

Strategic Infection Prevention Measures Can Help Control Nosocomial Norovirus

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Vincent Cheng, MD, of the Department of Microbiology at Queen Mary Hospital in Hong Kong, China, and colleagues conducted a study to determine if strategic infection prevention and control measures with an added test may be useful in controlling nosocomial transmission of norovirus. Their research was published in *Infection Control and Hospital Epidemiology*.

The researchers studied the infection control measures implemented in a hospital network between Nov. 1, 2009 and Feb. 28, 2010; in addition to staff education and promotion of directly observed hand hygiene, reverse-transcription polymerase chain reaction for norovirus was performed as an added test by the microbiology laboratory for all fecal specimens. Cheng, et al. report that the incidence of hospital-acquired norovirus infection per 1,000 potentially infectious patient-days was compared with the corresponding period in the preceding 12 months, and the incidence in the six hospital networks in Hong Kong was chosen as the concurrent control.

Cheng, et al. report further that of the 988 patients who were tested, 242 were positive for norovirus; 114 of those 242 patients had norovirus detected by the researchers' additional test. Compared with the corresponding period in the preceding 12 months, the incidence of hospital-acquired norovirus infection decreased from 131 to 16 cases per 1,000 potentially infectious patient-days, although the number of hospital-acquired infections was low in both the study period and the historical control periods.

The researchers note, "The overall compliance with standard infection control practice was satisfactory among our frontline healthcare workers, especially after the intensive training in infection control during the emergence of pandemic influenza in mid-2009 in Hong Kong. The rate of compliance with hand hygiene practice approached 70 percent in November 2009 among all ranks of healthcare workers, and the consumption of alcohol-based hand rub solution increased even before our implementation of enhanced infection control measures. In this connection, none of the healthcare workers reported diarrhea after caring for the infected patients upon contact tracing. In addition, directly observed hand hygiene (DOHH) practice, which has proved effective in outbreak prevention and control, was further enforced by our infection control nurses when there was any evidence of nosocomial acquisition of norovirus. This might be useful in preventing outbreaks evolving from episodic cases. However, the use of alcohol-based hand rub has been questioned in the control and prevention of norovirus, a nonenveloped RNA virus, especially if the concentration of ethanol is less than 80 percent and the contact time is less than 20 seconds. Although the WHO formulation of alcohol-based hand rub, formula I containing ethanol (80 percent vol/vol), has been used in our center, further investigation is needed to examine the effectiveness of alcohol-based hand rub against norovirus infection."

Reference: Cheng VCC, et al. Prevention of Nosocomial Transmission of Norovirus by Strategic Infection Control Measures. *Infection Control and Hospital Epidemiol.* Vol. 32, No. 3. Pp. 229-237. March 2011.