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THE EFFECT OF EDUCATION WITH POSTER MEDIA ON INCREASING KNOWLEDGE OF HAND WASHING FAMILY OF INPATIENTS MEURAXA REGIONAL HOSPITAL, BANDA ACEH

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ABSTRACT

Hand washing is a process that mechanically removes dirt from the skin of the hands using soap and water. The research aims to determine the effect of education using poster media on increasing hand washing knowledge in families of inpatients at Meuraxa Hospital, Banda Aceh. Quantitative research design with a quasi-experimental design approach using the Pre-experimental method with one group pre-test post-test with family research subjects accompanying patients at Meuraxa Regional Hospital, Banda Aceh. The sampling technique used accidental sampling based on chance with a total of 94 people. The results of the level of knowledge before being given counseling were almost half sufficient, amounting to 41 (43.6%) and the total level of knowledge before being given counseling was mostly poor, amounting to 53 (56.4%) and the level of knowledge after being given counseling was mostly good, amounting to 57 (60.6%) and the level of knowledge after almost half of those providing counseling, amounting to 37 (39.4%) respondents. This research shows a significant p-value (0.000 < 0.05). Based on the results of the research above, it can be concluded that there is an increasing influence before and after providing counseling using poster media to the patient's family. This counseling is able to increase accuracy in washing hands according to the correct flow and procedures, this is due to clearer teaching. However, a small number of respondents have washed their hands but not properly, due to the age factor where respondents are aged 50-65 years, which is the beginning of old age, which means reduced ability to catch, so repeated explanations must be given . It is recommended for the patient's family to pay attention to procedures and steps for washing hands properly because this is the main thing to break the chain of spread of bacteria when in the hospital environment.

Keywords: *Education, Poster Media, Washing Hands*

INTRODUCTION

The Indonesian government is currently paying special attention to the incidence of nosocomial infections because cases of nosocomial infections in a number of hospitals in Indonesia show quite high numbers. The incidence of nosocomial infections indicates the low quality of health services. Nosocomial infections can occur considering that hospitals as health service centers are warehouses of infectious pathogenic microbes. On the other hand, health workers can also be a source, in addition to the patient's family who come and go, medical equipment and the hospital environment itself (Darmadi, 2018).

Hospitals are one of the public service facilities in the health sector that provide comprehensive services both promotive, preventive, curative and rehabilitative. While health education is a series of efforts aimed at influencing others, starting from individuals, groups, families and communities so that hand washing behavior is implemented (Erni, 2019). The number of nosocomial infections in Indonesia in 2018 was higher in general hospitals 23,223 out of 2,434,26 patients. While the number of infections in special hospitals was 297 patients out of 38,408 patients (Ministry of Health, 2020). Inpatient rooms with pediatric patients tend to have a higher risk of nosocomial infections, because when sick the child's immune system decreases coupled with invasive procedures in the child care process.

A prevalence survey conducted under WHO auspices in 55 hospitals from 14 countries representing four WHO regions (South-East Asia, Europe, Eastern Mediterranean and Western Pacific) revealed that, on average, 8.7% of hospital patients suffered from infections acquired in hospitals or other health facilities. At any given time, more than 1.4 million people worldwide suffer from complications of health-care-associated infections (WHO, 2019). According to Soeroso (2018) in developing countries including Indonesia, the average prevalence of nosocomial infections is around 9.1% with a variation of 6.1%-16.0%. A study revealed that washing hands can reduce the incidence of nosocomial infections by 20%-40%. However, the implementation of hand washing itself has not received a maximum response. In developing countries, failure to implement hand washing is often triggered by limited funds to provide hand washing facilities. However, when there are funds, the next obstacle that is actually most concerning is the lack of compliance to follow the procedure.

The incidence of nosocomial infections varies from one hospital to another. The number of nosocomial infections recorded in various countries ranges from 3.3% -9.2%, meaning that a percentage of patients treated are infected with nosocomial infections and can occur acutely or chronically. Health promotion education can improve knowledge, attitudes and handwashing behavior in families in hospitals. The use of lecture, demonstration and exercise methods can improve knowledge, attitudes and behavioral intentions of families about handwashing in hospitals. However, the use of poster media in the same study showed different results (Darmadi, 2018)

This nosocomial infection does not only affect patients, but can also affect all personnel in health services. Patients, health workers, visitors and patient attendants are groups at risk of nonsocomial infections, because these infections can be transmitted from patients to health workers, from patients to visitors or families or from officers to patients. Hand washing must be carried out in accordance with standard procedures to prevent the growth of germ microorganisms. Proper hand washing is in accordance with the six steps of hand washing and in accordance with the five moments of hand washing. The correct duration of hand washing using soap and running water is 40-60 seconds, if using handrub 20-30 seconds (Perdalin, 2019).

