

Medical News

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CDC Recommendations and Ventilator-Associated Pneumonia

Manangan and coinvestigators, from the CDC's Hospital Infections Program, conducted a study to assess whether selected recommendations in the CDC "Guideline for Prevention of Nosocomial Pneumonia" were being used and having an impact on the occurrence of ventilator-associated pneumonia (VAP) at US hospitals. They surveyed hospitals participating in the National Nosocomial Infections Surveillance (NNIS) System by mailing a questionnaire to the infection control practitioner of each NNIS hospital (in 1995) and using data from the NNIS System to calculate annual rates of VAP.

Of the 188 hospitals surveyed, 179 (95%) returned completed questionnaires. Of these, 175 (98%) had implemented the recommended change of mechanical-ventilator breathing circuits at ≥ 48 -hour intervals. Of 110 hospitals using the hygroscopic condenser-humidifiers or heat-moisture exchangers with ventilators, 102 (93%) changed the hygroscopic condenser-humidifiers or heat-moisture exchangers routinely; of 98 hospitals using bubbling humidifiers, 96 (98%) used sterile water to fill these humidifiers. The frequency with which NNIS hospitals have adopted other measures for which the CDC guidelines provide no recommendation includes use of hygroscopic condenser-humidifiers or heat-moisture exchangers (110/179 [61%]) and use of bacterial filters in anesthesia machines (128/171 [61%]). There was a significant decrease in the VAP rate from 1987 to 1998.

The authors concluded that most NNIS hospitals had implemented selected recommendations in the CDC "Guideline for Prevention of Nosocomial Pneumonia" before the final publication of the revised guideline. Further studies are needed to assess the impact of these recommendations on the occurrence of VAP.

FROM: Manangan LP, Banerjee SN, Jarvis WR. Association between implementation of CDC recommendations and ventilator-associated pneumonia at selected US hospitals. *Am J Infect Control* 2000;28:222-227.

Alcohol-Based Handwashing Agent Improves Hand Washing

Two recent studies, from the Saint Antoine Hospital in Paris,¹ and the Medical College of Virginia, Richmond,² showed increased compliance with hand washing following introduction of an alcohol-based handwashing agent.

Maury and colleagues, from the Departments of Critical Care Medicine and Microbiology, Saint Antoine Hospital, Paris, France, investigated whether rubbing with an alcohol solution increases compliance with hand disinfection in a medical ICU.¹ During period 1, hand disinfection was achieved only through conventional washing, whereas during period 2, hand disinfection could be achieved either through conventional washing or rubbing with an alcohol solution. There were 621 opportunities for hand disinfection during period 1 and 905 opportunities during period 2. General compliance during period 1 was 42.4% and reached 60.9% during period 2 ($P < .001$). This improvement was observed among nurses (45.3% vs 66.9%; $P < .001$), senior physicians (37.2% vs 55.5%; $P < .001$), and residents (46.9% vs 59.1%; $P = .03$). Acceptability and tolerance were evaluated through the answers to an anonymous questionnaire distributed to all 53 healthcare workers in the medical ICU.

Rubbing with alcohol solution was easy (100% of responses), and less than 10% of respondents experienced mild side effects. In a complementary study conducted 3 months after the first one, compliance remained better than during period 1 (51.3% vs 42.4%; $P = .007$). The findings suggest that using alcohol solution increases compliance with hand disinfection and that it could be proposed as an alternative to conventional hand washing in the medical ICU.

Bischoff and colleagues, at the Medical College of Virginia, studied the efficacy of an education and feedback intervention and a patient awareness program (cognitive approach) on handwashing compliance of healthcare workers. They compared the acceptance of a new and increasingly accessible alcohol-based waterless hand disinfectant (technical approach) with the standard sink and soap combination.² This 6-month observational study was done in one medical ICU, one cardiac surgery ICU, and one general medical ward located in a 728-bed tertiary-care teaching facility. The interventions were implementation of an education and feedback program for staff (six in-service sessions per each ICU) and a patient awareness program (with flyers), followed by a new, increasingly accessible, alcohol-based, waterless hand antiseptic agent, initially available at a ratio of one dispenser for every four patients and subsequently one for each patient. Hand washing was directly observed for over 120 hours and randomized for both time of day and bed locations.

Before any interventions, baseline handwashing compliance before and after defined patient contact events was 9% and 22% for healthcare workers in the medical ICU and 3% and 13% for healthcare workers in the cardiac surgery ICU, respectively. After the education and feedback intervention program, handwashing compliance changed little (medical