Level of Knowledge of Outpatients with the Habit of Handwashing with Soap in Infection Prevention and Control in Hospitals

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Abstract: Hospitals are places that are full of risk for sources of infection with high numbers of microorganisms. Visitors, especially patients, can become carriers that spread germs in the hospital environment. Patients have an important role in controlling nosocomial infections. One effort that can be done to prevent infection is washing hands, this is done because hands are often agents that carry germs and cause pathogens to move from one person to another. Washing hands with water and soap can more effectively remove dirt and dust mechanically from the surface of the skin and significantly reduce the number of disease-causing microorganisms such as viruses, bacteria and other parasites. The aim of the research was to determine the level of knowledge of outpatients regarding the habit of washing hands with soap. in infection prevention and control in hospitals. This research uses a quantitative method using a cross sectional design, the sampling technique in this research uses a purposive sampling technique, where the sample size in this research is 30 people. Inclusion criteria in this study included outpatient respondents who were willing to become research respondents, by signing an informed consent sheet and respondents being able to read and write. The research instrument used is a questionnaire that has been tested for validation and reliability. The data analysis technique used in this research is bivariate analysis with the chi-square test which is carried out to determine whether or not there is a relationship between the two variables according to the results of filling out the questionnaire, namely the knowledge and behavior questionnaire and so on. The data was analyzed using IBM SPSS Statistics version 21. Based on the results of research that has been carried out, with a sample size of 30 respondents, the results showed that respondents with good knowledge and good behavior in terms of the habit of washing hands with soap were 20 respondents (90.9%), respondents with knowledge of good hand washing habits but bad behavior as many as 2 respondents (91.9%). So from the statistical test results, the p value = 0.000 ($\alpha < 0.05$). This shows that there is a relationship between the knowledge variable and the behavior of washing hands with soap.

Key words: Patient Knowledge, Hand Washing Behavior with Soap, Infection Control and Prevention

INTRODUCTION

A hospital is a health service place that provides complete individual health services consisting of various health professions that are coordinated to maintain and improve the level of public health.(Siregar& Amalia, 2013). Hospitals are places that are full of risk for sources of infection with high numbers of microorganisms (Caroline, 2016). Healthcare-associated infections are primarily transmitted through contaminated hands in healthcare facilities. (Bimerew & Muhawenimana, 2022). Patients, health workers, visitors and patient waiters are at risk of being contaminated with disease germs from the hospital environment or visitors can become carriers who spread germs to patients and the hospital environment because they are in the hospital environment. Infections that can attack patients with treatment of approximately 72 hours, where the infectious disease has not been found when the patient is admitted, these infections are called nosocomial infections or in other words called Healthcare Associated Infections (HAIs) (Mariana, H. E. R., Zainab, & Kholik, 2015).

Infectious diseases associated with health services or Healthcare Associated Infections (HAIs) are a health problem in various countries in the world, including Indonesia. The World Health Organization (WHO) in 2016 stated that 15% of the total inpatients were part of HAIs with an incidence rate of up to 75% in Southeast Asia and Subshara Africa, where it was found that 4-56% were the cause of neonatal death. HAIs cases in 2014 were around 722,000 cases with 75,000 patients in hospitals dying with HAIs (CDC, 2016). The number of HAIs cases reaches 4.8-15.5% with the incidence in Indonesia being 15.74%, surpassing developed countries (Sapardi, 2018).

One way to improve behavior in preventing nosocomial infections is hand hygiene, namely by washing hands (Zakeri, H., Ahmadi, F., Rafeemanesh, E., & Saleh, 2017). Apart from washing hands, use of personal protective equipment for patient care equipment, environmental control, processing of patient equipment and linen management. This is a management policy that created by the infection prevention and control (Centers for Disease Control and Prevention team) (Kementerian Kesehatan Republik Indonesia, 2018).

Various factors are associated with the occurrence of nosocomial infections in health services, both factors originating from patients and health workers. In pediatric patients, the family is the closest person who provides care while the patient is being treated. Health behavior in carrying out 6 steps of hand washing has an impact on preventing nosocomial infections. Theoretically there are 5 moments for washing hands, namely moment 1) before touching the patient, moment 2) before aseptic procedures, moment 3) after exposure to body fluids, moment 4) after touching the patient, moment 5) after touching the patient's surroundings (Susanthy Kue Paudi, 2022).

Washing hands is a fairly easy and effective way to prevent the spread of infection and protect patients from infections related to treatment while in hospital. Correct hand washing is washing hands in 6 steps according to WHO provisions with the aim of eliminating temporary microorganisms that may be transmitted from nurses, visitors and even other health workers to patients so that they can affect the patient's body metabolism (Dewi, Najihah, 2021). The six steps for washing hands according to WHO regulations lasts 40 to 60 seconds, no less and no more. If it is less than the recommended time, the germs on the surface of the skin will not be killed completely (disinfection process) with the soap used (World Health Organization, 2009).

