

Thesis Title	A Comparison Study of the Efficacy between 5% <i>Artocarpus lakoocha</i> Heartwood Extract and 5% Niacinamide Creams in the Treatment of Axillary Hyperpigmentation: A Randomized, Double-blind, Controlled Trial, Split-side Study in Female Patients
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ABSTRACT

Background: Axillary hyperpigmentation is a common cosmetic concern, particularly in women. While Niacinamide is an established depigmenting agent, *Artocarpus lakoocha* (Mahad) extract has recently gained attention due to its high oxyresveratrol content, a potent tyrosinase inhibitor. However, clinical evidence in axillary hyperpigmentation remains limited.

Objective: To compare the efficacy of 5% *Artocarpus lakoocha* Heartwood Extract cream with 5% Niacinamide cream in the treatment of axillary hyperpigmentation in female patients.

Material and methods: A randomized, double-blind, split-side clinical trial was conducted in 25 female participants with 23 completers (age 20-35 years old) with Fitzpatrick's skin type III to V. One axilla was treated with 5% *Artocarpus lakoocha* Heartwood Extract cream and the contralateral side with 5% Niacinamide cream twice daily for 12 weeks. Melanin index was measured by Mexameter® MX18 at baseline, week 4, week 8 and week 12. Patient satisfaction scores were recorded by using Global Satisfaction Scores. Statistical analyses included paired t-tests and repeated-measures ANOVA.

Result: At baseline, melanin index was comparable (Mahad 302.17 ± 108.66 vs Niacinamide 299.63 ± 101.80 with $p = 0.680$). Both treatment showed significant reductions over time (Mahad -59.22 , -19.60% , Niacinamide -50.79 , -16.95% at week 12). Paired comparisons at week 4, 8, and 12 reveals no significant difference between

group ($p = 0.103-0.306$). Repeated-measures ANOVA demonstrated a significant time effect ($p < 0.001$), however there was a non-significant time and treatment interaction ($p = 0.056$). No adverse effects were observed and patient satisfaction was fairly good to good and excellent in both group.

Conclusion: Both 5% *Artocarpus lakoocha* Heartwood Extract and 5% Niacinamide creams were effective and well-tolerated for axillary hyperpigmentation. Mahad demonstrated comparable efficacy to Niacinamide, supporting its potential as a safe, natural alternative for the management of pigmentary disorders.

Keywords: *Artocarpus lakoocha*, Oxyresveratrol, Niacinamide, Axillary Hyperpigmentation