



Abstract

The Functional Potential of the Saharan Wild Olive Related to Their Bioactive Compound Contents and Biological Activities [†]

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The Saharan wild olive is a plant used for food and medicinal purposes in the Mediterranean region [1]. In this study, the leaves of *Olea europaea* subsp. *laperrinei* were investigated for their functional phytochemical profile, in vitro antioxidant properties, and acetylcholinesterase (AChE) inhibitory activity. Phenolic compounds were distinctively profiled in the different extracts using TLC and standard phenolics. Maceration in methanol allowed recovering the highest cumulative phenolic, flavonoid, flavonol, and hydrolyzable and condensed tannin contents (390.14; 478.16; 23.22; 64.19 and 3.81 mg/g, respectively). The ethyl acetate and methanol extracts showed high in vitro antioxidant activities using different assays (total antioxidant capacity, DPPH, ABTS, DMPD, and superoxide radicals, beta-carotene, metal chelating, FRAP, and CUPRAC), whereas ethyl acetate extract showed the highest inhibition against AChE (510.33 µg/mL). The phytochemical analysis showed the presence of caffeic acid, kaempferol, naringin, quercetin, isoquercitrin, hyperoside, rutin, and chrysophanol in extracts. These findings showed that the methanol extract is a rich source of bioactive compounds. A promising nutraceutical potential could be highlighted in our understudied Saharan wild olive.

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