

Handwashing

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Nurses must use safe practices in a healthcare setting to protect their patients. The primary source of contamination spread is from the hands of healthcare providers (Toney-Butler & Gasner, 2022). Hand Hygiene deserves to be a top priority in healthcare institutions due to the critical nature of such a simple act. Even though hand hygiene seems so easy at first, it is also easily forgotten; washing one's hands could mean the difference between an early discharge or an untimely death due to nosocomial infection. Our patients should be the priority of our work, so handwashing is an essential part of nursing. Handwashing is one of the most basic fundamentals of the nursing profession.

Literature Review

Hand Hygiene-Related Clinical Trials

A lack of proper hand hygiene compliance directly correlates with numerous infections and death worldwide. Especially with the current state of the world, the importance of hand hygiene is constantly encouraged amongst individuals. This comprehensive systematic review related to hand hygiene in the clinical setting found that "there was a consensus that hand hygiene is the most effective way to prevent healthcare-associated infection" (Clancy et al., 2020). Overcoming the challenges of adhering to hand hygiene protocol has been a mission that dates back to the 1900s. Hand hygiene guidelines were first developed in the early 1980s by the US Centers for Disease Control and Prevention to control the hospital environment and prevent specific nosocomial infections (Clancy et al., 2020). Handwashing offers excellent rewards in preventing illness with the short time it takes to complete it. This journal article highlights the importance of healthcare professionals adopting this simple habit to protect patients and their health (Clancy et al., 2020). To combat this, in 2018, it was reported that there was a "sustained

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improvement of hand hygiene compliance and reduction of nosocomial infections after initiation of a hygiene promotion program involving educational posters and increased access to alcohol-based hand rub in University of Geneva Hospitals" (Clancy et al., 2020).

The University of Geneva Hospitals saw an increase in compliance because the posters and increased access to alcohol-based hand rub served as a consistent reminder to health care professionals about the need to perform hand hygiene. This article mentions that in 2008, the World Health Organization introduced the 'Clean Care is Safer Care' to improve hand hygiene compliance among healthcare workers (Clancy et al., 2020). These are all deeds that have significantly impacted improving hand hygiene over time. This article highlights the need for better hand hygiene throughout healthcare facilities by increasing the availability of alcohol-based hand hygiene products, different educational methods and tools for staff, and verbal and written reminders and performance feedback. Authors mention that the coronavirus disease 2019 has emphasized the importance of hand hygiene (Clancy et al., 2020). Due to this, facilities increase access to hand hygiene products, stations, and observations. Also, new protocols continuously develop over time to help raise awareness and improve compliance with hand hygiene. If nursing fails to access this line of reasoning, this will implicate an increase in infection within the health care setting. With this, all health care professionals must be compliant with hand hygiene and encourage their patients to do so.

Hand Hygiene Knowledge and Compliance in Student Nurses

It is essential to educate and encourage student nurses to comply with hand hygiene guidelines in clinical settings. Being that hand hygiene is "one of the critical outcomes in nursing education ensuring nursing students recognize the what, when and how of hand hygiene is critical in the light of the increasing rates of healthcare-associated infections" (Labrague et al.,

2017). Nursing students must practice correct hand hygiene in doing so, and they will develop a good habit of doing so when they are on their own in a professional setting. Students learn that handwashing is the least expensive measure to prevent infections, especially in an environment where patients already have a weakened immune system. This article highlights the compliance and knowledge among nursing students about hand hygiene. From the systematic review findings from articles published from 2006 to 2016, the primary databases revealed a low to moderate understanding of and compliance with hand hygiene among nursing students (Labrague et al., 2017). The findings also revealed that "there were significantly higher rates of hand hygiene compliance in nursing students when compared to medical students" (Labrague et al., 2017). The primary assumption underlying the author's thought was that nursing students are not well-informed about the importance of hand hygiene. The authors mention that the reasoning for this finding was due to the role of nursing educators. They highlighted that nursing educators need to enforce hand hygiene competence amongst nursing students. Many may view this judgment as unfair. Some may argue that educators cannot be present with each student at all times. Others may say that it is a skill practiced in both a classroom and clinical settings, requiring students to check off this skill. Failing nursing students' compliance with hand hygiene can be detrimental to patients' health. The authors concluded their research finding by encouraging "hospital and nursing administrators [to] continuous support and monitoring to guarantee that hand hygiene programs are institutionalized in every healthcare setting by every healthcare worker" (Labrague et al., 2017).

Reduction of Nosocomial Infections in the Intensive Care Unit Using an Electronic Hand Hygiene Compliance Monitoring System

Hand-hygiene compliance is a critical safety measure that reduces the spread of disease and healthcare-acquired infections (HAIs) in hospital settings. Hand hygiene and HAIs impact patient care and the institution by causing longer recoveries and unnecessarily taking up hospital resources. A study conducted a quality improvement project to improve hand-hygiene compliance by implementing an electronic hand-hygiene compliance monitoring and reminder system, comparing it to traditional observation methods (Akkoc et al., 2021). Both traditional and electronic methods took place over two consecutive two-month blocks. Incidences of HAIs in those monitored with electronic observation were significantly less than those reported by the group monitored by conventional methods (Akkoc et al., 2021). Implementing an electronic monitoring system also reduced central line-associated bloodstream infections and incidences of ventilator-associated pneumonia (Akkoc et al., 2021). Quality improvement efforts toward hand hygiene compliance acknowledge nurses' threat when they neglect to wash their hands or use the antibacterial gel before and after each patient encounter. Through evidence-based practices, teams can develop new monitoring systems to aid in quality improvement regarding the standard of care.

