

INFECTION CONTROL AND CLINICAL MICROBIOLOGY

September 25-26, 2017 Chicago, USA

Novel, water-based hand sanitizer reduces skin irritation over alcohol sanitizer for healthcare workers in hospital setting

Jesse Cozean

Innovative BioDefense, Inc., USA

Statement of the Problem: Proper hand hygiene practices are widely recognized as the best way to prevent the transmission of pathogens in medical facilities and reduce nosocomial infection. However, the repeated use of hand hygiene products can dry and irritate the skin, making compliance with hand hygiene protocols difficult for healthcare workers (HCWs). A report by the CDC shows that up to 85% of HCWs report dryness or irritation with use of their current hand hygiene products, and skin irritation is a major reason that compliance with protocols in hospitals is only 40-50%. This study evaluates whether replacing an alcohol-based sanitizer in hospitals with a persistent, water-based antiseptic can reduce hand dryness and irritation among HCWs.

Methodology: In a 79-bed hospital (San Geronio Memorial, Banning, CA), the current alcohol-based sanitizer (Purell®, 70% ethyl alcohol) was replaced by a water-based, persistent sanitizer (Zylast® Antiseptic Lotion, 0.2% BZT). Dispensers were replaced in patient rooms, hallways, and common areas. HCWs were given a survey about their hand health while using the alcohol-based sanitizer and a year after switching to the new product. Nine questions were asked, using a validated Visual-Analogue Scale of 1-10.

Findings: A total of 348 surveys were completed and returned. Significant improvements were reported after changing to the water-based product in skin moisture level (18%, $p < 0.0005$), skin appearance (18%, $p = 0.002$), skin integrity (15%, $p = 0.016$), skin feel (14%, $p = 0.007$), odor (21%, $p = 0.0007$), and overall hand feel (13%, $p = 0.013$). The HCWs who reported that skin irritation was negatively affecting their compliance with hand hygiene protocols dropped from 52% to 45% (a 13% reduction). Those who identified skin irritation as the biggest concern with their current hand sanitizer fell from 24% with the alcohol-based sanitizer to 9% with the water-based product, while skin dryness as the biggest concern fell from 66% to 24% of respondents. Those with cracks in their hands from dryness decreased from 21% to 11%. The hospital reported an improvement in hand hygiene compliance with the new product from 69% to 73%.

Conclusion: Changing from an alcohol-based sanitizer to a persistent, water-based product resulted in significant improvement in the hand and skin condition of healthcare workers in a hospital setting, lowering the number of HCWs who reported skin irritation interfering with compliance.

Biography

Jesse Cozean is a Medical Researcher who serves as the Vice President of Research and Development for Innovative BioDefense. In that role, the research team he headed developed a unique hand hygiene technology that won the USAID Fighting Ebola Grand Challenge as a breakthrough technology in the field. He has designed and overseen multiple clinical trials on hand hygiene products in hospitals, long term care facilities, and schools. He holds several patents, has authored multiple peer-reviewed articles in the hand hygiene field, and is the co-author of *The Interstitial Cystitis Solution* (2016). He holds a Bachelor's of Science (cum laude) degree in Physics from Westmont College and a Master's in Business Administration from WGU.

jcozean@gmail.com

Notes: