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TITLE: The whitening efficacy of novel extract complex versus hydroquinone.

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ABSTRACT BODY:

Introduction: To date, hydroquinone is still widely used for the case of hyper pigmentation disorder particularly in the tropical countries in South East Asia. However, with the unwanted side effects caused by long term use of hydroquinone, an alternative to hydroquinone derived from plant materials is indeed the main objective of this investigation. This can be used as alternative therapy or as follow up therapy. In the present investigation, the whitening efficacy of a novel extract complex WLW will be tested against the well known hydroquinone.

Methods Used: : A patented extract complex LW2610 consisting of Anthocarpus heterophilus, Anthocarpus antilis and Saccharum Officinarum has been specially designed to be the alternative to the hydroquinone. The tyrosinase inhibition activity of the complex was determined according to the method of Vanni et. Al. using L-tyrosine solution as the substrate. The clinical test was carried out in a group of 32 carefully selected human volunteers. The skin condition of the volunteers were analyzed with Mexameter before the start of the experimentation (t=0) and after day 14 (t=14) and day 30 (t=30) of the application of the cream preparation. The test cream containing 4% of the extract complex LW2610 was tested clinically against Hydroquinone 4% cream. The same base formulation was used for the test cream, Hydroquinone cream and the placebo cream. The 4% Hydroquinone cream was used for comparison as it is the golden standard used for depigmentation therapy. Dermatological safety and irritation tests were conducted with Repeated Open Patch Test (ROPT) and Single Closed patch Test (SCPT)

Results Obtained: The tyrosinase inhibition activities of the complex was found to be higher than that of hydroquinone. Similarly, the clinical results from the mexameter show that the cream containing the botanical extract complex LW2610 has the better whitening efficacy than the 4% Hydroquinone cream.

Discussion and Conclusion: The very high whitening efficacy is attributed to the combination of the whitening activities of Anthocarpus heterophilus and Anthocarpus altilis and the exfoliating effect of the Saccharum officinarum . The use of the combined plant extracts with whitening activities Anthocarpus hetrophilus and Anthocarpus antilis with the extract that has exfoliating activity like Saccharum officinarum provide synergistic whitening and soft peeling effect and thus better brightening effect than that of hydroquinone. With the results of ROPT and SCPT, it was shown that the cream containing the botanical extract complex LW2610 did not cause any irritation at all. However, as expected the Hydroquinone cream in both the ROPT and SCPT did show some degree of skin irritation.

The cream containing 4% extract complex LW2610 has been shown to have better whitening activity than Hydroquinone 4% cream and in the ROPT and SCPT, it is shown to be much better tolerated than the Hydroquinone cream. Since the long term use of Hydroquinone cream can cause unwanted skin irritation, the cream containing 4% extract complex LW2610 will be a good alternative to Hydroquinone cream and as maintenance therapy.