

## **Determination of antioxidant, anti-bacterial, and moisturizing efficacy of *Aloe barbadensis miller***

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Aloe vera is a medicinal plant grown in households vastly due to home-remedial and cosmeceutical applications. The plant is used in several industries such as the food, pharmaceutical, and cosmetic industry. In this study, the antioxidant anti-bacterial and moisturizing effect of the aloe leaf was investigated. The antioxidant property of three different aloe species found in Sri Lanka was determined using the DPPH method. The anti-bacterial effect was determined by antibacterial susceptibility test for selected bacterial strains. Selected volunteers were involved in the evaluation of moisturizing efficacy-measured with the help of resistance of skin for different concentrations of leaf juice extracts. The latex of all the three species contains highest concentration of antioxidants (relative activity = 87.30%) followed by leaf skin 65.84% and leaf gel 11.72%. The species 2 has the highest antioxidant effect among all (relative activity = 68.47%) followed by the species 3 (40.94%) and species 1 (44.51%) respectively. The leaf skin extract has better antibacterial properties compared to the leaf gel extracts upon several skin pathogens. Leaf skin extract and leaf gel extract of species 3 showed 35mm and 25 mm inhibition zones against *Staphylococcus aureus* and both extracts showed similar activity against *E.coli*. The moisturizing efficacy results indicated that the 50% of Aloe in a formulation is capable of retaining moisture on the skin equally as 99% Aloe containing formulations as well. Thus, the humectant potential of Aloe vera in on human skin was well recognized from this study.

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