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SRI LANKAN MEDICINAL PLANTS WITH POTENT TYROSINASE INHIBITORY ACTIVITY: A PRELIMINARY REVIEW

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Various cosmetic treatments are used to decrease the concentration of melanin to achieve a reduction in the physiological pigmentation of the skin. Tyrosinase is a multifunctional copper-containing enzyme that acts as a key regulatory enzyme that influences the process of melanogenesis. Using tyrosinase inhibitors is the most demanding and reliable method for melanogenesis inhibition. According to statistics, approximately 15% of the world's population uses skin whitening products. However, many countries have banned a range of skin whitening products available in the market because of their toxicities and pose risks to human health and the environment. According to information available in Sri Lanka, many whitening creams available in the market contain dangerous levels of mercury with no warning signs. In this situation, the demand for natural or eco-friendly cosmetics has been increased. As the global demand for natural cosmetics increases, there are ample opportunities for Sri Lanka to expand its manufacturing and global exports, plant varieties, and unique traditional medical knowledge**.** Hence, this study aimed to identify the Sri Lankan medicinal plants with tyrosinase inhibitory potential for the sustainable development of the natural cosmetic industry in Sri Lanka and address the vital knowledge gaps. A comprehensive literature search was conducted through different databases, authentic Ayurveda texts, and scientific journals. Data assessments were guided by the PRISMA checklist. According to findings, 58 medicinal plants were identified with tyrosinase inhibitory action. Further, tyrosinase inhibitory action positively correlates with the total flavonoid content and free radical scavenging activities. According to the literature analysis, all collected data concluded that most of the phytoconstituents present in these medicinal plants act as potential agents in complexion improving process as significant tyrosinase inhibitors, thereby acting as modulating agents of different cellular signalling pathways on the melanogenesis pathway.

Keywords: Medicinal plants, Melanogenesis, Skin whitening, Tyrosinase