Introduction

Alcohol-based hand rubs (ABHR) are recommended for use in healthcare settings by the WHO and U.S. CDC, and are recognized as one of the most important interventions for the prevention of hospital associated infections. Additionally, numerous studies have demonstrated the clinical effectiveness of these products. These types of formulations are highly effective for the majority of health care settings, are safe, and are more effective than soap and water handwashing (WHO, 2009). In Europe, the EN 1500:1997 hand rub method is used, whereas the U.S. FDA requires ASTM E1174, the Health Care Personnel Hand Wash (HCPHW) Study: Method for Evaluation of the Effectiveness of Health Care Personnel Hand Wash (HCPHW) Study: Method for Evaluation of the Effectiveness of Health Care Personnel Hand Wash (HCPHW) Study: Method for Evaluation of the Effectiveness of Health Care Personnel Hand Wash (HCPHW) Study: Method for Evaluation of the Effectiveness of Health Care Personnel Hand Wash (HCPHW) Study: Method for Evaluation of the Effectiveness of Health Care Personnel Hand Wash (HCPHW) Study. Countries in other regions recognize other methods or standards. 

Recently, a number of publications have questioned whether products that are marketed as biodegradation cuts (gels and foams containing 60-70% ethanol) are as efficacious as products that use more common in Europe (based into containing 68-70% ethanol). These publications specifically state that gels and foams are less efficacious than liquid rubs, and that concentrations of at least 75% alcohol are necessary to meet global efficacy requirements. In addition the WHO guidelines contain recipes for ABHR for local production. A recent study evaluated the clinical effectiveness of these products. 

Materials and Methods

Introduction

Results

Figure 1. ABHR with 70-80% ethanol meet EN 1500 requirements

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Figure 3. Ethanol level is not correlated with antimicrobial efficacy

The log reductions shown in Figure 2 for application 1 were plotted and show no correlation between efficacy and ethanol concentration (P = 0.77).

Results

Figure 1. ABHR with 70-80% ethanol meet EN 1500 requirements

When tested at a 2 ml volume, only the 70% ethanol formulations, products A and B, meet U.S. FDA efficacy requirements for a ≥3 log reduction at application 10. Products A and B were statistically superior to the majority of other products tested, including those with higher alcohol, after a single application, and were statistically superior to all other products tested after ten applications.

Discussion

Formulation matters. Increasing alcohol concentration in ABHRs alone is not sufficient to guarantee efficacy on hands.