Studies in the United States show that the level of compliance of patient families in washing their hands is still around 50% and in Australia it is still around 65%. Similarly, the handwashing program at Cipto Mangunkusumo Hospital (RSCM) has been in place since 2012 but until now the compliance of patient families in washing their hands is only around 60%. This can be quite a challenge for the hospital infection control team to promote this handwashing program (Perdalin, 2019). Based on the results of a survey conducted by Triventiningtyas et al. (2021)

from a total of 325 patients in September with the same number for patient families, 290 or 70% of patient families at the Asoka Pavilion were not yet able to wash their hands properly.

According to WHO (2019), factors associated with nosocomial infections are: invasive procedures that damage normal barriers such as IV drips, overcrowded and understaffed rooms, antibiotic abuse, non-compliance with infection control regulations specifically for hand washing, and improper sterilization procedures. Meanwhile, Darmadi (2018) stated that one of the factors that plays a role in providing opportunities for nosocomial infections is as follows: intrinsic factors in patients (age, gender, general condition of the patient, risk of therapy, presence of other accompanying diseases and their complications). The impact of nosocomial infections causes losses due to emotional stress which can reduce the patient's ability and quality of life, the length of hospital care so that treatment costs increase, increased use of drugs, the need for patient isolation and increased need for supporting examinations and can cause death (Mariana, et al., 2019).

One of the methods used to prevent HAIs (nosocomial infections) is to implement universal precautions. One of the universal precautions is washing hands in hospitals. Fajriyah (2018) stated that a study showed that washing hands can reduce 20% -40% of the incidence of nosocomial infections, but the implementation of hand washing has not been responded to optimally. Several efforts have been made by hospitals to improve hand washing behavior, both in officers, facilities and patients/families. However, there are still obstacles, namely the lack of compliance to follow the procedure (Saragih & Natalina, 2020). According to Setiadi (2018), the health education learning process has the same goal, namely the occurrence of behavioral changes that are influenced by many factors, including educational targets, educational actors, educational processes and expected behavioral changes. The role of health education is expected to be one of the health interventions that can change one of the community's behaviors to wash hands using hand rub so that it can improve health levels.

Factors that influence visitor behavior towards infection prevention measures in the form of hand washing are individual characteristic factors (gender, age, type of work, level of education), psychosocial factors (attitude towards disease, stress, fear and perception of risk), management organization factors, knowledge factors, facility factors, motivation and awareness factors, place factors, and hand washing material factors on the skin (Tohamik, 2018). One of the most important efforts in preventing nosocomial infections is hand washing behavior because hands are the most efficient source of transmission for nosocomial infections. Facilities and posters on the steps to wash hands properly are available in every room in the Hospital, but based on survey results, it is known that there are still families who are reluctant to wash their hands for various reasons, including visitors admitting limited time used to wash their hands, patient conditions, and families stating that washing hands is something they feel is less practical to do. Conditions like this of course have an impact on the emergence of problems such as the occurrence of infection cases (Triventiningtyas et al., 2021)

Based on the results of the initial survey conducted on January 2, 2024, the total number of visitors to the Al-Bayan-2 Room was 1,611 male visitors in 2023. Meanwhile, the results of the initial observation showed that there were no hand washing facilities in the Meuraxa Hospital, Banda Aceh City.Based on the results of interviews with 7 families of patients, 5 families of patients out of 7 families of patients in the Al-Bayyan 2 room said they did not wash their hands before contact with patients and the hospital environment, 2 families of patients out of 7 families of patients said they washed their hands after contact with patients and the hospital environment, 1 family of patients out of 7 families of patients sat or rested on the patient's bed, 5 families of patients out of 7 families of patients said they used the same toiletries as the patient, 7 families of patients out of 7 families of patients threw garbage in the place provided, 5 families of patients out of 7 families of patients slept and stayed overnight in the patient's treatment room, 4 families of patients out of 7 families of patients brought children under the age of 12 when visiting the hospital, 7 people did not visit patients when their physical condition was not healthy, 5 families of patients out of 7 families of patients did not linger when visiting the hospital.

