

ABSTRACT

The body odor issue has prompted increasing concern among individuals, attributed to the malodorous byproducts of sweat gland activity, particularly in the axillary skin region, which is metabolized by the cutaneous microflora. To address this matter, the formulation of deodorant products has emerged as a potential solution. Comprising a spectrum of compounds and a natural product, reported as "Extract X," recognized for their antimicrobial properties, these formulations hold promise in mitigating bacterial populations indigenous to the axillary region. In this context, the present study aims to evaluate the efficacy of a novel deodorant formulation, referred to as "Deodorant X," specifically by assessing its capacity to manifest antimicrobial effects. Through an *in vitro* analysis of bacterial proliferation in untreated and treated bacterial cultures, this study aims to discern the deodorant's impact on the reduction of bacterial populations. Focusing on the efficacy of Deodorant X, incorporating the natural antibacterial properties of Extract X, the research reveals that a 0.5:1 deodorant-to-bacteria ratio was most effective against axillary bacterial isolates, *S. epidermidis*, and *M. luteus*. However, an antibacterial susceptibility test indicated a lack of sensitivity to Deodorant X, challenging its efficacy. Notably, Deodorant X demonstrated a more immediate impact compared to Rexona. While the methods employed in this study proficiently evaluate deodorant effectiveness through *in vitro* approaches, future research should include MIC determination to provide insights into the optimal inhibitory concentration associated with the deodorant-to-bacterium ratios and enhance the comprehensiveness of the study.

Keywords: *Axilla, Body odor, Deodorant, Bacteria, Antibacterial*