Based on the research background and the relationship between variables, the research hypothesis:

- The influence of the level of education on the behavior of applying hand hygiene to nurses in the inpatient room of Bhayangkara Hospital TK II Medan.
- The influence of tenure on the behavior of applying hand hygiene to nurses in the inpatient room of Bhayangkara Hospital TK II Medan.
- There is an effect of training on the behavior of applying hand hygiene to nurses in the inpatient room of Bhayangkara Hospital TK II Medan.
- The influence of knowledge on the behavior of applying hand hygiene to nurses in the inpatient room of Bhayangkara Hospital TK II Medan.
- The influence of attitudes on the behavior of applying hand hygiene to nurses in the inpatient room at Bhayangkara Hospital TK II Medan.
- Knowing and analyzing the facilities on the behavior of applying hand hygiene to nurses in the inpatient room of Bhayangkara Hospital TK II Medan.

3. RESEARCH METHODS:

This research is a quantitative analytic research design, which is a cross sectional research type because this study aims to determine the analysis of the application of hand hygiene to nurses at Bhayangkara Hospital, TK II Medan.

The target population of this study were nurses in the inpatient room of Bhayangkara Hospital TK II Medan who interacted directly with patients and had the potential to act as intermediaries in the incidence of hospital infections. Sampling was carried out by total sampling method, namely 38 respondents.

Data collection methods used in this study using primary data. Primary data collection method used was filling out a questionnaire given to respondents, namely nurses who served in the ward at Bhayangkara Hospital TK II Medan. The questionnaire was used to obtain data about the determinant factors of nurse behavior in the application of hand hygiene which consisted of training, knowledge, attitudes, and facilities. The research instrument used in this study was a questionnaire sheet. The questionnaire sheet used is a list of statements with a total of 85 statements including the respondent's name, age, education level, years of service, training, knowledge of hand hygiene 18 statements, attitudes about hand hygiene 23 statements, facilities related to hand hygiene 5 statements, and related behaviors. hand hygiene 18 statements.

Data processing is carried out in several ways, namely coding, which is an activity to change letter-shaped data into numeric data or vice versa, namely by classifying data by providing code on the data that has been collected. Editing, is an activity to check the questionnaire sheet, whether the answers in the questionnaire are complete, clear, relevant, and consistent, namely by measuring, sorting, classifying and correcting the collected data. Entry, is an

activity of entering data into a computer program for data analysis after all questionnaire entries have been filled in completely and correctly, and has also passed the coding and cleaning processes, is an activity to re-check data that has been entered, aiming to find out whether there is data that has not been entered. entry or there was an error when entering data.

4. RESEARCH RESULT:

Effect of Education Level on Hand Hygiene Application Behavior

Individuals with a high level of education have a tendency to do their job effectively according to the skills and knowledge they have acquired from the education period (Rahfita, 2017).

Based on the results of the study, the distribution of the proportion of the majority of respondents with an undergraduate education level had good hand hygiene application behavior, 5 (62.5%) of 8 respondents, while the distribution of the proportion of most respondents with the education level of DIII had good hand hygiene application behavior 18 people (60%) from 30 respondents.

The results of statistical tests in this study obtained a p-value of 0.901 ($p > 0.05$), indicating that there was no significant effect on the level of education on the behavior of applying hand hygiene to nurses at Bhayangkara Hospital TK II Medan.

In contrast to the results of research by Meisa (2012) statistical tests obtained p value = 0.032, it can be concluded that there is a significant effect between education and hand washing behavior. The results of statistical tests also produce OR = 0.36, meaning that respondents with high education have a 0.36 times greater chance of behaving well than those with low education.

According to the researchers' assumptions, the higher the education level of the respondents did not affect the behavior of applying hand hygiene. Because there are many other determinants that cause respondents' lack of compliance, one of which is facility.

The Effect of Service Period on the Behavior of Hand Hygiene Application

The more often individuals do the same job, it is hoped that the more skilled they will be in doing their job. The period of work can make a person understand the duties of a job so that he can carry out his job properly and efficiently, where the longer he works, the more experience he has and the more skilled he will be in doing his job.

