



AESTHETIC AND COSMETIC DERMATOLOGY (LASERS SEPARATE CATEGORY)

## ORAL GLUTATHIONE AS A SKIN WHITENING AGENT: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, MULTICENTER CLINICAL TRIAL

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**Introduction:** Indonesia lying along the equator, makes its climate is almost entirely tropical with lots of sunshine. Many peoples want their skin to be lighter. Glutathione has been known in the community as a skin lightening agent. However, there is still no evidence to support its efficacy and safety.

**Objective:** To evaluate the efficacy and safety of oral glutathione, 500 mg per day for 12 weeks, used as a skin-whitening agent.

**Materials and methods:** This was a randomized, double-blind, placebo-controlled, multicenter study, set at Dermatology outpatient clinic at three teaching hospitals in Indonesia, University of Sumatera Utara Teaching Hospital Medan (Western Indonesia), Indonesia Central Army Hospital Gatot Subroto Jakarta (Central Indonesia), and Dr. dr. Wahidin Soedirohoesodo Hospital Makassar (Eastern Indonesia). Ninety healthy females, aged between 33 and 50 years old, were randomized to receive either glutathione capsules or placebo for 12 weeks and evaluated every 4 weeks. The main outcome was total reduction (improvement) of spot UV, spot polarization, skin tone, and pore, measured at five different sites for each indices, measured by Janus Facial Analysis System®.

**Results:** Eighty-two female subjects completed the study. Subjective effectiveness was divided into four categories- 24.9%, 25-49.9%, 50-74.9%, and >75%; the highest proportion in total spot UV reduction was >75%, but there were no significant differences when compared to placebo.. The effectiveness of reduction of skin tone and spot polarization in glutathione group was higher, but there were no significant differences compared to placebo. Both glutathione and placebo were well tolerated.





Conclusion: Reduction of skin tone and spot polarization in glutathione group was higher than placebo, although did not have statistical difference. Its safety is well tolerated. Further well-controlled trials with more variety of measured outcomes are required to evaluate glutathione efficiency as a skin lightening agent.

