

Studies shed light on hand hygiene knowledge and infection risk in hospitals and elementary schools

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Increased hand hygiene knowledge positively correlates with a decreased risk of transmitting infection among both healthcare workers (HCW) and elementary school children, according to two studies published in the August issue of the *American Journal of Infection Control* (AJIC), the official publication of APIC - the Association for Professionals in Infection Control and Epidemiology.

In the first study, conducted by Anne McLaughlin, Ph.D., Assistant Professor of Psychology at North Carolina State University, 71 nurses, infection preventionists and hospital environmental services managers participated in a national survey gauging hand hygiene knowledge and beliefs. Each HCW assessed 16 real-life simulations designed to test their perceived risk of infection, based on their level of hygiene knowledge as well as their internal health locus of control (internal-HLC)—a measurement of how much influence they perceive themselves as having over controlling the spread of infection.

The study found that across all knowledge- and HLC-levels, HCWs perceived surfaces as safer to touch than patient skin, in spite of research that has proven touching one contaminated surface (known as a fomite) can spread bacteria to up to the next seven surfaces touched.

"Despite the dangers that fomites present, this knowledge may not be common enough among HCWs for them to understand the level of risk

when touching surfaces and then touching patients," say the authors.

Hand Hygiene is "Elementary"

Hand washing programs among school children may have a lasting effect in reducing school absences, according to a study published in the August issue of AJIC. A three-month targeted intervention to reduce student absenteeism through increased hand hygiene was conducted in 2008. Infection preventionist Inge Nandrup-Bus, RN, directed the study at two elementary schools in Denmark and compared her results to a similar study she performed in 2007—the only significant change being that for the second trial, the Intervention School (IS) and the Control School (CS) were reversed.

At the IS, 324 pupils ages 5-14 years were each given one lesson in hand disinfection theory and practice and directed to disinfect their hands using ethanol gel three times throughout the school day. Over the three months of the intervention, this measure resulted in a 66 percent decrease in pupils with four or more days of absence and a 20 percent increase in children with zero absences over the 2007 data from the same school.

In the CS, however, which had been the intervention school the prior year in hand washing, no significant changes were noted between 2007 and 2008—a result that strongly suggests that even with low participation rates (20% in 2007 and 21% in 2008) and the passage of time, merely increasing [hand hygiene](#) education can have a long-term, significant impact on the spread of infection.

"Regular training in HW (hand washing) and HD (hand disinfection) would be a simple, low cost action with very significant impact on reducing infectious illness absence periods among pupils," stated the author.

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