Based on the results of the research, the distribution of the proportion of the majority of respondents with a service period of > 5 years had good hand hygiene application behavior, 13 people (65%) of 20 respondents, while the distribution of the proportion of most respondents with a service period of < 5 years had the behavior of implementing hand hygiene that was good 10 people (55.6%) of the 18 respondents.

The results of statistical tests in this study obtained a p-value of 0.564 ($p > 0.05$), indicating that there was no significant effect of tenure with the behavior of applying hand hygiene to nurses at Bhayangkara Hospital TK II Medan.

According to the researchers' assumptions, the longer the respondent worked had no effect on the behavior of applying hand hygiene. Because even though the nurse's working period is longer, it is possible that she will behave less well, especially if her knowledge is lacking and her attitude towards applying hand hygiene is negative.

The Effect of Training on the Behavior of Hand Hygiene Application

The training is carried out in the hope that it can achieve better results than before, especially in improving the behavior of health workers.

Based on the results of the research, the distribution of the proportion of the majority of respondents who had attended the training had good hand hygiene practices, 23 people (67.6%) of 38 respondents.

The results of statistical tests in this study obtained a p-value of 0.001 ($p < 0.05$) indicating that there is a significant effect of training on the behavior of applying hand hygiene to nurses at Bhayangkara Hospital TK II Medan.

In contrast to research by Meisa (2012) the results of statistical tests obtained p value = 0.105, it can be concluded that there is no difference in the proportion of hand washing behavior between respondents who stated that the training time was long and respondents who stated that the time of training was new (there was no significant effect between the time of prevention training nosocomial infection with hand washing behavior).

According to the researchers' assumptions, respondents who participated in the training had an influence on the application of daily hand hygiene. It is very important to hold training, seminars and make leaflets in every inpatient room about nosocomial infections in order to raise awareness about the importance of applying hand hygiene, both for hospital staff and visitors.

The Effect of Knowledge on the Behavior of Hand Hygiene Application

Nurses' basic knowledge about hospital infections including hand hygiene can be an awareness and foster a commitment to carry out hand hygiene measures according to standards. This is also stated by WHO that the lack of knowledge about hand hygiene is one of the obstacles to doing hand hygiene as recommended (Rahfita, 2017).

Based on the results of the proportion distribution research, most of the respondents had good knowledge and performed good hand hygiene practices 19 people (82.6%) from 38 respondents.

The results of statistical tests in this study obtained a p-value of 0.000 ($p = <0.05$) indicating that there was a significant influence on knowledge with the behavior of applying hand hygiene to nurses at Bhayangkara Hospital TK II Medan.

In a study by Deddy (2016) on the influence of knowledge of nurses with attitudes in preventing nosocomial infections at the Bhayangkara Hospital, Tebing-Tinggi Municipality, it was found that the majority of respondents had good knowledge, namely 32 people (78%) of 41 respondents.

The results of the study The influence of the level of hand hygiene knowledge with the compliance with the implementation of hand hygiene by Widyanita (2017) also found that knowledge has an influence on the behavior of applying hand hygiene, the p-value is 0.000 ($p = <0.05$), the average level of hand hygiene knowledge is 31 respondents were 1.06, while the scale range for the assessment of the results of respondents was 1.06 was less.

However, in contrast to the results of research by Syamsulastrri (2017) concerning factors that influence nurses' compliance in performing hand hygiene, the results showed that there was no significant effect of knowledge on nurses' compliance in performing hand hygiene (p-value 0.237).

According to the researchers' assumptions, respondents who have good knowledge of hand hygiene are very influential in the application of daily hand hygiene. As well as training variables, good knowledge can increase awareness about the importance of applying hand hygiene.

The Effect of Attitude on the Behavior of Hand Hygiene Application

Attitude is a closed reaction, not an open reaction or overt behavior. Attitude is a person's readiness to react or respond to objects or stimuli, where attitudes cannot be immediately seen, but can only be interpreted first from closed behavior.

