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**GC–MS-Based metabolites profiling, in vitro antioxidant, anticancer, and antimicrobial properties of different solvent extracts from the botanical parts of *Micromeria fruticosa* (Lamiaceae)****Anwar Alhajeh and Ghader Omar***An-Najah N. Univesity, Palestine*

The present study assessed the metabolites and bioactivities of *Micromeria fruticosa* plant parts extracted with various solvents (ethanol, n-hexane, and water) through the steeping extraction method. Thereafter, the extracts were analyzed using GC-MS. Moreover, the extracts were tested for their antioxidant, antimicrobial, and antitumor activities. The quali-quantitative analysis of *Micromeria fruticosa* crude extracts revealed the occurrence of 27 secondary metabolites. Some major bioactives identified were menthone, oleamide, pulegone, and menthol. Numerous antioxidant minerals, viz., Fe, Zn, and Mn, were present. The water extract of leaves exhibited the highest DPPH scavenging activity (89.73%), followed by the water extract of flowers (80.07%) at 100 µg/mL. The stems' water extract demonstrated greater antimicrobial activity against all the bacteria species tested. The ethanolic leaf and aqueous stem extracts exhibited strong activity against *C. albicans* and *E. coli*. Flowers' aqueous extract demonstrated the highest cytostatic effect on the colon cell line by reducing viability, followed by the leaves' ethanol extract. The extraction solvents influenced the recovery of phytochemicals, and the highest pharmacological activities of the different extracts could be correlated to the presence of additional bioactives. Our results suggest that the *Micromeria fruticosa* plant is a favorable source of natural products with promising properties for potential nutraceutical and functional food applications.

**Biography**

Anwar Alhajeh has completed her master degree in chemistry at the age of 26 years from An-Najah N. University and Research Assistant in Chemistry Department at An-Najah N. Univesity /Palestine. She has experience and previously worked as chemistry teacher in Secondary school for girls, Ateel-Tulkarm and Medical laboratory assistant in City Labs- Paris Street/ Tulkarm . She has Membership in Chemistry Association Al Najah University. Co-organization of scientific seminars and chemical exhibitions. She has published paper in a reputed journal.