# Hand washing: healthcare-acquired infection prevention research proposals example...

Health & Medicine, Disease

\n[toc title="Table of Contents"]\n

\n \t



\n[/toc]\n \n

## Abstract:

The safety of the healthcare providers, and that of their clients, remains to be of uttermost importance. Thus, there is a need to draw close attention towards saving the lives of healthcare workers and those who dwell within the hospital facility through knowledge increase of the advantages of hand hygiene. This study takes into account some recent researches in connection to hand hygiene and the infections that may come about when the pathogens and the bacteria within the surface of the skin is not washed away. As there are about 2 million people who get infected every year, it is vital to implement protective measures of health intervention acts, to prevent the incidence of infection and contamination.

It is said that almost 800 microorganisms can cause zoonotic infection to humans, making way for about 2 million people to get infected every year

(Saiman et al., 2014, p. S30). Bacteria can be transmitted through any type of medium and for any medical setting. Still, it occurs mostly through the contaminated hands of the medical staff, and the others who work and stay within the hospital. It is therefore best to always wash hands by using clean water or alcohol-based hand rubs, to avoid the transmission of bacteria and pathogens. Members of the nursing staff are required to follow these recommendations, as it will save the lives of people, especially those who are vulnerable to diseases and infections.

This report highlights the ways in which infection spreads and become diseases, so that the public has to be educated well, on the protective measures that will gear towards safe and secure healthcare delivery. Infection can always be prevented through health interventions, such as hand washing, which will attain safe, conducive environment and good health by implementing contact-and-barrier precautions that would prevent contamination.

## Purpose of the Study

The purpose of this study is to relay the protective measures of health intervention acts, such as hand washing, in the prevention of infections and diseases. If the public is educated well on the advantages of cleanliness and good hygiene, there will be less infections and diseases within the society, and less contamination in food, water, and air. This is vital to the public and not just to the healthcare industry. By knowing the advantages of hand washing and good hygiene, there will be enhancement of service consciousness, plus “ timely identification, prevention, and control of high-

risk factors of hospital-acquired infection" (Zhang, 2015, p. 3757). With this, there is a great need to enhance the rates of disinfection and sterilization, since incomplete hand washing can contribute to about 30% of hospital-acquired infections (Zhang, 2015, p. 3757). This study should then be conducted, as it would lessen the overall rate of healthcare-associated infections or HAIs concurrently.

Based on the latest HAI Prevalence Survey, the top five infections in 2014 fall on the following diseases: first is pneumonia; second is gastrointestinal illness; third is urinary tract infection; fourth is primary bloodstream infection; and fifth is surgical site infection from inpatient surgery (Magill et al., 2014, p. 1199). By 2014, the overall number of people suffering from healthcare-associated infections amount to 721, 800 (Magill et al., 2014, p. 1199); and they will still continue to rise unless preventive measures are implemented.

## Research Question

The study will cut through the three levels of significance: (1) the theoretical significance; (2) the award significance; and (3) the practical significance. This means that first, the study shall expose the researcher into a learning experience by accumulating knowledge for application in this and other studies. Second, it shall play a significant role in the drive for education, to instill academic excellence in the field of nursing. Third and final, it will iron out the key issues related to infection, to come up with suggestions and/or solutions for the improvement of healthcare delivery in the hospital setting. To address the ill effects of the failure to hand wash, it is important to come

up with an answerable clinical question following the PICO Model: patient, intervention, comparison, and outcome. This leads to evidence-based care by finding the right information for better decision making.

The PICO-formulated research question, which is an answerable clinical question, allows one to efficiently find the best evidence, and critically evaluate the evidence based on its validity and usefulness. The PICO-formulated research question will be:

## Population: the people entering the healthcare facility

Intervention: hand rubbing with waterless, alcohol-based solution

Comparison: as effective as standard hand washing with antiseptic soap

Outcome: reducing hand contamination

PICO Question: For people entering the healthcare facility, is hand rubbing with waterless, alcohol-based solution, as effective as standard hand washing with antiseptic soap for reducing hand contamination?

## Importance to Nursing

Nursing agents usually get in touch with sharp, hazardous objects that may be the cause of spreading bacteria and infections to other vulnerable agents. They deal with bacteria directly inside the hospital facility, which makes them one of those who are most vulnerable to catching or spreading infections. Even other people within the hospital vicinity can have numerous opportunities for contamination, such as dealing directly with environmental surfaces and equipment like the PFT equipment, exam tables, and high-touch objects (e. g., doorknobs). With this, hand washing and the use of alcohol-based solution mean a great deal, as it would ensure appropriate

environmental cleaning and disinfection, as well as good hygiene and increased sanitation. In 2007, there were about 1. 7 million healthcare-associated infections for every year, as stated by the Centers for Disease Control and Prevention; but this increased by about 15% after 7 years to about 2 million (Magill et al., 2014, p. 1199). To lessen this scale, hand hygiene should be administered to hospital agents and other agents within the hospital sector, so that there is less opportunities for infection and contamination.