METHODS

The research design used in this study is quantitative research with a quasi-experimental design approach. This study uses the Pre-experimental method with one group pre-test post-test design. The study was conducted at the Meuraxa Banda Aceh Hospital on June 14 to July 02, 2024.The population in this study was the core family members accompanying patients at Meuraxa Regional Hospital, Banda Aceh, totaling 1,611 people. Determining the number of samples can be done by statistical calculations, namely by using the Slovin Formula. For the level of precision set in determining the sample is 10%. With a sample size of 94 respondents. The sampling method uses Accidental sampling, a sampling technique based on coincidence, namely anyone who accidentally or incidentally meets the researcher can be used as a sample. The knowledge indicator is to measure the extent of the patient's family's knowledge of the five moments of hand hygiene.

RESULTS AND DISCUSSION

Univariate Analysis

Table 1. Frequency Distribution Before and After Education Using Poster Media to Increase Knowledge in Patient Families at Meuraxa Regional Hospital, Banda Aceh

Before				**After**		
No	**Pre-Test**	**F**	**%**	**Post-Test**	**F**	**%**
1	Good	0	0	Good	57	60.6
2	Enough	41	43.6	Enough	37	39.4
3	Not enough	53	56.4	Not enough	**0**	**0**

Based on table 1 above, it can be seen that the number of respondents' knowledge levels before being given counseling was almost half sufficient, amounting to 41 (43.6%) respondents and the number of respondents' knowledge levels before being given counseling was mostly lacking, amounting to 53 (56.4%) respondents. And the number of respondents' knowledge levels after being given counseling was mostly good, amounting to 57 (60.6%) respondents and the level of respondents' knowledge after being given counseling was almost half sufficient, amounting to 37 (39.4%) respondents.

Bivariate Analysis

Table 2. *Normality Test Results with* Kolmogorov-Smirnov

Variables	***P value***	**Interpretation**
Before Providing Education	0.00	Not Normally Distributed
After providing education	0.00	Not Normally Distributed

Based on table 2, the results of the Normality Test with Kolmogorov-Smirnov concluded that the p-value before being given Education (α>0.000), and the value *p-value* After being given Education (α>0.000) it can be concluded that all variables are not normally distributed, so the test used is the Wilcoxon Signed Ranks Test.

Table 3. Differences Before and After Education is Given Using Poster Media to Improve Handwashing Knowledge in Patient Families

Level of knowledge	N	Mean rank	Min-max	z	*a*
Before	94	38.00	2-3	-7.770a	0.00
After	94	.00	1-2		

Based on table 3 above, the effect of using poster media on increasing handwashing knowledge in patient families before and after being given counseling using the Wilcoxn Signed Rank Test. with a mean rank value before being given counseling of 38.00 and after being given counseling of 0.00, a min-max value before being given counseling of 2-3 and after being given counseling of 1-2, a Z value of -7.770a and a significant value of 0.000.

Table 4. Wilcoxon Signed Rank Test Results Before and After Education

	After Education - Before Education
Z	-7.770a
Asymp. Sig. (2-tailed)	.000

Based on table 4 resultsWilcoxon Signed Rank Test before and after Education was given that Z count was -7.770a and significant at 0.001, this indicates that the significant value of 0.000 <0.05 (error level 5%). So it can be concluded that there is an influence before and after being given Education Using Poster Media on Increasing Handwashing Knowledge in Patient Families in the Inpatient Room of Meuraxa Hospital, Banda Aceh City.

Discussion

Based on table 4 resultsWilcoxon Signed Rank Test before and after Education was given that Z count was -7.770a and significant at 0.001, this indicates that the significant value of 0.000 <0.05 (error level 5%). So it can be concluded that there is an influence before and after being given Education Using Poster Media on Increasing Handwashing Knowledge in Patient Families in the Inpatient Room of Meuraxa Hospital, Banda Aceh City.

