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Implementation of Five Moments of Hand Hygiene in the Inpatient Wards of Aceh Government General Hospital

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Abstract

Every healthcare facility must implement and organize patient safety by developing a service system that applies patient safety standards and six patient safety targets. Five moments of hand washing is one of the efforts to prevent infection in healthcare facilities. Hand hygiene significantly influences patient safety in health care, but not all implementations have been optimal. This case study aimed to describe the implementation of five moments of hand hygiene in the inpatient wards of the Aceh Government General Hospital (RSUD). A quantitative type with a cross-sectional approach with a sample of 28 nurses was

employed. The data collection tool used an observation sheet to implement five moments of hand hygiene based on the hospital's Standard Operating Procedure (SOP). Data analysis used descriptive statistical tests. The results showed that most nurses (57.1%) in the Aceh Government General Hospital inpatient wards had not implemented the five moments of hand hygiene. It is recommended that the first-line manager and Team Leader in the inpatient wards continuously monitor and evaluate the implementation of Five Moments of Hand Hygiene according to the SOP to create safe nursing services for patients and nurses.

Keywords: Five Moments, Hand Hygiene, Nurse

1. Introduction

According to Indonesian Law Number 44 of 2009 concerning hospitals, a hospital is a health service institution that provides comprehensive individual health services, including inpatient, outpatient, and emergency services. Hospitals are required to provide optimal services to the community ^[16]. Nursing services are 24-hour and continuous, with many nursing staff in various hospital work units. Law Number 44 of 2009 concerning Hospitals states that "every patient has the right to obtain security and safety while being treated in a hospital"^[2]. According to the Regulation of the Minister of Health of the Republic of Indonesia Number 26 of 2019, nursing is an activity of providing care to individuals, families, groups, or communities, both in healthy and sick conditions, because nurses carrying out nursing practices must continually improve the quality of service by following developments in science and technology through education and training by their field of duty ^[12]. Health services in hospitals are provided to patients by a multidisciplinary team, including a nursing team ^[14]. Patient safety is a priority in health services that are full of risks. One of the risks faced is the risk of infection transmission due to health care. Illnesses that become more severe due to infection require longer treatment times, so hospitalization increases and requires more costs. Severe cases of infection can even result in death. One of the efforts to prevent infection transmission and reduce the number of Healthcare-Associated Infections (HAIs), according to the World Health Organization (WHO), is to provide Hand Hygiene Guidelines for Health Workers. Good hand hygiene practices can reduce the spread of infections that threaten patients' lives in healthcare facilities. Research conducted by WHO found that according to its rules, handwashing can reduce nosocomial infections by up to 40% ^[18]. Hand washing guidelines and hand antisepsis were published by the Association for Professionals in Infection Controls (APIC) in 1988 and 1995. Then, in 2009, WHO issued a Global Patient Safety Challenge by Cleaning Care is Safe Care, which includes a formulation of strategic innovation in the application of hand hygiene for medical and health workers with My Five Moments for Hand Hygiene ^[5]. Health workers have a high risk of transmitting pathogens through the hands; a study in 40 hospitals reported the compliance of health workers who performed hand hygiene before and after the patient varying between 24% to 89% (an average of 56,6%).

Hand hygiene is a globally important health problem, and actions that do not require a lot of money and practice to minimize the incidence of infection and the spread of antimicrobial resistance in all series ranging from advanced health systems to primary health care centers [10]. Although hand hygiene is a straightforward action, compliance with hand hygiene among health workers is less than 40% [9].

Every health service facility must perform patient safety by forming a service system that applies patient safety standards, patient safety goals, and seven steps toward patient safety. Five Moments of Handwashing One of the Efforts to Infection Prevention Control (IPC) in Health Service Facilities. Hand hygiene services considerably influence patient safety in health services [18]. Nurses are human resources that provide color to health services in hospitals; in addition to their primary quantity, nurses also represent a profession that offers continuous and sustainable services to clients 24 hours a day [11]. Washing hands is one of the most effective steps to break the transmission chain infection and reduce nosocomial infections [15].