There are two types of hand washing, namely washing hands with soap and washing hands with handrubs. Washing your hands with soap is an effort to prevent and spread disease. Washing hands with soap can kill as many as 73% of germs and is more effective in killing germs than using hand sanitizer which only kills 60% of germs (Cordita, R.N., Soleha, T.U., dan Mayasari, 2019). Washing your hands with hand sanitizer is another alternative to washing your hands with soap. Hand washing activities using hand sanitizer are carried out when hand washing facilities with soap are not available or are too far away. The recommended hand sanitizer requirement is that it is based on and contains a minimum alcohol content of 60% according to WHO standards and regulations. This means that germs on the palms of the hands will die significantly if alcohol with a level of at least 60% is used. Washing hands with soap cannot immediately be replaced by washing hands using cleaning fluid because washing hands with soap can remove almost 99 percent of germs on the surface of the hands, which cannot be achieved by hand cleaning fluid. Hand sanitizer is generally used on hands that are not visibly dirty (Ervira *et al.*, 2021).

Good hand washing behavior comes from good knowledge. Hand washing behavior is influenced by predisposing factors, namely age, gender, level of education, years of service, knowledge, attitudes, perceptions, beliefs, beliefs, values, traditions, enabling factors, namely the formation of behavior or actions, such as training, facilities and infrastructure, Driving factors are those that encourage behavior, such as supervision, regulations and laws. Knowledge is influenced by internal factors such as education, employment, age, while internal factors include environment and culture. includes environment and culture. Hand washing behavior can influence a person to avoid the spread of infections (HAIs) (Wawan, A., & Dewi, 2017).

If this is not addressed, it can result in inadequate nursing services which will lead to an increase in the possibility of nosocomial infections. This nosocomial infection, apart from being detrimental to nurses and hospital institutions, will also bring harm to patients. Losses to patients can be in the form of longer treatment days, physical and psychological suffering that will become more severe, the cost burden will be greater, and can increase morbidity and mortality rates (Darmadi, 2017).

The high prevalence rate of Healthcare Associated Infections (HAIs) is a very big threat to hospital services because it can be interpreted as poor service quality, so prevention is needed in order to reduce the incidence of Healthcare Associated Infections (HAIs). Infection prevention must be implemented universally in health services so that it can protect patients from nosocomial infections, both health care staff and hospital users (Kemenkes RI, 2017).

The results of the initial survey on February 4 2024 at one of Hospital However, visitors often ignore the picture and do not wash their hands first when entering or leaving the hospital. After observing while in the hospital, it was found that 10 visitors did not wash their hands before and after leaving. hospital. Based on the results of the survey and observations that have been carried out, the researchers are interested in conducting research with the title "Level of Knowledge of Outpatients with the Habit of Hand Washing with Soap in Infection Prevention and Control in Hospitals".

METHODS

This type of research uses quantitative methods using a cross sectional design, where the cross sectional design is research to study the dynamics of the correlation between risk factors and effects, by approaching, observing or collecting data at one time (point time approach). Researchers want to see the relationship between the level of patient knowledge and hand washing habits in preventing and controlling infections in hospitals. The sampling technique in this study, the researcher used a purposive sampling technique, where the sample size in this study was 30 people. Inclusion criteria in this study included outpatient respondents who were willing to become research respondents, by signing an informed consent sheet and respondents being able to read and write. The research instrument used was a questionnaire that had been tested for validation and reliability. The data analysis technique used in this research is bivariate analysis with the chi-square test which is carried out to determine whether or not there is a relationship between two variables according to the results of filling out the questionnaire, namely the knowledge and behavior questionnaire and then analyzing the data using IBM SPSS Statistics version 21.

