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The Relationship Between Knowledge and Handwashing Habits in Private Clinics in Bandung Regency

Siti Uswatun Hasanah[1]*

[1)]Farmasi, Sekolah Tinggi Farmasi Indonesia

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*Corresponding author
Email :
sitiuswatunhasanah@stfi.ac.id

Abstract

Infections related to health service activities according to the World Health Organization (WHO) are infections that occur among medical personnel and patients around health facilities, whether hospitals or clinics, during care activities or while carrying out activities in health services. Direct contact between patients and health workers or vice versa is the most common transmission. Infection control is very important. One easy way to control infection is to always maintain hand hygiene. This service activity was carried out at one of the private Pratama clinics in the Bandung Regency area. The service activity begins with observing and taking samples of hand washing habits, then continues with providing material related to hand washing habits. As a final stage, an assessment was carried out regarding the impact of exposure to the material for 3 months. Compliane with hand washing at one of the private Pratama Clinics in the Bandung Regency area experienced a very significant increase, from 85.5% to 100%. This is influenced by awareness of the importance of washing hands and the alertness of clinic owners to consistently provide hand washing facilities and infrastructure.

Keywords: Handwashing, Compliance, Clinic

INTRODUCTION

Healthcare-Associated Infections (HAIs) as defined by the World Health Organization (WHO), are infections that occur among medical personnel and patients within healthcare facilities such as hospitals and clinics, during treatment or health service activities. The most common route of transmission is through direct contact between healthcare workers and patients, or vice versa (Beggs et al., 2006). Globally, the prevalence of HAIs reached approximately 1.4 million in 2021, contributing to nearly 50,000 deaths annually in several countries (Tietjen et al., 2016).

Mila (2019) reported that non-compliance with hand hygiene contributed to 76% of HAI occurrences, improper use of personal protective equipment (PPE) accounted for 82%, and sharing rooms with infected patients contributed 23% to the transmission rate. In West Java Province, the incidence of acute respiratory infections (ARI) reached 24.73% in 2013 (Riskesdas, 2013). Bandung City itself reported a 14.26% incidence rate of ARI, ranking it as the most common illness in local community health centers (Dinkes, 2011). Diarrheal cases in West Java also exceeded the national average, with 23% reported in Bandung in 2012 (Dinkes, 2012).

One of the simplest and most effective ways to reduce the incidence of ARI and diarrheal diseases is consistent hand hygiene. Infection control is a critical aspect of healthcare delivery. Hand hygiene, specifically handwashing with soap and running water, effectively removes dirt, dust, and microorganisms from the skin (Umaroh, Hanggara, & Choiri, 2016). Proper handwashing practices have been proven effective in preventing diseases such as diarrhea, cholera, ARI, intestinal worms, influenza, hepatitis A, and avian flu (Rachmayanti, 2009). Mila (2019) further highlighted that washing hands with soap and running water can eliminate up to 90% of contaminants and significantly reduce the incidence of HAIs.

Hand hygiene is one of the five key components in promoting a culture of safety within healthcare organizations, requiring active participation from healthcare workers, management, and patients alike (McGuckin & Govednik, 2013). Various interventions have been implemented in health facilities to improve hand hygiene compliance, including regular education, improvement of handwashing infrastructure, and ongoing evaluation. These efforts play an essential role in infection control, especially among healthcare professionals. Supporting this, Canti (2017) found a strong correlation between the availability of handwashing facilities and handwashing practices.

METHOD

This community engagement activity was conducted at a private primary healthcare clinic (Clinic X) located in the Bandung Regency area, during the period of June to September. The program began with direct observation and sampling of handwashing habits among healthcare workers and staff. This initial phase was followed by an educational intervention, which included a structured presentation on proper hand hygiene practices, particularly emphasizing the six steps of handwashing as recommended by health authorities.

The final stage of the program involved an impact assessment of the educational intervention after three months of implementation. This was carried out by conducting structured observations and collecting hand hygiene practice samples, with a total of 200 samples evaluated monthly throughout the duration of the program.

