

Preparation of Herbal Hand Sanitizer

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Abstract: *Hand hygiene plays a crucial role in preventing the spread of infectious diseases, particularly those caused by bacteria, fungi, and viruses. Conventional alcohol-based hand sanitizers, while effective, may cause skin irritation, dryness, and allergic reactions with prolonged use. This study focuses on the formulation and evaluation of a herbal hand sanitizer using natural antimicrobial ingredients such as Azadirachta indica (neem), Ocimum sanctum (tulsi), Aloe barbadensis (aloe vera), and lemon extract. These plant-based components were selected for their proven antibacterial, antifungal, antiviral, and skin-conditioning properties. The preparation involved blending herbal extracts with a suitable gel base to achieve an effective and skin-friendly formulation. The final product was evaluated for parameters such as antimicrobial efficacy, pH, viscosity, spreadability, stability, and user acceptability. Results indicated that the herbal hand sanitizer exhibited significant antimicrobial activity, was non-irritating, and maintained stability over the study period. This formulation offers a safe, eco-friendly, and cost-effective alternative to synthetic hand sanitizers, making it suitable for regular use while reducing environmental and health hazards.*

Keywords: Herbal formulation, Hand sanitizer, Antimicrobial activity, Neem, Tulsi, Aloe vera, Natural disinfectant

