1332. An Appeal to Incorporate Hand Hygiene Education into Standard Elementary School Curriculum

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Background. The Center for Disease Control and Prevention reports that 160 million school days are lost each year due to infectious illnesses. Hand hygiene is one of the most effective ways to prevent illness that can lead to absenteeism among school-aged children, yet few schools have a formal education program as a preventative strategy.

Methods. A Pilot Hand Hygiene experiment was initiated for 90 second grade students at a Virginia Beach Public School. The experiment was designed to bring awareness and to satisfy a scientific module requirement. Students cultured their hands on general purpose agar plates with the assistance of physicians and a microbiologist. The proper hand washing technique was demonstrated. Students were equally divided into two groups: hand washing group and sanitizer group. They were instructed to reculture their hands after intervention. Students observed cultures for five days and documented results.

Results. Overall, student observation of decreased microbial growth was predictive (Figure 1). Education improved compliance, which resulted in a favorable behavioral change on average of 89% (Figure 2). There was a 71% decrease in incidence of illness-related absences 30 days after the hand hygiene intervention (Figure 3). In three out of five classes, hand sanitizer was more effective when compared with hand washing. In addition, a random sample of cultures were incubated in a microbiology lab to identify the common microbes among the second-grade elementary school population. It revealed both resident and transient flora. Post-intervention, there was a rise in coagulase-negative Staphylococci (Figure 4).

Conclusion. Hand Hygiene education is remarkably beneficial, especially in children who are at greater risk of illness. It is clearly effective in decreasing infectious disease risk, while teaching a life-long skill. For the impact as a preventative strategy to be felt, its implementation into elementary school curriculum is warranted.

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1333. The Use of Instructional Technology to Increase Independent Patient Hand Hygiene Practice of Hospitalized Adults in an Acute Care Setting

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Background. Despite recognition that hospitalized patients carry pathogens on their hands and demonstrate poor hand hygiene practice, little attention has been given to interventions that increase hand hygiene practices. Studies that have attempted to improve patient hand hygiene practice lack sustainability due to dependability on healthcare staff, and no prior studies have tested ways to improve independent patient hand hygiene practice.

Methods. This comparative effectiveness study tested two educationally-based approaches to improve patient hand hygiene in older adults hospitalized for 4 days for elective lower extremity orthopedic or podiatry surgery at a veterans’ hospital. Group 1 (n = 41) received an educational video, an educational handout and a voice-recorded electronic audio reminder (EAR) an active cue, which verbally reminded the participant to clean their hands 3 times a day (7am, 12 pm, 5pm). Group 2 (n = 34) received the educational video and handout without the EAR. There were no significant differences between the two randomly assigned groups in terms of age, ethnicity and sex.

Results. Figure 1 shows the daily difference in product consumption Day 0 to Day 3. The average product consumption of ABHR (alcohol-based hand rub) in Group 1 (EAR) was 29.97 grams (SD 17.13). Group 2 (No EAR) averaged 10.88 grams (9.27) (p < 0.0001). Comparing post-operative day (POD) 0 to POD 3, and controlling for covariates (Disability of Arm, Shoulder, and Hand [QuickDASH], Hand Grip Strength, Surgical Pain, MRSA in Nares, and Education), multivariate analyses indicated that the electronic audio reminder was a significant predictor (β = 0.468) of ABHR consumption, R² = 0.39, R²adj = 0.34, F (6, 68) = 7.265, P < .001.