WHO states that effective hand hygiene involves health awareness, indications, and when to do hand hygiene. There are "Five Mome" where health workers must do hand hygiene, including before contact with the patient, before performing aseptic actions, after exposure to the patient's body fluids, after contact with the patient, and after contact with the patient's environment [3]. Hand hygiene, according to WHO, is a term for cleaning the hands of microorganisms by cleaning hands using running water and antiseptic soap or alcohol hand rub [15]. Antiseptic is a chemical that aims to prevent the multiplication of microorganisms on the body's surface by inhibiting metabolic growth and activity and killing microorganisms [5].

Standard Operational Procedures (SOP) in the inpatient wards of the Aceh Government General Hospital related to five moments of hand hygiene, namely: before contact with the patient, before the aseptic action, after being exposed to blood and body fluids, after contact with the patient, after contact with the environment around the patient. In November 2021, there were 23 incidents of nosocomial infections at Banda Aceh Regional General Hospital. Therefore, nurses have an essential role in reducing the number of infections that can occur in the hospital by utilizing the knowledge and skills of nursing practices to facilitate patient recovery while minimizing complications related to infections in patients. Based on the research results in the inpatient wards of Banda Aceh Regional General Hospital, only four respondents (25%) have carried out five moments of hand hygiene in carrying out various nursing actions at Banda Aceh Regional General Hospital [13]. Based on the results of the discussion with the nurses' head and the results of observations related to implementing the Five Moments of Hand Cleanliness, some still do not apply them. This writing aims to discover "How to implement the Five Moments of Hand Cleanliness in the Inpatient Wards of the Aceh Regional General Hospital."

2. Methods

The type of quantitative case studies used a cross-sectional study design. Data collection was accomplished in April 2024 in the inpatient wards of the Aceh Government Regional Hospital with 28 nurses as a sample using an observation sheet developed based on Hospital SPO. Data

analysis using descriptive statistical tests presents data in the form of frequency distribution.

3. Results

The results of case studies are as follows:

Table 1: Demographic Frequency Distribution of Nurses

Characteristic	f	%
Age:		
26-35 years	21	75
36-45 years	7	25
Gender:		
Female	18	64,3
Male	10	35,7
Education:		
Vocational Nurse	17	60,7
Professional Nurse	11	39,3

Table 1 shows that 75% of nurses in the inpatient wards are 26-35 years old, 64.3% are female sex, and 60.7% have a nurse vocational education.

Table 2: Frequency Distribution of Five Hand Hygiene Moments

Statements	Assessment result			
	Yes		No	
	f	%	f	%
Nurses perform hand hygiene using antiseptic soap under running water or alcohol-based hand rubs before contact with patients	12	42,9	16	57,1
Nurses perform hand hygiene using antiseptic soap under running water or alcohol-based hand rubs before aseptic procedures.	13	46,4	15	53,6
Nurses perform hand hygiene using antiseptic soap under running water or alcohol-based hand rubs after contact with blood and body fluids.	26	92,9	2	7,1
Nurses perform hand hygiene using antiseptic soap under running water or alcohol-based hand rubs after patient contact.	26	92,9	2	7,1
Nurses perform hand hygiene using antiseptic soap under running water or using alcohol-based hand rubs after contact with the patient's surroundings.	14	50,0	14	50,0

Based on Table 2, it is indicated that of the nurses in the inpatient wards, 57.1% did not do hand cleanliness before contacting with patients, 53.6% did not do hand cleanliness before aseptic actions, 92.9% did hand cleanliness after being exposed to blood and body fluids, 92.9% did hand cleanliness after contacting with contact with patients, and 50.0% did not do hand cleanliness after contact with the patient's environment.

Table 3: Frequency Distribution of Hand Hygiene Implementation Five Moments

Category	f	%
Applied	12	42,9
Not applied	16	57,1

Table 3 shows that 57.1% of nurses in the inpatient wards did not implement five moments for hand hygiene.

4. Discussion

Hand washing is one of the most effective efforts in preventing nosocomial infections. Hand washing is an application to eliminate microorganisms and temporary dirt using various techniques, such as water, soap, or hand sanitizer^[8]. Compliance is divided into three categories: full compliance, partial compliance, and non-compliance. Full compliance is a condition in which the nurse consistently and consistently does what is recommended; partial compliance is when nurses sometimes follow the advice and sometimes do not, and non-compliance is when nurses leave suggestions and recommendations^[10].