RESULTS AND DISCUSSIONet

RESULTS

The characteristics of respondents in this study were age, gender and highest level of education. There were 30 respondents who participated in this research. The characteristics of the respondents are explained in the following table:

1. General Data
   a. Age Characteristics

Table 1. Frequency Distribution of Respondents Based on Age

No	Respondent Characteristics	Result	
		Frequency (f)	Percentage (%)
1	10-30 year	6	20,0
2	31-50 year	13	43,3
3	51-70 year	11	36,7
	Total	30	100

Based on Table 1, it is known that the results of data analysis on the respondents studied, almost all of the respondents' ages came from the 31-50 year age category with a total of 13 respondents (43.3%)

b. Gender Characteristic

Table 2. Frequency Distribution of Respondents Based on Gender

No	Respondent Characteristics	Result	
		Frequency (f)	Percentage (%)
1	Male	9	30,0
2	Female	21	70,0
	Total	30	100

Based on Table 2, it can be seen that the results of data analysis on the respondents studied with gender characteristics, data showed that the majority of respondents were 21 (70%) women.

c. Educational Characteristics

Table 3. Frequency Distribution of Respondents Based on Educational Characteristic

No	Respondent Characteristics	Result	
		Frequency (f)	Percentage (%)
1	SD/MI/Equivalent	6	20,0
2	SMP/MTS/Equivalent	7	43,3
3	SMA/ Equivalent	12	40,0
4	College	5	16,7
	Total	30	100

Based on Table 3, it can be seen that from the results of data analysis on the respondents studied, the majority of respondents' education was high school with 12 respondents (40%).

2. Special Data

Questionnaires that have been filled out by respondents are collected and processed, the data obtained will be presented in the form of a distribution table that illustrates the relationship between the level of knowledge of outpatients and the habit of washing hands with soap in preventing and controlling infections in hospitals.

a. Univariat Analysis

1) Knowledge

Table 4. Frequency Distribution of Knowledge

No	Knowledge	Frequency(f)	Percentage(%)
1	Good	22	73,3
2	Bad	8	26,7
	Total	30	100

2) Hand washing behavior with soap

Table 5. Frequency Distribution of Hand Washing Behavior with Soap

No	Hand Washing Behavior	Frequency(f)	Percentage(%)
1	Good	20	66,7
2	Bad	10	33,3
	Total	30	100

b. Bivariat Analysis

The results of data analysis on the relationship between patient knowledge levels and the habitual behavior of washing hands with soap in preventing and controlling infections in hospitals obtained by researchers are as follows in the table below:

Table 6. The Relationship between Patient Knowledge Level and Hand Washing Habits with Soap in Infection Prevention and Control in Hospitals

No	Knowledge	Hand Washing Behavior				Total		*P Value*	α
		Good		Bad					
		N	%	N	%	F	%		
1	Good	20	90,9	2	9,1	22	100	0,000	0,05
2	Bad	0	0	8	100	8	100		
	Total	20		10		30	100		

From table 6 above, it shows that there were 20 respondents with good knowledge and good behavior in terms of hand washing habits with soap (90.9%), 2 respondents with good knowledge of hand washing habits but bad behavior (91.9%). So from the statistical test results, the p value = 0.000 ($\alpha < 0.05$). This shows that there is a relationship between the knowledge variable and the behavior of washing hands with soap.

DISCUSSION

The results of research that has been carried out show that there is a significant relationship between the level of patient knowledge and the behavior of washing hands with soap. This research agrees with other studies which found there was a relationship between knowledge and hand washing behavior where the results found that most respondents had high knowledge and had good hand washing behavior (Randan, J. R., & Sihombing, 2020). This is also in accordance with research presented by Mumpuningtias, Aliftitah, & Illiyini (2019) which states that there is a relationship between knowledge and hand washing behavior where the majority of respondents have a low level of knowledge so many have the behavior of not washing their hands (Mumpuningtias, E. D., Aliftitah, S., & Illiyini, 2019).

Based on table 4, it can be seen that the majority of knowledge about hand washing among 30 respondents shows that 22 respondents (73.3%) have good knowledge, and 8 respondents (26.7%) have poor knowledge. The results of this research are parallel to research conducted by Pauzan *et al.* (2017) regarding the relationship

between knowledge and hand washing behavior of 38 students in public elementary schools in the city of Bandung. It was found that respondents with good knowledge were 32 (41.0%) greater than respondents with less knowledge. amounted to 29 (37.2%), while sufficient knowledge was 17 (21.8%). This is also supported by research from Mila *et al.* (2016) showing that respondent knowledge is more common among respondents with good knowledge (65%) than respondents with poor knowledge (37.5%).

This is in accordance with the theory which states that knowledge or cognitive is a dominant factor that is very important for the formation of a person's actions because from experience and research it turns out that behavior that is based on knowledge will be more lasting than behavior that is not based on knowledge. The higher the knowledge, the more conscious the nurse will be in carrying out actions. prevention and control of nasocomial infections (Heriyati, Hatisah, 2020).

