

Chemical taxonomy, pharmacological actions and therapeutic suitability of isolated phyto-oils against pathogenic bacteria – A comprehensive review

Shasank Sekhar Swain¹, Sudhir Paidasetty², and Rabindra Padhy³

¹Regional Medical Research Centre Bhubaneswar

²Siksha O Anusandhan University School of Pharmaceutical Sciences

³Siksha O Anusandhan University Institute of Medical Sciences and SUM Hospital

June 29, 2020

Abstract

Thousands of phyto-oils (POs), also known as essential oils (EOs), isolated from several medicinal and aromatic plants are used in prominent therapeutic approaches from old age to present day drug development modules. In comparison to isolation and utilization, POs are not used adequately in the pharmaceutical, cosmetic and food processing industries for poor solubility, low bioavailability with some uncharacterized mechanisms without proper toxicity reports. Thus, this review focus on the documentation of biological/ therapeutic values, particularly antimicrobial potencies, mode of action, economic importance, toxicity profiles of several classes of POs with available methods to overcome the poor drug-likeness properties of POs. Strategically adopted techniques such as nanoemulsions, liposomes, cyclodextrins, chemical conjugation, etc., are the symbiotic method to enhance the drug-ability, bio-stability, bio-availability, controlled delivery/ releases of POs on a specific target site to use as potent and safer antibacterials. As a result, several biologically active POs could be used in antibacterial drug development towards the control of gruesome multidrug-resistant pathogenic bacterial.

Hosted file

TEXT P0s_BJP.doc available at <https://authorea.com/users/337729/articles/463304-chemical-taxonomy-pharmacological-actions-and-therapeutic-suitability-of-isolated-phyto-oils-against-pathogenic-bacteria-a-comprehensive-review>

Hosted file

Figures P0s_BJPS.doc available at <https://authorea.com/users/337729/articles/463304-chemical-taxonomy-pharmacological-actions-and-therapeutic-suitability-of-isolated-phyto-oils-against-pathogenic-bacteria-a-comprehensive-review>

Hosted file

Tables P0s_BJP.doc available at <https://authorea.com/users/337729/articles/463304-chemical-taxonomy-pharmacological-actions-and-therapeutic-suitability-of-isolated-phyto-oils-against-pathogenic-bacteria-a-comprehensive-review>