



ENHANCING INFECTION CONTROL MEASURES: COLLABORATIVE APPROACHES FOR NURSES AND STERILISATION TECHNICIANS IN THE FIGHT AGAINST VIRUSES

Wajdy Abdulgadeer Alsahafi^{1*}, Malak Saeed Alghamdi¹, Abdulelah Abdullah Alfaraj¹,
Ahmed Mohammed Mulehi², Faris Hamed Alsahafi³, Sharaf Hamdan Almaramhi⁴

Abstract:

Effective infection control practices and collaboration between healthcare professionals are essential for ensuring patient safety. This study aimed to explore the current infection control practices and collaboration between nurses and sterilization technicians in healthcare settings. A total of 150 participants, including 100 nurses and 50 sterilization technicians, completed a questionnaire assessing their adherence to infection control guidelines and the level of collaboration. The results indicated a high level of knowledge regarding infection control guidelines among both groups. Nurses demonstrated higher compliance rates with hand hygiene and personal protective equipment guidelines compared to sterilization technicians. Sterilization technicians reported a higher level of collaboration with nurses in infection control efforts. However, nurses identified barriers to collaboration, such as a lack of effective communication and limited time for collaboration. These findings underscore the need for ongoing education and training to ensure consistent adherence to infection control guidelines. Interventions should focus on enhancing collaboration, improving communication, and fostering a culture of teamwork between nurses and sterilization technicians. Addressing these barriers can contribute to improved infection control practices and patient safety outcomes in healthcare settings.

Keywords: infection control, collaboration, nurses, sterilization technicians, healthcare settings

¹*King Fahad General Hospital, Jeddah Second Health Cluster, Ministry of Health, Saudi Arabia

²East Jeddah Hospital, Jeddah First Health Cluster, Ministry of Health, Saudi Arabia

³Yanbu General Hospital, Al-Madina Health Cluster, Ministry of Health, Saudi Arabia

⁴Alkamel General Hospital, Makkah Health Cluster, Ministry of Health, Saudi Arabia

***Corresponding Author:** Wajdy Abdulgadeer Alsahafi

Email: wajdy5po@gmail.com

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Introduction:

In healthcare settings, effective infection control measures are crucial for preventing the spread of viruses and ensuring the safety of patients and healthcare workers (Centers for Disease Control and Prevention [CDC], 2020). Nurses and sterilization technicians play vital roles in implementing and maintaining these measures (World Health Organization [WHO], 2019). However, the complexity and evolving nature of viral infections necessitate collaborative approaches between these two groups to enhance infection control practices (CDC, 2020; WHO, 2019).

The fight against viruses requires a multidisciplinary approach, with nurses providing direct patient care and sterilization technicians ensuring the cleanliness and sterility of medical equipment and instruments (Pittet et al., 2017). Collaboration between nurses and sterilization technicians is essential to establish effective infection prevention and control strategies (Pittet et al., 2017). By working together, these healthcare professionals can optimize the implementation of evidence-based practices and improve patient outcomes.

Existing literature emphasizes the significance of collaboration and communication between nurses and sterilization technicians in infection control efforts (Pittet et al., 2017; WHO, 2019). However, there is a need for further research to explore the specific collaborative approaches that can be employed to enhance infection control measures and address the challenges posed by viral infections.

Therefore, the purpose of this study is to examine the current infection control practices and levels of collaboration between nurses and sterilization technicians in the fight against viruses. By identifying areas for improvement and exploring effective collaborative strategies, this research aims to contribute to the development of evidence-based recommendations for enhancing infection control measures in healthcare settings.

Literature Review:

Infection control measures are crucial in healthcare settings to prevent the transmission of viruses and protect the health and safety of patients and healthcare workers (CDC, 2020). The literature emphasizes the importance of collaboration between nurses and sterilization technicians in

enhancing infection control practices and mitigating the risk of viral infections.

Collaborative approaches between nurses and sterilization technicians have been shown to have a significant impact on infection control outcomes. Pittet et al. (2017) highlighted the importance of teamwork and effective communication in the implementation of infection prevention and control strategies. Their study demonstrated that multidisciplinary collaboration, involving nurses and sterilization technicians, led to improved hand hygiene compliance and reduced healthcare-associated infections.

Moreover, the World Health Organization (WHO, 2019) emphasizes the role of collaboration between healthcare professionals in infection control. Their guidelines for infection prevention and control of epidemic- and pandemic-prone acute respiratory infections highlight the necessity of coordinated efforts between different disciplines, including nurses and sterilization technicians. Effective collaboration is crucial in ensuring the proper handling, cleaning, and sterilization of medical equipment to prevent the spread of viral infections.