Sampling points were strategically selected within the clinic, including the registration desk, each outpatient unit (emergency unit, general practice, dental unit), and the pharmacy installation. A trained observer was assigned to each point of observation, equipped with a standardized checklist form to ensure consistent data collection and assessment.

DISCUSSION

The community engagement initiative began with obtaining formal permission from the owner of the private clinic. Following approval, observations and sampling of hand hygiene practices were conducted. The results revealed a handwashing compliance rate of 85.5%, indicating that hand hygiene practices within the clinic had not been implemented optimally. Only certain professional groups, such as nurses and physicians, consistently performed hand hygiene. Handwashing was generally limited to specific occasions, such as upon entering the clinic or following patient interaction, particularly among clinical staff.

This finding highlighted the need for enhanced knowledge dissemination and reinforcement of the importance of hand hygiene, particularly regarding critical moments when handwashing should be practiced. Educational sessions were conducted by gathering all clinic personnel and presenting material on the significance of hand hygiene, alongside instruction on key handwashing moments. In addition to the theoretical presentation, all staff members were guided through a practical session to recall and perform the correct handwashing procedures. An image of this session is presented in Figure 1.

The combination of material presentation and hands-on practice served as a skill development strategy aimed at fostering habitual behavior rooted in knowledge—commonly referred to as the "knowledge age" (Mardhiyah, Fajriyah, Chitta, & Zulfikar, 2021). Furthermore, educational interventions in the form of knowledge delivery play a vital role in shaping individual behavior, reinforcing positive attitudes, and enhancing message retention (Notoadmodjo, 2010).

The standard handwashing procedure followed the World Health Organization (WHO, 2009) protocol, which includes: removing jewelry or accessories, wetting hands under running water, applying soap to the palm, rubbing hands together to create lather, scrubbing the back of the hands, between fingers, fingertips, thumbs using a rotational motion, and rinsing thoroughly with running water. These steps were visually summarized in a poster, which was placed above each sink within the clinic to serve as a consistent reminder for staff members to follow proper handwashing procedures.

Gambar 1. Pemaparan Materi Terkait Kebiasaan Mencuci Tangan yang Baik

The use of soap during handwashing plays a crucial role in effectively removing bacteria and viruses that can cause various diseases, particularly those related to the digestive system (such as diarrhea) and respiratory tract (such as COVID-19) (Septarini, 2015). Handwashing with soap and clean water is more highly recommended than using alcohol-based hand sanitizers. Soap and water are more effective in removing not only a greater number of bacteria, but also dust, chemical residues, and other contaminants. Certain pathogens that cause diarrhea—such as

Norovirus, Clostridioides difficile, and Cryptosporidium—can be effectively removed with soap, but not with alcohol-based hand sanitizers (Munisih et al., 2022). Previous studies have demonstrated significant differences in bacterial counts between handwashing with soap and the use of alcohol-based sanitizers. The bacterial count was lower when soap was used (3.5 CFU/cm²) compared to alcohol-based hand sanitizers (8.17 CFU/cm²) (Desiyanto & Djannah, 2013).

The results of post-intervention sampling—after the educational session on proper handwashing techniques and key moments for hand hygiene—showed a significant improvement. The initial observation indicated a handwashing compliance rate of 85.5%. Following the education session, compliance increased to 100% and was sustained over a three-month period. The increase in compliance is illustrated in Figure 2.

Initially, the relatively low compliance rate of 85.5% was influenced by factors such as time constraints and the desire to rush through the handwashing process. These factors often result in negligence or reluctance to wash hands properly (Notoadmodjo, 2010).

The observed improvement in hand hygiene compliance was attributed not only to educational interventions but also to the enhancement of infrastructure and facilities. These included the consistent availability of hand soap near sinks, tissue paper for drying hands, uninterrupted access to clean running water, and strategically placed handwashing stations near clinic entrances, the pharmacy, general and dental outpatient departments, and the emergency unit. The adequacy of facilities each month is presented in Figure 3. Additionally, instructional posters illustrating the correct handwashing steps were displayed near each sink to reinforce the practice.