Based on the results of the study, the distribution of the proportion of the majority of respondents had a positive attitude and performed good hand hygiene practices 19 people (79.2%) out of 38 respondents.

The results of statistical tests in this study obtained a p-value of 0.001 ($p = <0.05$), indicating that there is a significant effect on attitudes with the behavior of applying hand hygiene to nurses at Bhayangkara Hospital TK II Medan.

In a study by Deddy (2016) on the effect of knowledge of nurses with attitudes in preventing nosocomial infections at the Bhayangkara Hospital, Tebing-Tinggi Municipality, it was found that the majority of respondents had good attitudes, namely 34 people (82.9%) from 41 respondents.

According to the researchers' assumptions, respondents who have a positive attitude can apply hand hygiene continuously so that it can reduce the number of nosocomial infections in hospitals, especially in inpatient rooms.

Effect of Facilities on Behavior of Hand Hygiene Application

The facilities provided in the workplace are one of the enabling factors that influence the formation of a person's behavior (Green, 1980 in Notoatmodjo, 2010). Without proper resources, a person will not be able to implement a behavior properly.

Based on the results of the research, the distribution of the proportion of the majority of respondents stated that the facilities were available and performed good hand hygiene practices 18 people (75%) of 38 respondents.

The results of statistical tests in this study obtained a p-value of 0.016 ($p = <0.05$) indicating that there is a significant effect of facilities with the behavior of applying hand hygiene to nurses at Bhayangkara Hospital TK II Medan.

The results of research by Syamsulastrri (2017) on factors that influence nurses' compliance in performing hand hygiene, obtained the same results, namely there is a significant effect between the availability of facilities and nurses' compliance in performing hand hygiene (p-value 0.010).

The results of research by Meisa (2012) analysis of the effect of attitude and hand washing behavior were obtained from the number of respondents who had positive attitudes as many as 100 people 25 people (25%) had poor hand washing behavior. The results of statistical tests obtained p value = 0.004, it can be concluded that there is a difference in the proportion of hand washing behavior between respondents who have a positive attitude and respondents who have a negative attitude (there is a significant influence between attitude and hand washing

behavior). The statistical test results also produce OR = 3.9, meaning that respondents who have negative attitudes have a 3.9 times greater chance of behaving less well than respondents who have positive attitudes.

According to the researchers' assumptions, facility respondents are very influential in the application of daily hand hygiene. The availability of clean water, soap and handrub is very important in the application of hand hygiene.

5. CONCLUSIONS:

Based on the results of the research and discussion conducted, the researchers concluded the following conclusions:

- There is no statistically significant influence between the level of education on the behavior of applying hand hygiene.
- There is no statistically significant effect between tenure and the behavior of applying hand hygiene.
- There is a statistically significant influence between training on the behavior of applying hand hygiene.
- There is a statistically significant influence between knowledge on the behavior of applying hand hygiene.
- There is a statistically significant influence between attitudes on the behavior of applying hand hygiene.
- There is a statistically significant influence between facilities on the behavior of applying hand hygiene.

6. RECOMMENDATIONS

Researchers' suggestions from research that have been done are as follows:

1. For the Hospital

a) The management of Bhayangkara Kindergarten II Medan Hospital is expected to increase commitment in efforts to prevent nosocomial infections at the hospital, especially in the inpatient room by increasing the knowledge of health workers continuously.

b) Provision of facilities according to the needs of each inpatient room, such as tissue, clean water, hand soap and hand rub.

c) Distribute leaflets / brochures or posters related to hand hygiene.\

2. For nurses

Implement hand hygiene in accordance with procedures as a preventive measure and control hospital infections, and provide a good example for colleagues regarding the application of hand hygiene in the workplace.

3. For further researchers

a) The distribution of the research questionnaire is carried out directly by the researcher so that it is maximized in the process of delivering research objectives and reduces information bias when filling out the questionnaire.

b) Conducting observations on the application of hand hygiene based on the five moments of hand hygiene, especially before the nurse performs asepsis and after being exposed to the patient's body fluids.

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