

## Compliance In The Implementation Of Hand Hygiene Activities By Nurses At Siti Khodijah Muhammadiyah Hospital, Sepanjang Branch–Sidoarjo

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### ABSTRACT

Compliance with hand hygiene activities is an important aspect in maintaining patient health, preventing the spread of nosocomial infections, and improving nursing clinical practice standards. This study aims to analyze the level of compliance with the implementation of hand hygiene activities by nurses in several inpatient service units. This research method uses a quantitative descriptive approach involving a sample of nurses from several inpatient rooms. Data was collected through direct observation of the practice of 5 moments of hand hygiene as well as a questionnaire regarding compliance procedures for implementing hand hygiene activities. The results of the study showed that the level of compliance with the implementation of the 5 moments hand hygiene activities among inpatient room nurses was 94% for the moments before carrying out aseptic procedures, with almost all service units achieving a high level of compliance. Meanwhile, the moment before contact with the patient was 87%. Factors that influence compliance include knowledge, attitudes, accessibility of hand hygiene facilities, available time, and organizational culture. This research provides deeper insight into the obstacles faced by nurses in maintaining compliance with the implementation of hand hygiene activities. The results of this research can be used as a basis for developing interventions aimed at increasing and maintaining compliance with the implementation of hand hygiene activities, including training, supervision and facility improvements

## INTRODUCTION

Hospital nosocomial infections are one of the main causes of death and increased morbidity in hospitalized patients. Nosocomial infection is usually meant as an infection that occurs while being treated in hospital. This infection can cause increased patient morbidity and mortality, lengthen the length of treatment, and increase the financial burden on the health care system. Five moments hand hygiene is a program carried out by WHO to overcome nosocomial infections. WHO also created a global patient safety challenge program with clean care is safe care, which is a strategy to promote hand washing among health workers (World Health Organization, 2011). Hand hygiene is one of the simplest and most effective measures to prevent the spread of infection in the care environment. Nurses who adhere to hand hygiene practices can reduce the risk of cross-contamination between patients, medical equipment and the hospital environment. Even though it is important, compliance with hand hygiene implementation among nurses often still needs to be monitored.

The World Health Organization (WHO) data report states that the prevalence of nosocomial infections in hospitalized patients in high-income countries ranges from 3.5% to 12%. The prevalence of incidence in developing countries ranges between 5.7% and 19.1%; and the prevalence rate in Indonesia is 7.1% (Umboh, F.J., Doda, D.V., Kandou, G.D., 2017). This problem has become a global concern because of the increasing incidence of infections occurring in hospitals. Based on data from the CDC (Centers for Disease Control and Prevention) in 2015, there were 722,000 cases of HAIs in a year and 75,000 cases of infection were caused by a lack of awareness of washing hands. It is estimated that 70% of health workers and 50% of health teams do not wash their hands regularly.

The way to avoid the risk of nosocomial infections in hospitals and prevent harm to patients resulting from errors by medical, paramedical or non-medical staff is to wash your hands five times (MOH RI, 2010b). Hand washing is an important thing to do, especially before and after contact with patients, to reduce the risk of nosocomial infections. The knowledge that nurses gain when receiving education and when attending training on infection control supports compliance with 5-moment hand washing. Motivation from nurses can also increase compliance in implementing the 6 steps for washing hands properly and correctly with five moments. Based on research conducted in Taiwan (Lai et al., 2018) regarding the implementation that can be done to increase compliance with five moments hand hygiene is through an educational program based on previous research in several hospitals in neighboring countries which illustrates the effectiveness of hand hygiene which can reduce the transmission of infections and adding equipment related to the implementation of the 5 moments of hand hygiene, such as providing portable handrub that can be carried by nurses at all times. Washing hands during nursing procedures is the most effective way to prevent nosocomial infections in the hospital environment. The health workers most vulnerable to infection transmission are nurses because they accompany patients 24 hours a day. Nurses play a large role in contributing to the prevention of nosocomial infections (Boyce, 2013). HAIs occur due to the transmission of

pathogenic microbes originating from the hospital environment, which is one of the causes of various diseases originating from sufferers, health workers and the environment. This disease germ can live and reproduce in the hospital environment such as air, patient body fluids, medical and other non-medical objects (Darmadi, 2008). Transmission of this infection occurs through the hands of health workers or other personnel to patients. The results of research on Hand Hygiene in Hospital: Anatomy of a revolution (Vermeil et al., 2018) reveal that to reduce the high incidence of HAIs in hospitals and antimicrobial resistance, good and correct hand hygiene is required.

## **LITERATURE REVIEW**

Nurses as health workers who care for patients 24 hours a day must have good knowledge about the five moments of hand hygiene and great motivation to carry it out. Good knowledge and great motivation are strong tools for reducing the transmission of infection through hand hygiene and compliance with the implementation of actions is also influenced by the level of knowledge and motivation of a nurse. Compliance with hand hygiene implementation among nurses is influenced by various factors. Several factors that can influence the level of compliance include awareness of the importance of hand hygiene, availability of hand washing facilities, hospital policies and regulations, nosocomial infection risk management policies, and work culture in the care unit. This research is about compliance with the implementation of hand hygiene activities among nurses, which is very important to improve this practice in the health care environment. By understanding the factors that influence compliance and identifying effective solutions, we can reduce the risk of nosocomial infections and improve patient safety.