A previous study highlighted the importance of administrative support, including training, active participation from the Infection Prevention and Control (IPC) committee, provision of adequate hygiene supplies, and regular feedback to staff. Such measures were shown to improve handwashing compliance from 22% to 61% (Rosenthal, McCormick, Guzman, & Villamayor, 2003).

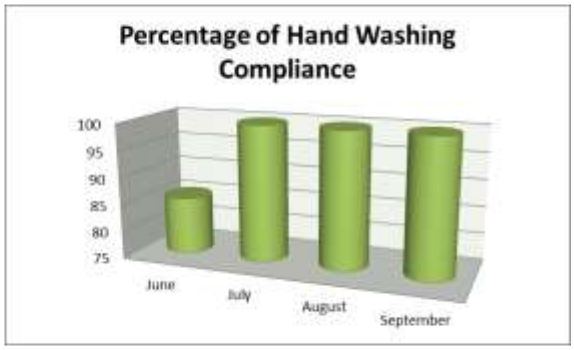
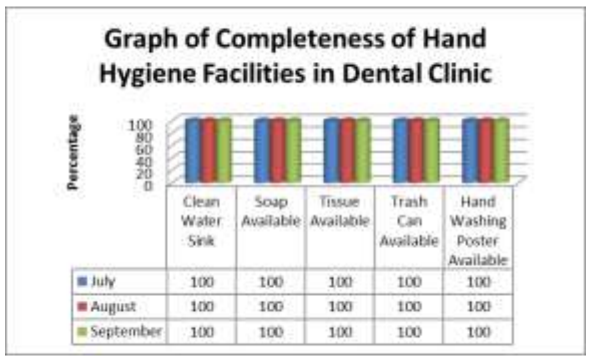
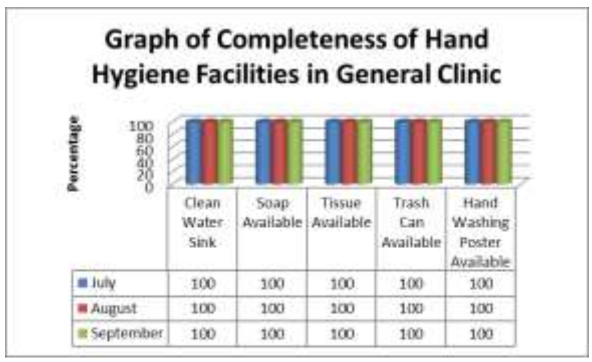


Figure 2. Percentage of Hand Washing Compliance

Hand hygiene practices must be recognized as a critical component of infection prevention and should be consistently implemented in all healthcare settings. Clinics, as potential sources of infection, require heightened attention to this basic preventive measure. Proper and routine handwashing is a simple yet effective action to prevent the transmission of infectious diseases. For healthcare workers—such as doctors, nurses, and pharmacists—hand hygiene is mandatory due to their frequent direct contact with patients. To support this, the World Health Organization (WHO) has established five key moments for hand hygiene: before and after patient contact, before aseptic procedures, after exposure to bodily fluids, and after contact with the patient's surroundings (World Health Organization, 2009).





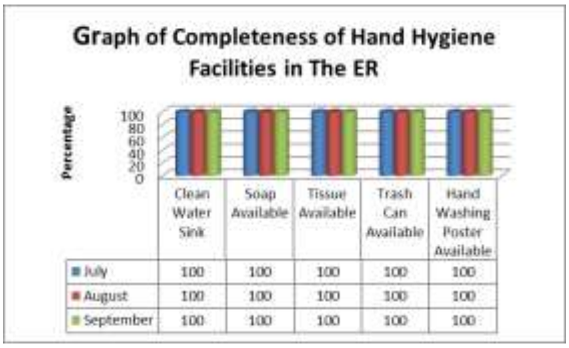


Figure 3. Graph of completeness of hand washing facilities and facilities

CONCLUSION

At a selected private primary clinic in Bandung Regency, handwashing compliance demonstrated a significant increase—from an initial rate of 85.5% to 100%. This improvement was sustained over a period of three months. The increase in compliance is attributed to both the heightened awareness of the importance of hand hygiene among healthcare personnel and the consistent commitment of clinic management to ensure the availability of adequate handwashing facilities and supplies.

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