Randomized clinical trial of alcohol handrubbing and chlorhexidine handwashing protocols for routine hospital practice | 1


Abstract:

Background: The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) recommend the use of alcohol handrubs to prevent health care-associated infections. However, the efficacy and time effectiveness of different alcohol handrubbing protocols have yet to be evaluated.

Methods: We conducted a randomized controlled trial in the general wards of a 1,300-bed, acute, tertiary care hospital to compare the effectiveness of 3 hand hygiene protocols during routine inpatient care: (1) handrubbing with alcohol covering all hand surfaces, (2) handrubbing with alcohol using the standard 7-step technique, and (3) handwashing with chlorhexidine using the standard 7-step technique. Hand samples were obtained from 60 medical and 60 nursing staff, before and after hand hygiene. Quantitative and qualitative bacterial evaluations were carried out by microbiologists blinded to the protocol.

Results: All 3 protocols were effective in reducing hand bacterial load (P < .01). During routine patient care, alcohol handrubbing covering all hand surfaces required less time (median, 26.0 seconds) than alcohol handrubbing using the 7-step technique (median 38.5 seconds; P = .04) and chlorhexidine handwashing (median, 75.5 seconds; P < .001).

Conclusion: Alcohol handrubbing protocols are as efficacious as chlorhexidine handwashing. Alcohol handrubbing covering all hand surfaces is the most time-effective protocol for routine patient care activities in busy general wards.