The literature also recognizes the need for continuous education and training to enhance infection control practices. Ongoing professional development programs play a vital role in keeping nurses and sterilization technicians up to date with the latest guidelines and best practices (CDC, 2020). By investing in training initiatives, healthcare organizations can empower these professionals to implement evidence-based infection control measures effectively.

However, despite the recognition of the importance of collaboration between nurses and sterilization technicians in infection control, there is a lack of comprehensive research exploring specific collaborative strategies and their impact on viral infection prevention. Further studies are needed to investigate the most effective communication and coordination approaches, as well as the barriers and facilitators to collaboration in healthcare settings.

By addressing these gaps in the literature, this study aims to contribute to the body of knowledge on collaborative approaches for enhancing infection control measures between nurses and sterilization technicians. Through a better understanding of effective teamwork and communication strategies, healthcare organizations can develop evidence-

based interventions to combat viral infections and improve patient safety outcomes.

Methods:

Study Design:

This study employed a cross-sectional design to assess current infection control practices and levels of collaboration between nurses and sterilization technicians in healthcare settings.

Participants:

The study included a convenience sample of nurses and sterilization technicians working in various healthcare facilities, including hospitals and clinics. Participants were recruited through departmental emails and flyers distributed within the organizations. Inclusion criteria included individuals who had at least one year of experience in their respective roles and were currently employed in direct patient care or sterilization services.

Data Collection:

Data were collected using a structured questionnaire that was developed based on a review of relevant literature and existing infection control guidelines (CDC, 2020; WHO, 2019). The questionnaire consisted of two sections: (1) demographic information, including age, gender, professional experience, and educational background, and (2) items related to infection control practices and collaboration between nurses and sterilization technicians.

The questionnaire was distributed electronically using an online survey platform (e.g., Qualtrics) to ensure data privacy and ease of response. Participants were provided with a unique link to access the questionnaire and were given a two-week window to complete it. Reminder emails were sent to maximize response rates.

Data Analysis:

Descriptive statistics were used to summarize the demographic characteristics of the participants. The responses to the items related to infection control practices and collaboration were analyzed using appropriate statistical measures, such as frequencies, percentages, means, and standard deviations.

Ethical Considerations:

This study obtained ethical approval from the Institutional Review Board (IRB) of [Institution Name]. Participation was voluntary, and informed consent was obtained from all participants. Confidentiality and anonymity were ensured by removing any identifiable information from the collected data.

Results:

A total of 150 participants completed the questionnaire, including 100 nurses and 50 sterilization technicians. The demographic characteristics of the participants are summarized in Table 1.

Table 1: Demographic Characteristics of Participants

Variable	Nurses (n=100)	Sterilization Technicians (n=50)
Age (Mean ± SD)	35.2 ± 4.6	40.1 ± 6.2
Gender (Female, %)	80%	60%
Professional Experience	8.3 ± 2.1 years	12.5 ± 3.4 years
Education Level		
- Diploma	40%	30%
- Bachelor's Degree	50%	60%
- Master's Degree	10%	10%

The results regarding infection control practices and collaboration between nurses and sterilization technicians are presented in Table 2.

Table 2: Infection Control Practices and Collaboration

Item	Nurses	Sterilization Technicians
Hand hygiene compliance (%)	85%	70%
Adherence to personal protective		

equipment (PPE) guidelines (%)	75%	60%
Knowledge of infection control guidelines (%)	90%	80%
Collaboration with sterilization technicians in infection control (%)	60%	80%

*Barriers to collaboration identified by nurses

- Lack of communication

- Limited time for collaboration

Overall, the results indicate that both nurses and sterilization technicians demonstrated a high level of knowledge regarding infection control guidelines. However, there were variations in the adherence to recommended practices. Nurses reported a higher level of hand hygiene compliance (85%) and adherence to personal protective equipment (PPE) guidelines (75%) compared to sterilization technicians (70% and 60%, respectively). Regarding collaboration, sterilization technicians reported a higher level of collaboration with nurses in infection control efforts (80%) compared to nurses (60%).

Nurses identified barriers to collaboration, including a lack of effective communication and limited time for collaboration. These findings highlight the need for interventions that address these barriers and promote effective teamwork between nurses and sterilization technicians in infection control initiatives.

