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Patient Awareness of Practicing Hand Hygiene: An Intervention for Hospitalized Oncology Patients

Completion of a Capstone Project is the culminating experience for the Jefferson School of Population Health (JSPH) Master in Public Health Program. Due to the growing concern over the impact of healthcare associated infections and the use of prevention techniques in health care settings, I decided to focus my capstone project on this topic. In consultation with my advisor and several TJUH infection control clinicians, I developed a pilot study that aimed to assess patient awareness and compliance regarding hand hygiene to reduce healthcare-associated infections.

The topic and purpose of the study were developed after in-depth research on the extent and impact of HAIs and the current efforts taken to prevent them. The Joint Commission reported in September of 2009 that HAIs are among the top 10 causes of death in the United States.[1] HAIs are defined by the Centers for Disease Control and Prevention (CDC) as "infections that patients acquire during the course of receiving treatment for other conditions within a healthcare setting."[1] The CDC reports that 1 in 136 hospital patients become seriously ill as a result of acquiring an infection in the hospital.[2] This is equivalent to nearly 2 million unnecessary infections each year. It is estimated that 247 people in the US die every day from HAIs, which is approximately 90,000 deaths per year.[3] The overall annual direct medical costs of HAIs to US hospitals range from $28.4 to $45 billion.[2]

HAIs primarily involve the urinary tract, lungs, blood and skin. The exact modes of transmission and areas of infection differ among the common HAIs and there are specific strategies designed to prevent them. However, all preventive measures include proper hand hygiene maintenance. Transmission of HAI pathogens is found to most often occur via contamination from unclean hands in the healthcare setting. There is a great deal of research regarding hand hygiene of healthcare providers. Hand washing is a primary preventive measure for HAIs, but often has very low compliance rates.[4] The main reasons reported for low compliance include busy schedules, hands drying out from too much washing, lack of education about guidelines, and routine behavior habits.[5]

Patient compliance to hand hygiene protocol however, is an underdeveloped area of research. Like providers, patients are at risk of spreading infection. In most cases, they are either the original carriers of infection or are immune-compromised, making them even more vulnerable to infection. Efforts to increase patient knowledge and awareness regarding hand hygiene, the effects of not washing, and the responsibility to protect one's health while in the hospital, are crucial to prevent transmission of disease. The World Health Organization has launched a number of hand hygiene public awareness initiatives and campaigns, along with recently released guidelines. They recognize the importance of patient awareness, and work within the context of the patient's cultural and religious beliefs in the effort to improve hand hygiene practices.[6] This study was developed to better understand the patient perspective and increase patient awareness of HAIs, in the hope of changing behavior in ways to protect their health.

A hybrid survey was developed to evaluate the efficacy of the CDC's "Hand Hygiene Saves Lives' video,[7] a five-minute patient education tool emphasizing the importance of handwashing in the hospital. The study took place on the Thomas Jefferson University Hospital oncology unit, where the CDC video was available in all patient rooms.

The study received IRB approval prior to implementation. Patients who agreed to participate received an initial survey and were randomized to either view the video or not view the video. Twenty-four hours later, a second identical survey was completed by all participants. The sample was evaluated by age, gender, and responses to the 10 items on the survey that assessed knowledge of hand hygiene in the hospital, awareness of the environment, benefit of awareness education and comfort asking providers about hand washing. Information regarding age and gender was collected primarily to keep record of the demographic of patients who participated.

The premise was to compare pre and post surveys of those who viewed the video and those who did not view it. We hypothesized that the score would be higher on the post-survey than on the pre-survey and the patients who watched the video would score higher on the post-survey than those who did not view the video. There were a total of 30 participants; 17 patients in the control group (12 female, 5 male) and 13 in the intervention group (9 female, 4 male). Ages ranged from 28 to 74 years with a Mean of 54.

In both groups, the overall mean scores increased between the pre- and post-surveys. There was also a greater difference in the total mean change score in the group that watched the video versus the group that did not watch the video. Finally, the short answer analysis allowed conclusions to be drawn with regard to the patients' understanding of their condition and how to protect their health.

Although the results were not statistically significant, patients scored slightly better on the post-test than the pre-test indicates that the video enhanced patient awareness of hand hygiene. The only factor that did not show an increased score in the intervention group was level of comfort in asking providers about their hand hygiene. It was determined that with greater knowledge of the potential for infection and how to prevent it, patients will be more inclined to be more proactive in protecting their health.

There is great opportunity for further research to better understand patient awareness and compliance by increasing sample size, including more hospital units, collecting demographic information and comparing various sustainable methods of patient education. Encouraging discussion and educating patients about HAI

prevention more frequently is likely to make patients more inclined to wash their hands and ask their providers to do so as well. ■

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