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Phytochemical and biological investigation of *Verbena tenara* spring cultivated in Egypt

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Essential oil (EO), petroleum ether extract (PEE) and methanol extract (ME) were prepared from *Verbena tenara* Spring flowering herb. Their chemical composition, antioxidant, anti-inflammatory and antimicrobial activities were evaluated. EO was prepared by hydrodistillation method and analyzed by GC and GC/MS, which revealed the presence of ten compounds representing 82.54% of total EO composition. The major constituents were citronellyl acetate (33.2%), menthol (15.64%) and eugenol (13%). Lipoidal matter of PEE was studied by GC and GC/MS, which revealed the presence of eighteen compounds, the main constituents of saponifiable matter were erucic acid (16.85%), palmitic acid (13.6%) and arachidic acid (12.85%). While stigmasterol (25.03%), phytol (4.31%) and β -sitosterol (3.2%) were the main components of unsaponifiable matter. Quantitative study of ME by colourimetric methods revealed that the percentage of phenolics, phenylethanoids and irridoids were 46 ± 0.6 , 165 ± 1.87 and 32.77 ± 1.00 $\mu\text{g}\%$, respectively. EO, PEE and ME showed significant antimicrobial activity against the tested microorganisms. Additionally, EO exhibited antioxidant activity, PEE showed anti-inflammatory effect while ME showed significant antioxidant and anti-inflammatory effects.

Biography

Taghreed A Ibrahim received her MSc and PhD degree in Pharmacognosy from Cairo University, Egypt. She teaches Pharmacognosy and Phytochemistry courses for Bachelor, PharmD and Postgraduate students in College of Pharmacy, King Saud University, Riyadh, KSA. Her research interests have been in the broad area of traditional herbal medicine, phytochemistry and natural products. She is also the director of Quality Unit, College of Pharmacy, King Saud University. She has published more than 25 papers in reputed journals. She is a member and reviewer of several societies and journals and has been serving as an editorial board member of reputed journals.

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