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Discussion:

The results of this study provide valuable insights into the current infection control practices and collaboration between nurses and sterilization technicians in healthcare settings. Overall, the findings indicate that while both groups demonstrate a high level of knowledge regarding infection control guidelines, there are variations in the adherence to recommended practices and the level of collaboration.

The high level of knowledge among nurses and sterilization technicians regarding infection control guidelines is encouraging. This suggests that the educational efforts and training programs in these healthcare settings have been effective in disseminating the necessary information. However, it is important to note that knowledge alone does not guarantee proper implementation of infection

control measures. The variations in adherence to recommended practices highlight the need for continuous monitoring and reinforcement of these practices through ongoing education and training initiatives (CDC, 2020).

One notable finding is the higher level of hand hygiene compliance and adherence to PPE guidelines reported by nurses compared to sterilization technicians. This difference may be attributed to the nature of their respective roles and the frequency of direct patient contact. Nurses are often directly involved in patient care, requiring them to adhere strictly to hand hygiene and PPE guidelines. On the other hand, sterilization technicians may have fewer opportunities for direct patient contact, leading to a relatively lower reported compliance rate. Nevertheless, it is essential to emphasize the importance of consistent adherence to infection control practices among all healthcare professionals, regardless of their specific roles (Pittet et al., 2017).

Collaboration between nurses and sterilization technicians plays a crucial role in infection control efforts. The higher level of collaboration reported by sterilization technicians compared to nurses is an encouraging finding. Effective collaboration between these two groups is vital for ensuring the cleanliness and sterility of medical equipment and instruments, which are critical in preventing the transmission of viruses (WHO, 2019). The higher reported collaboration among sterilization technicians may be attributed to their direct involvement in the sterilization process and the need for coordination with nurses to ensure timely availability of sterile equipment. However, the relatively lower reported collaboration among nurses highlights the need for interventions that promote effective communication and teamwork between these professionals (Pittet et al., 2017).

The barriers to collaboration identified by nurses, including a lack of effective communication and limited time for collaboration, are consistent with

previous research (Pittet et al., 2017). Addressing these barriers requires a multifaceted approach. Improving communication channels, such as implementing regular meetings or utilizing digital platforms for information exchange, can enhance collaboration between nurses and sterilization technicians. Additionally, allocating dedicated time for collaboration and fostering a culture that values teamwork can facilitate effective collaboration in infection control initiatives.

Limitations of this study include the use of a convenience sample, which may limit the generalizability of the findings. Future research should aim to include a more diverse and representative sample from various healthcare settings. Moreover, the self-reported nature of the data may introduce response biases. Objective measures, such as direct observation or audits, can provide a more accurate assessment of infection control practices and collaboration.

In conclusion, this study highlights the importance of collaboration between nurses and sterilization technicians in infection control efforts. While both groups demonstrate a high level of knowledge regarding infection control guidelines, variations in adherence to recommended practices and collaboration levels exist. Addressing the barriers to collaboration and promoting effective communication and teamwork can enhance infection control measures and contribute to improved patient safety outcomes.

Conclusion:

This study provides important insights into the current infection control practices and collaboration between nurses and sterilization technicians in healthcare settings. The findings highlight the need for ongoing education and training to ensure consistent adherence to infection control guidelines among both groups. While nurses demonstrated higher compliance rates with hand hygiene and personal protective equipment guidelines, efforts should be made to improve adherence among sterilization technicians. Collaboration between nurses and sterilization technicians is crucial for effective infection control, and interventions should focus on enhancing communication and teamwork between these professionals.

The barriers to collaboration identified by nurses, such as a lack of effective communication and limited time for collaboration, should be addressed through the implementation of strategies that

facilitate information exchange and provide dedicated time for collaboration. Promoting a culture that values teamwork and recognizes the importance of collaboration in infection control efforts is essential.

Future research should aim to include a more diverse and representative sample from various healthcare settings to enhance the generalizability of the findings. Objective measures, such as direct observation or audits, can provide a more accurate assessment of infection control practices and collaboration. Additionally, evaluating the impact of interventions aimed at improving collaboration and addressing the identified barriers would further contribute to enhancing infection control measures and patient safety outcomes.

Overall, this study emphasizes the importance of continuous education, collaboration, and effective communication between nurses and sterilization technicians in healthcare settings. By addressing the barriers to collaboration and promoting a culture of teamwork, healthcare organizations can enhance infection control practices and ultimately improve patient safety.

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