The results of this study are in line with the results of research conducted by Triventiningtyas et al. (2021) with the results of the study that the Wilcoxon statistical test obtained a significant number or probability value (0.000) which was much lower than the significant standard.□ 0.05 or (<□), because□< , which□This means that there is an influence of the demonstration method of health education on the implementation of hand washing by patient attendants at the Asoka Pavilion, Jombang Regional Hospital. Also supported by the results of research conducted by Ananingsih (2020), dividing the research into 4 observations, namely: before the intervention, cycle I was carried out with socialization using posters, in cycle II by conducting hand hygiene training, and in cycle III by conducting hand hygiene simulations. The results of the compliance observation showed a difference with before the intervention in cycle III, the results showed an increase in compliance with 5 hand hygiene moments from 0% before the intervention to 40.83% in cycle III.

The results of the study in the intervention group on poster media obtained 100% results getting a score of 30-40 from 10 attitude statement items, the most wrong answers were 7 about washing very dirty hands can use alcohol-based liquids and 9 about the use of alcohol-based liquids takes 40-60 seconds. This shows a change in student attitudes towards being more positive after being given education through poster media of 0.89. Likewise, the respondents accompanying patients at Meuraxa Hospital, Banda Aceh, had significant changes in behavior or attitudes before and after being given health education using poster media. According to Rosenberg's theory, known as the Affective Cognitive Consistency theory, it states that in order to change or form attitudes, it can be done through cognitive components and affective components. Through the cognitive component, namely by providing knowledge, opinions, attitudes or other things, so that the material will change the affective component and ultimately the attitude will change. Through the affective component, namely providing things about feelings or emotions, so that with changes in feelings, the cognitive aspect will also change, which will ultimately change the attitude (Ahmadi, 2020).

Another opinion was put forward by Azwar (2021), who said that the attitude-forming structure is supported by three components, namely cognitive, affective and conative components. The cognitive component contains a person's beliefs that come from what is seen or known. Based on this, ideas, concepts or perceptions are formed that can shape attitudes. In addition, emotional

reactions which are affective components are strongly influenced by beliefs which are cognitive components. Then the behavior that appears as a direct form is part of the conative component which was previously influenced by emotions and beliefs so as to form certain attitude patterns towards various objects faced. However, this is different from the results of the study conducted by Antika (2022) in the study on the Influence of Buzz Groups on Actions Before and After Being Given Handwashing Media Booklets and Posters with Soap with the results of the study in the intervention group on poster media, namely a p-value of 0.595. There was an insignificant increase in actions after being given intervention through poster media.

According to Azrul Anwar (2020) health education or health counseling is an educational activity carried out by spreading messages, instilling beliefs, so that people are not only aware, know and understand, but also want and can carry out recommendations related to health. Meanwhile, according to Effendy (2021) health education or health counseling is a combination of various activities or opportunities based on learning principles to achieve a state, where individuals, families, groups or society as a whole want to live healthily, know how and do what can be done individually or in groups and ask for help if necessary.

The extension media used by researchers is in accordance with Daryanto's opinion (2021) that posters are image media that combine visual elements such as lines, images and words to attract attention and communicate messages briefly. Thus, posters are not only important for conveying the latest impressions but are able to influence others to participate in activities or programs that can be expressed through posters.

According to the researcher's view, health education counseling for patient families using poster media is able to increase accuracy in washing hands according to the correct flow and procedure. This is because there is clearer and more concrete teaching and the teaching process is more interesting, but a small number of respondents have washed their hands but incorrectly. This is due to age factors where most respondents are 50-65 years old, which is the age of early elderly, which means reduced comprehension so that repeated explanations must be given.

CONCLUSION

Based on the results of the study on the Influence of Education Using Poster Media on Increasing Knowledge of Hand Washing in Patient Families in the Inpatient Room of Meuraxa Regional Hospital, Banda Aceh, the conclusions in this study are as follows:

The results of the statistical test using the Wilcoxon Signed Rank Test obtained p = 0.000. It can be concluded that there is an influence before and after being given education using poster media on patient families in the Inpatient Room of Meuraxa Hospital, Banda Aceh.

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The research location, the results of this study can be used as input or data source for the Meuraxa Banda Aceh Regional Hospital to further improve the knowledge of patient families in carrying out 6-step hand washing according to the procedure and further research, it is recommended that researchers pay attention to other factors that may influence the knowledge of patient families regarding proper hand washing.

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