

Health Education with a Leaflet and Demonstration to Improve the Implementation of Washing the Hands of Nurse

1st Sri Handayani

Nursing Department

STIKES Muhammadiyah Klaten

Jl Ir Soekarno Km 1 Buntalan 57419,

Klaten, Indonesia

handayani@stikesmukla.ac.id

2nd Chori Elsera

Nursing Department

STIKES Muhammadiyah Klaten

Jl Ir Soekarno Km 1 Buntalan

57419, Klaten, Indonesia

3rd N W Agustina

Nursing Department

STIKES Muhammadiyah Klaten

Jl Ir Soekarno Km 1 Buntalan

57419, Klaten, Indonesia

4th Hartini

Nursing Department

STIKES Muhammadiyah Klaten

Jl Ir Soekarno Km 1 Buntalan

57419, Klaten, Indonesia

Abstract—Hospitals are complex medical service units, as well as places to interact between patients, health workers, visitors and patient nurses. The existence of this interaction risks causing nosocomial infections. The practice of hand washing must be applied by everyone in the hospital environment to prevent the occurrence of nosocomial infections. The purpose of this study was to determine the effect of health education with leaflets and demonstrations on compliance with the implementation of hand washing on patient caregivers. The study design used quasi-experimental design with non-equivalent control group design. The experimental group was given health education with leaflets and demonstrations. Compliance with the implementation of hand washing was measured twice, namely before and after being given health education by means of observation. The study sample was 30 subjects. The sampling technique uses purposive sampling. The results showed that in the experimental group there was an increase in adherence to the implementation of hand washing in the patient's guardian at 60%, while in the control group it was 13.3%. The results of the chi square test obtained $p\text{value} = 0.035 < \alpha (0.05)$ which means that health education using leaflets and demonstrations can improve compliance with the implementation of hand washing of patient caregivers.

Keywords—Health Education, Hand Washing, Patient Caregivers?

I. INTRODUCTION

Infectious diseases related to health services is one of the health problems in various countries in the world, including Indonesia. In principle, infectious diseases can be prevented if health service facilities / hospitals consistently implement Infection Prevention and Control programs (Ministry of Health Republic of Indonesia, 2017). One of the infection prevention and control programs is the implementation of hand washing. Hand washing is an inexpensive and important routine to prevent the transmission of microorganisms in order to control transmission of infection (James, 2008). The implementation of hand washing must be applied to all elements of the hospital ranging from doctors, nurses,

administrative staff, patients, hospital visitors and patient caregivers. However, not all elements of the hospital carry out hand washing practices.

The study (Othman & Jonker, 2018) concluded that the average observed level of hand hygiene compliance was 45.7% (95% CI 37.1-54.3). Nurses have better compliance than doctors. The staff observed seemed more concerned about hand hygiene after contact with patients than before contact. Research (Bucher, Donovan, Ohman-Strickland, & McCoy, 2015) Overall, reported hand hygiene practices were poor among pre-hospital providers in all clinical situations. Researchers (Sanjeev, Dwidmuthe, & Dwidmuthe, 2016) concluded that the awareness and knowledge of preoperative surgical hand scrubbing was moderate in doctors, but unfortunately poor in HCWs. Research (Fauzia, Ansyori, Hariyanto, Pidie, & Medan, 2014) concludes that nurses' hand hygiene behavior is in accordance with hospital operating procedures standards by 36%.

Hand washing is not only applied to hospital medical personnel, but must also be applied to the patient's caregivers or hospital visitors. Patient's caregivers are one of the groups most at risk of infection, because they interact with patients the most. Infection can be transmitted from the patient to the health worker and from the patient to the Patient's caregivers or the patient's family. Research (Canti, Husodo, & Mustofa, 2016) on the Patient's caregivers at Dr Adyatma Tugurejo Hospital Semarang found 28.6% of respondents did not practice hand hygiene according to procedures. The results of the study (Erica & Simanjuntak, 2019) found the average number of hand bacteria of visitors to ICCU was 73.40 cells / cm², this condition could be an indication of infection transmission.

The implementation of hand washing on the patient caregivers is influenced by many factors, one of which is knowledge. Knowledge is a very important domain in shaping one's behavior. The results of the study (Mumpuningtias, Aliftitah, & Illiyini, 2017) concluded

that 60% of patients' families have less knowledge about handrubs. The study (Fajriyah, 2015) concluded that 17.9% of patient caregivers had less knowledge about hand washing antiseptic lotions. The results of the study (Canti et al., 2016) concluded that there was a relationship between respondents' knowledge and the practice of hand hygiene on the patient caregivers.

Health education is very important to provide a basic understanding of hand washing for the patient caregivers. In line with the research (Iskandar & Yanto, 2018), there was an influence of health education on the 6 step 5 moment hand washing behavior in patients' families. Health education can achieve maximum results if the methods used are in accordance with the objectives. The use of a combination of methods and media will greatly assist in the process of delivering information to the target.

Based on the description above, it is necessary to conduct research on the effect of handwashing health education using leaflets and demonstrations on the compliance of the implementation of hand washing in patient caregivers.

II. METHODS

We used a quasi-experiment with non-equivalent control group design in this study. The research sample of 30 people who are inpatients. The samples were chosen by using a purposive sampling method. Sample criteria are people who wait for patients for 2 consecutive days.