## Review of Literature

In the World Health Organization or WHO, the aim should center on being able to prevent the occurrence and spreading of infections. For this, Zhang (2015) conducted a study that aims " to explore the effect of standardized teaching ward rounds in clinical nursing on preventing hospital-acquired infection" (p. 3753). They presumed that standardized teaching improves the abilities and skills of the nurses in the hospital ward by increasing their knowledge on infection and the precipitation of bacteria. Based on the study that Zhang (2015) conducted, infection prevention was seen to have an important role in the Standard Precautions, as it expanded the knowledge and enhanced infection control procedures. This led Zhang (2015) to study 240 nursing students in totality: 120 nursing students for the control group and 120 nursing students for the experimental group (Zhang, 2015, p. 3753). In the end, the study proved that " standardizing clinical education during the teaching ward round is an important step for clinical nursing education" (Zhang, 2015, p. 3757). This highlighted improved knowledge of the nursing

staff in terms of hygiene tactics and procedures, for the prevention and control of infection and the spreading of bacteria.

Meanwhile, prevention and control of health care-associated infections may be insisted through improved hand hygiene. This is according to the study that Mathai et al. (2010) conducted, wherein they were able to prove the role of hands in the transmission of healthcare-associated infections. This should be insisted during routine patient-care activities, as it is at this time that pathogens reside within the hands, since the flora of the skin is usually composed of bacteria residing long-term in superficial cells within its surface. Based on the study, the staphylococcus epidermidis appears to be the predominant species, with a very high resistance to oxacillin, especially for healthcare workers (Mathai et al., 2010, p. 101). This transient flora includes bacteria, fungi, and viruses that are acquired through direct skin contact or through contact with contaminated environmental surfaces, although they can be recovered from the skin for a short period of time. For this, it is important for them to wash or disinfect their hands immediately before they become temporarily resident and so, would multiply within the skin surface. This is commonly associated with healthcare-associated infections, which can only be prevented through hand hygiene procedures.

This is likewise the aim of Purva Mathur (2011), when he conducted a study to indicate “ one of the simplest, low cost but least accepted form of infection prevention: hand hygiene” (p. 611). In the study, Mathur (2011) insisted that hand hygiene is now regarded as “ one of the most important element of infection control activities” (p. 611). It can significantly reduce the risk of infection when in contact with healthcare facilities, especially for

healthcare workers, who are usually in contact with contaminated environmental surfaces. Because of this, their hands are commonly colonized with pathogens, such as “ methicillin resistant S. aureus, vancomycin resistant Enterococcus, MDR-Gram Negative bacteria, Candida spp, and clostridium difficle, which can survive for as long as 150 hours” (Mathur, 2011, p. 614). Approximately there are about 10 skin epithelial cells that are being shed from the normal skin daily, and this can strongly contaminate gowns, bedside furniture, and bed linen among other things (Mathur, 2011, p. 614). For this, there has to be proper hand hygiene, to reduce the prevalence of healthcare-associated infections within hospital ward.

## Conclusion

Hand hygiene is one of the components of Standard Precautions, defined as “ practices aimed at preventing the transmission of infectious agents” (Saiman et al., 2014, S35). It is based on the principle that “ all blood, body fluids, secretions, excretions, non-intact skin, and mucous membranes may contain transmissible infectious agents” (Saiman et al., 2014, p. S35). For this, there should be some important measures in making sure that people will not be contaminated by bacteria prevalent in these agents, and that there should be contact precautions for those who are prone to be infected by disease-contaminated agents. Among these is the use of alcohol-based hand rub, which was proven to reduce bacterial contamination of hands, and is more effective than washing the hands with plain antimicrobial soap and water. Unlike water and soap, alcohol-based hand rubs are said to be

excellent in fighting gram-positive, as well as, gram-negative bacteria, including viruses. With this comes the conclusion that, hand hygiene can prevent the occurrence of infection.

## References:

Magill, S. S., Edwards, J. R., Bamberg, W., Beldavs, Dumyati, G., Kainer, M. A., Fridkin, S. K. (2014). Multistate point-prevalence survey of health care-associated infections. The New England Journal of Medicine, 370(13), 1198-1208.

Mathai, E., Allegranzi, B., Kilpatrick, C., & Pittet, D. (2010). Prevention and control of health care-associated infections through improved hand hygiene. Indian Journal of Medical Microbiology, 28(2), 100-106.

Mathur, P. (2011). Hand hygiene: back to the basics of infection control. Indian Journal of Medical Research, 134(5), 611-620.

Saiman, L., Siegel, J. D., LiPuma, J. J., Brown, R. F., Bryson, E. A., Chambers, M. J., Weber, D. J. (2014). Infection prevention and control guideline for cystic fibrosis: 2013 update. Infection Control and Hospital Epidemiology, 35(S1), S1-S67.

Zhang, R. (2015). Investigating the prevention of hospital-acquired infection through standardized teaching ward rounds in clinical nursing. Genetics and Molecular Research, 14(2), 3753-3759.