A person's knowledge is influenced by age and education obtained after a person senses certain objects. Knowledge is influenced by several factors including experience, level of education and social culture (Notoatmodjo, 2014). The results of research on respondents show that the majority of ages are in the 31-50 year age range, where age influences a person's mindset and mindset influences a person's behavior. Broadly speaking, a person's age is an indicator in making every decision that refers to every practice. The older one gets, the more responsible and experienced the person in receiving instructions and carrying out a procedure will be. The older a person is, the more mature they will be in thinking patterns and individual understanding in processing information compared to those who are younger and less experienced. Increasing age goes hand in hand with increasing knowledge or understanding (Budiman dan Riyanto., 2013). Apart from age, gender also influences a person's knowledge, where in the research results it was found that the majority of respondents were female, namely 21 respondents (70%), this is in accordance with the opinion of Setyaningsih 2013 who explained that women tend to have several traits such as caring, affectionate, patient, care and so on. Although not all women are like that, gender generally has several traits that are considered innate and are also influenced by complex individual experiences.

Knowledge is also influenced by education. The findings show that the majority of respondents have a high school education, 12 respondents (40%). This research is supported by previous research by Meryanti, Darmini, & Rahayuni (2019) which found that the majority of respondents had a bachelor's degree and the level of knowledge showed a good category of 69.1%. A higher level of education makes it easier for someone to receive and understand the information provided, including health information. On the other hand, someone with a low level of education will hinder the development of a person's attitude towards acceptance and the values that will be introduced (Notoatmodjo, 2014).

Behavior is the actions or activities of humans themselves which have a very wide range, including walking, talking, crying, laughing, working, writing, reading and so on. From the description above, it can be concluded that what is meant by behavior is an individual's response to a stimulus or an action that can be observed and has a specific frequency, duration and purpose, whether consciously or unconsciously (Wawan, A., & Dewi, 2017).

Based on table 5, it can be seen that the majority of patient behavior was washing their hands with soap, which was carried out by 30 respondents, showing that 20 respondents (66.7%) had good behavior, and 10 respondents (23.3%) had bad behavior. The results of this research are in line with research conducted by Pauzan *et al.* (2017) regarding the relationship between knowledge and hand washing behavior of students in public elementary schools in the city of Bandung. It was found that respondents who behaved well were 48 (61.5%) greater than respondents who behaved poorly at 30 (38.5%) (Pauzan, 2017). This is also supported by Lawrence Green's theory that behavior is formed due to three factors, namely predisposing factors, enabling factors and reinforcing factors (Notoatmodjo, 2014). Predisposing factors include knowledge, age, environment, social culture. Enabling factors are the next factors that influence a person's behavior, where these factors include facilities and infrastructure or health facilities for the community. Facilities such as a washbasin for washing hands, soap and provision of clean water. The behavior of washing hands with soap carried out by patients is an action that empowers patients to know, want and be able to practice the behavior of washing hands with soap to protect themselves and prevent various diseases.

Based on the research results, it shows that there were 20 respondents with good knowledge and good behavior in terms of hand washing habits with soap (90.9%), 2 respondents with good knowledge of hand washing habits but bad behavior (91.9%). %). So from the statistical test results, the p value = 0.000 ($\alpha < 0.05$). The results of the analysis in the table show a p value of 0.000 < (smaller) than 0.05, meaning that there is a significant relationship between knowledge and the habit of washing hands with soap in outpatients in preventing and controlling infections in hospitals. The results of this research are in line with Irawan's 2022 research which stated that the majority of respondents had good knowledge and the ability to wash their hands in the good category (89.7%), had sufficient knowledge and the ability to wash their hands in the good category (63.9%), and had poor

knowledge and ability. hand washing is not good (83.1%) (Irawan E, 2022).

The opinion of Mubarak (2017) is that someone with high knowledge, especially about hand washing, will be motivated to apply their knowledge regarding behavior and actions. Information regarding the benefits of washing hands, when to wash hands and the consequences of not washing hands, this helps avoid the consequences of someone not washing hands and practicing hand washing according to procedures. The most important domain in the formation of a person's behavior is knowledge. Experience and research have proven that things that are based on knowledge will be superior and more sustainable than actions that are not based on knowledge. Thus, it can be said that behavioral abilities can be increased based on good knowledge and behavioral abilities can be reduced based on poor knowledge (Mubarak, 2017).

CONCLUSION

Based on the results of research that has been carried out, with a sample size of 30 respondents regarding the level of knowledge of outpatients regarding the habit of washing hands with soap in preventing and controlling infections in hospitals, the results show that respondents with good knowledge and good behavior in terms of the habit of washing hands with soap as many as 20 respondents (90.9%), respondents with knowledge of good hand washing habits but bad behavior as many as 2 respondents (91.9%). So from the statistical test results, the p value = 0.000 ($\alpha < 0.05$). This shows that there is a relationship between the knowledge variable and the behavior of washing hands with soap.

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