ABSTRACT:

Introduction: The mints are herbs rich in phenolic compounds that appear to be capable of preventing many diseases. This study allowed for quantification of the levels of total phenolics and flavonoids from Mentha spicata L. harvested in Bejaia (Algeria) using pure solvents (methanol, ethanol, acetone) and their aqueous mixtures at 50 and 75%. Furthermore, the antioxidant levels were evaluated by two methods. Materials and methods: The total phenolics content (TPC) was evaluated by the Folin-Ciocalteu method. Total Flavonoids content (TFC) was determined by aluminium chloride method Radical scavenging activity (RSA) and total antioxidant activity (TAA) of the extracts were determined by standard methods. Results and conclusion: The solvents ethanol and acetone (at 75%) gave the best extraction rates for Mentha spicata (20.02 and 20.20% respectively). The ethanol extract (at 50%) presented the highest TPC (39.47 ± 1.81 mg EAG/g DW). Regarding TFC, acetone 75% was the best extractor (7.68 ± 0.02 mg EQ/g DW). The acetic extract at 50% manifests the highest RSA, whereas, the TAA was attributed to the acetonic (0.23 ± 0.01 AU) and ethanolic extracts (0.22 ± 0.02 AU) without significant difference. The variation in the antioxidant capacity between extracts was probably due to the difference of the nature of the compounds extracted with different solvents.