

ORAL ABSTRACTS

638. Routine Use of Chlorhexidine-Based Body Wash Associated with a Reduction in Methicillin-Resistant *Staphylococcus aureus* Nasal Colonization among Military Trainees

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Background. In a field-based, cluster-randomized trial among military recruits, weekly use of chlorhexidine-based body wash failed to prevent overall and methicillin-resistant *Staphylococcus aureus* (MRSA) skin and soft-tissue infections (SSTI). As a secondary objective of the trial, we collected nasal swabs to evaluate the impact

of the intervention on *Staphylococcus aureus* colonization.

Methods. A SSTI prevention trial was conducted from 5/2010-1/2012 among US Army Infantry training recruits undergoing 14-week training at Fort Benning, GA. There were three study groups with incrementally increased education and hygiene-based interventions: Standard (S), Enhanced Standard (ES), and Chlorhexidine (CHG). Participants completed a risk factor questionnaire and underwent anterior nares screening culture. Nasal specimens were processed by standard laboratory methods. We estimated the impact of chlorhexidine use on *S. aureus* nasal colonization among participants not diagnosed with SSTI during the study period.

Results. A total of 1706 trainees (469 S, 597 ES, 640 CHG) were included in the analysis. Of those randomized to the CHG group, 360 (56.3%) reported frequent (at least weekly) use of CHG. The prevalence of overall *S. aureus* colonization did not differ between those reporting frequent versus infrequent/no CHG use (53.3% vs. 56.8%, respectively; $p = 0.25$). However, the prevalence of MRSA colonization was marginally lower among frequent users (2.5% vs. 4.7%; $p = 0.07$). When adjusting for potential confounders, including season of training start, personal hygiene practices, and being in a class where a SSTI case had recently occurred, the odds of MRSA colonization were significantly lower among those reporting frequent versus infrequent/no CHG use (OR = 0.35, 95%CI = 0.16-0.76). There were no differences in the prevalence of colonization by USA300 versus non-USA300 types (OR = 0.59, 95%CI = 0.06-5.76).

Conclusion. Frequent use of chlorhexidine body wash was associated with a reduction in MRSA nasal colonization among high-risk military recruits. Hygiene-based strategies may contribute to MRSA SSTI prevention by reducing colonization and interrupting transmission of MRSA.

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