Hand-Hygiene and Environmental-Disinfection Interventions in Settings With Children

The goal of practicing hand hygiene is to maintain health while simultaneously preventing the spread of disease. Bacteria is the primary cause of infection, and our hands act as agents of contamination to the rest of our bodies. By disinfecting our hands, we can personally prevent infectious diseases. Education on hand hygiene is a primary prevention method that is strongly encouraged in public health starting as young as elementary school, hoping that they

will take what they learned home to influence family behavior changes. Behavior changes such as practicing proper hand hygiene are the ultimate intervention measure. Practicing good hand hygiene is the most cost-effective way to prevent illness and halt reinfection cycles (Staniford & Schmidtke, 2020).

Comparative Efficacy of Interventions to Promote Hand Hygiene in Hospital

The cost-effective nature of hand hygiene is highly beneficial to healthcare organizations, professionals, and patients alike. A lack of hand hygiene compliance causes extended hospital stays and increased medication use, ultimately translating into increased costs for continued patient care (Luangasanatip et al., 2018). Hand hygiene can contribute to a significant decrease in methicillin-resistant *Staphylococcus aureus* infections that can invade the bloodstream of patients. The reduction in *Staphylococcus aureus* infections alone would make up for procurement, logistic, and time costs related to implementing basic hand hygiene protocols. Hand hygiene is a cost-effective practice where the benefits outweigh the cost at even a 10% compliance rate.

Case Study

Adhering to hand hygiene guidelines involves actively cleaning the hands with either soap and water or an alcohol-based rub before touching a patient, before and after procedures, after body fluid exposure, after touching a patient, and their surroundings (Clancy et al., 2020). As nursing students eagerly begin their first semester of clinical, they become highly aware of hand hygiene practices among peers and staff, both good and bad practices. Despite the stress on the importance of hand hygiene to decrease nosocomial infection, there has been a lack of compliance in many clinical settings (Cai et al., 2020). Through this case study, the aim is to "explore the impacts of visibility and accessibility of alcohol gel-based hand sanitizer dispensers

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(HSDs) on healthcare workers' hand-hygiene (HH) behaviors" (Cai et al., 2020). During my third semester of clinical on the medical-surgical unit, I accompanied a newer nurse with roughly a year of experience working in the medical field.

The first thing that sparked my attention when observing her when we were doing our morning rounds in each patient's room was her compliance to hand hygiene. I noticed almost insistently that she would use the alcohol-based rub outside the patient's room before entering a patient's room and leaving. Despite her new experience in the medical field, she valued the importance of hand hygiene to prevent spreading infections to patients, staff, and visitors. She displayed her appreciation for hand hygiene by encouraging patients to wash their hands after using the restroom and before meals. We had an older male patient whose breakfast tray had arrived on the unit. The patient required moderate assistance with eating, and I observed the nurse reminding and encouraging the patient to use hand sanitizer before eating. I was overall very impressed with the way the nurse upheld the importance of hand hygiene, not only with herself but also amongst her patients. Throughout the medical-surgical unit at this particular hospital, I noticed alcohol-based rubs visibly located just outside the patient's door and within their room. There was also a sink nearby with hand soap placed where there were guidelines on how to perform handwashing.

Throughout my third semester clinical, I observed that all the nurses complained about hand hygiene, primarily due to the access to hand hygiene tools throughout the unit. Patient safety is one of the competencies of Quality and Safety Education for Nurses. Hand hygiene is a basic yet fundamental practice that health care professionals can incorporate into their routine to maintain patient safety and prevent infection. The primary issue that arises with hand hygiene is the lack

of adherence. I visualized nurses' compliance to hand hygiene and evidence-based research through this case study.

Synthesis

Practice

The best and preferred nursing practices for practicing proper hand hygiene are rinsing the hands with running water, rubbing the hands together with soap to create a lather, and scrubbing hands betwixt the digits and under the nails for at least 20 seconds rinse hands under running water. Nurses encourage handwashing frequently throughout the day to promote decontamination. Proper hand hygiene is a simple but effective method of reducing incidents of infection, especially during the Covid-19 pandemic (Hillier, 2020).

Education

The current guidelines for educating staff about patient care or nursing practice related to proper hand hygiene are educating the patient on how germs can spread, the essential times to wash their hands, and the appropriate steps to perform hand hygiene. People are the primary agents for spreading germs, whether person-to-person or surface-to-person. By empowering clients with the knowledge of germ transmission and engaging them to take their health literally into their own hands, clients are more likely to participate in proper hygiene practices (Choong et al., 2021). To minimize the spread of germs, hand washing after touching the eyes, nose, or mouth is critical in remaining healthy. It is also vital to wash hands before eating and after leaving a public place or using the toilet. Twenty seconds of handwashing with soap and water is essential for proper hand hygiene.

Research

The priority for further study from a nursing perspective regarding handwashing is how to improve patient participation after education. Visual reminders may increase patient involvement and encourage proper hand hygiene behaviors. Nurses can enhance patient participation when clients are made aware of microbial transmission due to irregular hand washing, the importance of proper hand hygiene, and the correct procedures. Some tertiary tools to reaffirm the teachings would be visual reminders such as posters, leaflets, or videos that showcase the importance of hand hygiene and the proper procedures (Martos-Cabrera et al., 2019).

Conclusion

Hand hygiene is a fundamental step in preventing infection in hospital settings and performing nursing care. Education on hand hygiene techniques, compliance education and compliance protocols, and hand hygiene monitoring are evidence-based practices that guide nurses in their line of work to control the spread of infection. Evidence-based practices are protocols and guidelines based on research rather than opinion and create standards of care.

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