

Phytochemical Evaluation and In-Vitro Antibacterial Activity of Ethanolic Extracts of Moroccan Lavandula x Intermedia Leaves and Flowers

Authors : Jamila Fliou, Federica Spinola, Ouassima Riffi, Asmaa Zriouel, Ali Amechrouq, Luca Nalbhone, Alessandro Giuffrida, Filippo Giarratana

Abstract : This study performed a preliminary evaluation of the phytochemical composition and in vitro antibacterial activity of ethanolic extracts of Lavandula x intermedia leaves and flowers collected in the Fez-Meknes region of Morocco. Phytochemical analyses comprised qualitative colourimetric determinations of alkaloids, anthraquinones, and terpenes and quantitative analysis of total polyphenols, flavonoids, and condensed tannins by UV spectrophotometer. Antibacterial activity was evaluated by determining minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) values against different ATCC bacterial strains. The phytochemical analysis showed a high amount of total polyphenols, flavonoids, and tannins in the leaf extract and a higher amount of terpenes based on colourimetric reaction than the flower extract. A positive colourimetric reaction for alkaloids and anthraquinones was detected for both extracts. The antibacterial activity of leaves and flower extract was not different against Gram-positive and Gram-negative strains ($p < 0.05$). The results of the present study suggest the possible use of ethanolic extracts of L. x intermedia collected in the Fez-Meknes region of Morocco as a natural agent against bacterial pathogens.

Keywords : antimicrobial activity, Lavandula spp., lavender, lavandin, UV spectrophotometric analysis

Conference Title : ICEDO 2024 : International Conference on Endocrinology, Diabetes and Obesity

Conference Location : Zurich, Switzerland

Conference Dates : January 11-12, 2024