

Medicinal Plants and Natural Compounds in the Treatment of Acne: A Review

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Abstract

Introduction: Acne is an infectious chronic inflammatory disorder occurring in skin's outer tissue and characterized by seborrhea, pimples, papules, comedowns and nodules based on severity. It can be caused by increased sebum production, abnormalities in epithelium, inflammation and microbiological reasons. Several natural active herbal compounds have been reported with anti-acne effects.

Methods and Results: Various literatures containing the keywords including Anti-acne medicinal plants, Anti-acne herbal remedies, Anti-acne herbs have been extracted from different databases including PubMed, Science Direct and Scopus. Among medicinal plants, Pinaceae, Berberidaceae, Asteraceae, Zingiberaceae and Piperaceae families had shown anti-acne effects. Among the aforementioned families for example, *Abies koreana* essential oil has shown anti-microbial and anti-inflammatory effects. Moreover, ethanol extract of *Ammannia baccifera* and *Berberis aristata* had anti-bacterial effects on acne-induced microorganisms. *Berberis vulgaris* was also evaluated and its anti-bacterial, anti-inflammatory and anti-lipogenic effects were confirmed. Also, *Curcuma longa* showed anti-oxidant effects that can be applied in acne therapy. Various herbal compounds from these medicinal herbs have been reported as anti-acne agents, due to their anti-bacterial, anti-inflammatory, anti-sebum and anti-androgen effects. Chemical identity of these agents was confirmed as phenol derivatives, flavonoid and tannin compounds, e.g. Rhodomyrtone, Pulsaquinone, Hydropulsaquinone, Honokiol, Magnolol, Xanthohumor and lupulones. In this study, we classified and summarized these reports to identify the best effective herbal medicines for acne therapy.

Conclusions: Nowadays herbal medicine and natural compounds provide valuable, effective and safe agents for the treatment of acne. According to the studies, there are numerous herbs and herbal compounds with anti-acne effects and they can be used as an alternative treatment against this inflammatory disorder.

Key words: Acne, medicinal plants, anti-bacterial, anti-inflammatory, anti-oxidant,