This study uses a questionnaire method to assess the knowledge of hand washing and observation methods to assess the implementation of patient caregivers hand washing. Hand washing can be done using a handrub, handwash or tap running water. Observation was carried out 3 times a day. Then on the following day the respondents of the experimental group were given a demonstration of health education on how to properly wash their hands and also given leaflets. While the control group respondents were only given leaflets. One day later the respondent was observed again to assess the implementation of hand washing. The results of the assessment of the implementation of hand washing before and after being given health education were analyzed using the Mc Nemar test. While the results of the assessment of the implementation of hand washing in the experimental group and the control group were analyzed using the chi-square test.

III. RESULTS

Respondents' knowledge about hand washing both the experimental group and the control group before being given health education was lacking. The results of the assessment of knowledge about hand washing are presented in table 1 below:

TABLE 1. RESPONDENTS KNOWLEDGE ABOUT HANDWASHING

Group	Knowledge	Pre		Post	
		f	%	f	%
Eksperimen	Well	0	0	0	0
	Enough	5	33,3	12	80
	Less	10	66,7	3	20
Kontrol	Well	0	0	0	0
	Enough	4	26,7	14	93,3
	Less	11	73,3	1	6,7

Mc Nemar test results concluded that there were differences in the implementation of hand washing before and after being given a combination of health education using leaflets and demonstrations, but there were no differences in the implementation of hand washing before and after being given leaflets. The analysis results are presented in table 2.

TABLE 2. WASHING HANDS BEFORE AND AFTER THE EXPERIMENT

Group	Pre	Post		Pvalue
		Obedient	Not obey	
Eksperimen	Obedient	5	0	0,004
	Not obey	9	2	
Kontrol	Obedient	6	0	0,5
	Not obey	2	7	

Chi-square test results concluded there is an influence of health education using leaflets and demonstrations on the implementation of hand washing on the patient caregivers. The analysis results are presented in table 3

TABLE 3. HANDWASHING OF THE EXPERIMENTAL AND CONTROL GROUPS

Group	Handwashing				Total		Pvalue
	Obedient		Not obey		f	%	
	f	%	f	%			
Eksperimen	14	93.3	1	6.7	15	100	0.035
Kontrol	8	53.3	7	46.7	15	100	
Total	22	73.3	8	26.7	30	100	

IV. DISCUSSIONS

Nosocomial infections contribute greatly to the high mortality rate of patients. Infection Prevention and Control is an effort to ensure protection of everyone against the possibility of contracting infection from public sources and while receiving health services at various health facilities. WHO launched a patient safety program to reduce the number of nosocomial infections (World Health Organization, 2002). WHO also created a Global patient safety safety program with clean care is safe care which is a strategy to promote handwashing in health workers (WHO, 2011). Transmission of nosocomial infections not only occurs in patients and medical staff, but also at high risk for hospital visitors and patient caregivers.

One effective way to cut off transmission of infection is by washing hands. Hand washing is an inexpensive and easy activity but is very effective in preventing the transmission of microorganism (James, 2008). The fact is that not everyone is aware of the

importance of washing hands. The results of the study found that before being given health education a patient caregivers in the experimental group was 66.7% disobedient to wash hands, whereas in the control group as much as 60%. The hand is a part of the body that is in contact with many objects and other people, so it is most vulnerable to be the intermediary of microorganism causing disease. These results are in line with research (Erica & Simanjuntak, 2019) that the bacterial count before the hand washing was 73.40 cells / cm², and the mean of bacterial counts after the hand washing was 12.50 cells / cm². The *Staphylococcus saprophyticus*, *Bacillus* sp. and *Staphylococcus epidermis* were also found at the visitors hands. One way to improve hand washing behavior is by providing health education.

Health education is a conscious effort to bring about changes in the behavior of healthy living both the community and social environment. Health education can achieve maximum results if the methods used are in accordance with the objectives. The use of a combination of methods and media is very helpful in the process of delivering information to the target. The results showed that health education using leaflets did not affect the implementation of patient caregivers hand washing. The results also found that compared to the leaflet method alone, education with leaflets and demonstrations changed the implementation of washing hands better.

Respondents given leaflets often do not read so they do not understand the contents of the leaflet. (Notoatmojo, 2003) states that leaflets are a type of extension media that is conducted in one direction only. Success rates are difficult to evaluate because participants are passive and only active educators. The results of this study are in line with the findings (Norviatin, Early, Adiguna, & Yudha, 2017) that the provision of leaflets cannot improve knowledge, attitudes, and behavior about diarrhea in mothers who have children under five in the work area of the Majalengka Health Center. In line with research (Iskandar & Yanto, 2018) that there is an influence of health education on the 6 step 5 moment hand washing behavior of patients' families at Roemani Muhammadiyah Hospital Semarang. Likewise, the conclusions of the study (Nuraida, Fauzie, & Purwanto, 2015) that counseling with lecture and demonstration methods change better knowledge, attitudes and skills in washing hands using soap.

V. CONCLUSIONS

Based on the results of the study it can be concluded that health education with leaflets and demonstrations can be used as a method to improve the implementation of washing the hands of patient caregivers.

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