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Review on Formulation and Evaluation of Alcohol-Free Hand Sanitizer

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Abstract: *Hand hygiene is an essential factor to prevent or minimize the spread of infections. The ability to prepare an alcohol-free hand sanitizer (AFHS) with antimicrobial properties is crucial, especially during pandemics, when there are high demands and a low supply chain for ethanol and isopropanol. The objective of this study was to prepare AFHS gels based on natural materials that contain essential oils (Eos) that would be effective against a broad spectrum of pathogens. The results showed that the organoleptic characteristics of all prepared hand sanitizer gels were considered acceptable. The antimicrobial effectiveness test demonstrated that the prepared hand sanitizer gels had antimicrobial activities against different gram-positive and gram-negative bacteria and Candida albicans yeast. This study suggested that the prepared natural hand sanitizer gel with 1.25% (v/v) Lavender oil can be a potential alternative to commonly used alcohol-based hand sanitizers (ABHS).*

Keywords: Hand Sanitizer, Microbes, Infections, Essential Oils, Antimicrobial, Alcohol-Free, Pandemics

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