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Evaluation of photoprotective property and antioxidant property of *Clitoria ternatea (Katarolu)*

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Cumulative lifetime dose of ultra violet (UV) radiation has increased significantly due to many natural and artificial consequences. UV-A and UV-B radiation are considered as the major risk factors for photo dermal pathogenesis. Many herbal extracts and herbal preparations have served as effective sunscreen agents as they have UV absorption, scattering, reflecting and excellent free radical scavenging activity. *Clitoria ternatea* (Katarolu) is a plant known for its versatility in therapeutic and cosmeceutical applications over thousands of years due its remarkable bioactivity and rich phytochemical composition. Therefore, the study is concentrated on determining photo protective property and antioxidant profiles of acidified aqueous alcoholic floral extracts of *C. ternatea*. *In-vitro* photo protective property of crude extract was evaluated using 0.2 mg/mL methanolic solution and expressed in terms of spectrophotometric SPF according to Mansur equation. Stability of photo protective property was evaluated for 21 days. Antioxidant activity of the floral extract was evaluated by DPPH radical scavenging activity, nitric oxide (NO) radical scavenging and ferricyanide reducing assays. Alcoholic extract of *C. ternatea* petal (0.2 mg/mL) exhibited excellent photo protective activity and SPF value was 20.4916±0.653 and shown promising photo stability in terms of spectrophotometric SPF value. Antioxidant capacity of the crude floral extract was 1418.27±125.89 mg ascorbic acid equivalents/100g DW mg ascorbic acid equivalents/ 100g DW of the with reference to the standard curve ($y = 0.7328x - 0.1471$, $R^2 = 0.9979$). % NO radical scavenging capacity of floral extract (1mg/mL) was 40.379±5.478. Reducing power of the floral extract was 2345.412±215.258 mg and 3345.91±456.34 mg ascorbic acid equivalents/ 100g DW, respectively with reference to the standard curve ($y = 0.0042x + 0.0971$, $R^2 = 0.9988$). Hence, *C.ternatea* can be successfully served as a natural sunscreen agent in herbal and natural cosmeceuticals.

Keywords: *Clitoria ternatea*, SPF, Antioxidant, Natural Sunscreen, Photoprotective

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