Low levels of hand washing among health workers could increase morbidity, mortality, and hospital financing. Awareness of the importance of washing hands in the health service environment has become a global concern. Health services are the most vulnerable environment for spreading various microorganisms. Health workers' activities in accomplishing their profession are always in contact with body fluids, contaminated equipment, and direct contact with the patient's body. Therefore, health workers are very at risk of contracting or becoming a medium to transmit the pathogen^[8].

Based on the Minister of Health Regulation of the Republic of Indonesia Number 27 of 2017 concerning Guidelines for Infection Prevention Control in Health Service Facilities to support efforts to protect patient safety by preventing and reducing the risk of transmission of infection. Infection Prevention Control was implemented with standard vigilance. One of the standards of vigilance that must be carried out is hand hygiene^[18].

Five Moments of washing hands before contacting the patient was critical because washing hands at this moment could maintain the patient's safety and reduce the germs carried by the nurse's hands. Yet, the reality in the field was that many nurses were still ignoring hand washing at that moment. It was caused because the nurse had not yet cultivated hand hygiene before contacting patients who only focused on dealing with patients, so nurses did not do hand cleanliness first and assumed the risk was small because most of the actions taken by non-invasive only replaced the infusion fluid. If hand cleanliness at the first moment is not done frequently, the risk of patient contamination could increase^[6].

Some nurses did not comply with implementing the five moments of hand washing before doing the aseptic actions because they had worn gloves with the assumption that they were already protected. Hence, the nurses felt they did not need to implement hand hygiene at this moment^[6]. WHO explained that using gloves could not be a reason not to wash hands. With the nature of medical gloves that were not permanent and could be damaged at any time, washing hands before taking aseptic actions was one of the beneficial actions to prevent the transmission of bacteria and germs from nurses to patients or vice versa^[17]. In line with the results of observations in the application of hand hygiene before the aseptic action, the results are "not applied" with a percentage of 75^[1].

Nurses assumed that wearing gloves would interrupt the chain of spreading infection. However, hand cleanliness should still be done before wearing gloves because germs can still come out of the gloves through the gaps in the wrist or gloves contaminated by the bacteria in the hand when they want to wear gloves. Therefore, gloves could not

replace hand hygiene^[7]. The implementation of the cleanliness of the hands of health workers on indications after exposure to the patient's body fluids was 87.5%. This figure showed that exposure to the patient's body fluids indicated the highest level of compliance. Most health workers did hand clean only when their hands were in direct contact with the patient's body fluids when they did not wear gloves^[4].

It was caused by the high awareness of nurses that hand hygiene could play a role in preventing nosocomial infections. The more frequent hand cleanliness for this third moment, the less risk of germ contamination from patients^[6]. Nurses wash their hands after exposure to body fluids, and patients understand the consequences of not washing their hands. The nurses were also aware of the importance of hand washing because it was one of the most effective steps in breaking the transmission chain infection so that the incidence of nosocomial infections could be reduced. In addition, the nurse also said that she was afraid if she did not wash her hands for fear of contracting the disease suffered by the patient^[15].

Hand hygiene after contacting with the patient was done because most nurses cared more about themselves, therefore nurses did hand cleanliness after contacting with the patient for fear of being exposed and contracting diseases that can cause infection to the nurse^[6]. The nurse completed hand hygiene after contacting the patient due to awareness of the nurse herself. Then, the nurse also said that she feared contracting the disease from the patient and considered the importance of one of the preventions of cross-infection by washing hands^[15].

After contacting the environment around the patient, health workers considered the absence of dangerous germs or pathogens in their hands because they did not touch the patient or expose themselves to the patient's body fluids. However, germs were also attached to the patient's environment, such as Nurses who washed their hands after contacting the environment knew the importance of washing hands because it can prevent cross-infections. However, there were still nurses who, after contacting the patient's environment, did not wash their hands because they forgot or did not wear gloves, which was also adequate^[15].

5. Conclusions

In general, 57.1% of nurses did not apply the implementation of Five Moments of Hand Cleanliness in the inpatient wards of the Aceh Government General Hospital. Furthermore, 57.1% of nurses did not clean their hands before contact with patients, 53.6% of nurses did not do hand cleanliness before aseptic actions, 92.9% of nurses did hand cleanliness after being exposed to blood and body fluids, 92.9% of nurses did cleanliness hands after contact with the patient, and 50% of nurses did not clean hand after contact with the environment around the patient.

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