## **METHODOLOGY**

Of the total sample observed, 94% performed hand hygiene before carrying out aseptic procedures. Meanwhile, the moment of washing hands after being exposed to the patient's body fluids and after contact with the area around the patient was 92% and 90%. Moments before contact with patients and after contact with patients were 87% and 88% who complied with the 5 moments of hand hygiene activities appropriately. The level of compliance of nurses who carry out hand hygiene is relatively good. Analysis of factors influencing compliance shows that the level of experience and training received by nurses is positively correlated with the level of compliance. In addition, awareness of the importance of hand hygiene is also an important factor influencing compliance, with those who have a better understanding of the risk of nosocomial infections tending to be more compliant. In addition, the availability of adequate hand washing facilities in treatment units plays an important role in increasing compliance.

Table 1. Compliance with the 5 Moments Hand Hygiene Activities

<b>Compliance with the 5 Moments Hand Hygiene Activities</b>	<b>Percentage</b>
Before touching a patient	87 %
Before a procedure	88 %
After a procedure or body fluid exposure risk	92 %
After touching a patient	94 %
After touching a patient's surroundings	90 %

Table 1. shows that the level of nurse compliance at each moment is still not perfect or reaches 100%. There were 94% who carried out aseptic procedures beforehand, this percentage was the highest achievement among all hand washing moments. Meanwhile, the smallest percentage was the moment before contact with the patient, namely 87% who carried out proper hand hygiene moments.

Apart from observing the 5 moments of hand hygiene, nurses' compliance with hand hygiene activities was also assessed. Hand hygiene activities consist of 12 steps. The accuracy of hand hygiene steps is presented in Table 2.

Table 2. Accuracy of Hand Hygiene Activity Steps

<b>Accuracy of Hand Hygien Activity Step</b>	<b>Frequency</b>	<b>Percentage</b>
Wet your hands with water		100 %
Apply enough soap to cover all hand surfaces		100 %
Rub hands to palm		100 %
Lather the backs of your hands		96 %
Srub between your fingers		94 %
Rub the backs of fingers on the opposing palms		89 %
Clean thumbs		86 %
Wash your fingernails and fingertips		87 %
Rinse hands		100 %
Dry hands disposable towel		100 %
Use the towel to turn off the faucet		96 %

Table 2. shows that the nurse has not carried out all hand hygiene steps appropriately. There are still 7 steps that have not yet reached 100%, namely; (1). rub your back and between your fingers, (2). rub the palms of the hands and between the fingers, (3). interlocking fingers, (4). rub thumbs in circles, (5). rub the fingertips in circles in the palm of the hand, (6). use a towel to close the water tap and (7). perform all procedures in 40-60 seconds. Of the rest, there are 5 steps for washing hands that have reached 100%.

## **RESULTS AND DISCUSSIONS**

TingHigh levels of compliance with hand hygiene among nurses is a serious concern in managing the risk of nosocomial infections. This shows the need for continuous monitoring measures to promote compliance in order to maintain service quality and maintain discipline in washing hands. The finding that the level of experience and training is positively correlated with compliance shows the importance of maintaining nurses' behavior regarding the importance of performing quality hand hygiene in providing care to patients. These results underline the importance of educating nurses who are not yet optimal in performing hand hygiene regarding the risk of nosocomial infections and their impact on patients. Awareness campaigns can help increase their understanding. The availability of adequate handwashing facilities in care units is an important factor in improving compliance. Management must ensure that these facilities are always available and easily accessible

## **CONCLUSIONS AND RECOMMENDATIONS**

This research shows that the level of compliance with hand hygiene activities among nurses is quite high. This compliance is an important factor in reducing the risk of nosocomial infections and improving patient safety in health facilities. It is hoped that the implementation of monitoring measures based on the findings of this research will have a positive impact in minimizing the risk of nosocomial infections in the health care environment

Based on these findings, it is recommended to implement the following strategies:

1. Increase supervision and accountability related to the implementation of hand hygiene.
2. Regularly measure compliance and provide feedback to nurses and other healthcare professionals.
3. Carrying out awareness campaigns about the risks of nosocomial infections through various media.
4. Ensure the availability of adequate hand washing facilities in all health facilities.

## REFERENCES

- Azis, MF (2019). Description of Nurses' Compliance in Implementing Correct Hand Washing in the IGD RSUD Padangsidempuan City. <https://repository.unar.ac.id/jspui/handle/123456789/1224>
- Chung BP, et al 2015: "Hand Hygiene Compliance and Associated Factors among Nurses in Hong Kong Public Hospitals"
- Inxon RE, et al. 2016: "Improving Hand Hygiene Compliance among Healthcare Workers: An Interdisciplinary Approach at a Large Academic Medical Center"
- GHaribi F, et al. 2018: "Factors Affecting Hand Hygiene Compliance among Nurses: An Integrative Review"
- Mahmoudi H, et al. 2017: "Hand Hygiene Compliance and Associated Factors among Nurses: A Cross-Sectional Study in Western Iran"
- Nair H, Holmes A, et al. 2020: "Hand Hygiene Compliance among Healthcare Workers in Intensive Care Units: A Multicenter Study"
- Regional General Hospital Dr. Soetomo. 2021. Dr. Hospital Infection Control Guide. Soetomo: in Surabaya, Indonesia.
- ToIndonesian Minister of Health. 2017. Guidelines for Infection Prevention and Control in Health Care Facilities. Regulation of the Minister of Health of the Republic of Indonesia Number 27 of 2017. Ministry of Health of the Republic of Indonesia. Jakarta.
- ToIndonesian Minister of Health. 2017. Hospital Patient Safety. Regulation of the Minister of Health of the Republic of Indonesia Number 11 of 2017. Ministry of Health of the Republic of Indonesia. Jakarta.