

## Formulation of a potential topical antiperspirant using natural ingredients

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Hyperhidrosis is a dermatological condition characterized by excessive sweating. It significantly affects the quality of life of affected individuals, leading to various social, occupational, and dermatological problems making effective treatment options essential. This research explores the formulation of a potential topical antiperspirant using natural ingredients. Coconut oil is known for its antimicrobial properties and has been traditionally used in various applications. Natural astringents like key lime and aloe vera not only help in reducing sweat production but also exhibit antibacterial properties. Arrowroot powder acts as a natural sweat absorbent making the formulation suitable even for sensitive skin. Beeswax and shea butter contribute to the formulation's stability and provide additional antimicrobial properties. Various cream formulations (F1 to F5) were prepared by combining the above ingredients in different proportions. Among them, F3 formulation exhibited the highest stability and homogeneity after a two-week observation period. The F3 formulation was assessed for stability, color, odor, homogeneity, pH, phase separation, and antibacterial activity against *Staphylococcus aureus*, a common skin bacteria. Furthermore, an irritation test was conducted on 5 volunteers and any adverse effects were not observed after 24 hours of application. These findings suggest that the developed cream formulation holds promise to develop an antiperspirant with antibacterial activity and skin compatibility. Further research and clinical trials may be needed to explore its application as an antiperspirant.

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