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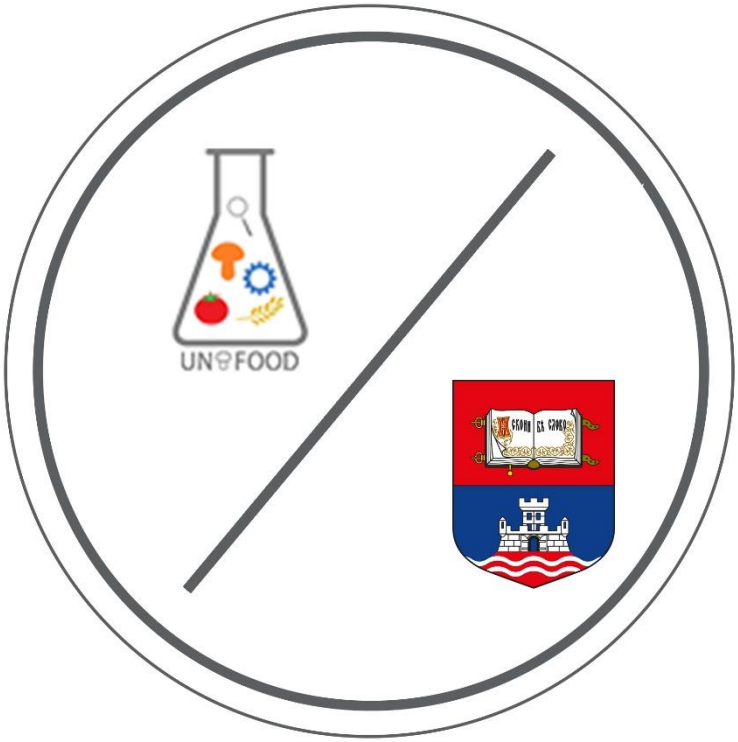

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COMPARISON OF PHENOLICS CONTENT AND *IN VITRO* BIOLOGICAL ACTIVITIES OF PARSLEY AND BEAR'S GARLIC LEAVES EXTRACTS

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Epidemiological evidence shows that the population of Mediterranean countries, where the daily consumption of significant quantities of culinary herbs and spices is common, has lower incidences of chronic diseases and higher life expectancy than those adapted to the western lifestyle. Parsley (*Petroselinum crispum* (Mill.) Nym) and bear's garlic (*Allium ursinum* L.) have been widely used in diet as a source of micronutrients and to enhance the taste of foods. In addition to the well-known diuretic effect of parsley and hypolipidemic effect of bear's garlic, ascribed to flavonoids and sulfur compounds (methiin and alliin), respectively, they are also used in traditional medicine as an antioxidant, antimicrobial and antidiabetic agents. In the present study, dry hydroethanolic extracts of *P. crispum* (PC) and *A. ursinum* (AU) leaves were compared in terms of total phenolics content, antioxidant and enzyme inhibition activity. The total phenolics content (TPC) was measured by the Folin–Ciocalteu method, while the antioxidant capacity was determined by the radical scavenging (ABTS) and reducing power (FRAP) assays. Spectrophotometrically *in vitro* assays were performed to evaluate α-amylase and α-glucosidase inhibition activity. Quantitative analysis revealed that PC had higher TPC than AU (28.51 ± 1.10 vs. 19.85 ± 0.66 mg GAE/g of extract), which was in accordance with exhibited better antioxidant activity of PC compared to AU (132.21 ± 3.28 vs. 75.40 ± 4.84 µmol TE/mg of extract for ABTS; 2.63 ± 0.18 vs. 1.95 ± 0.08 µmol TE/mg of extract for FRAP). The extracts showed concentration-dependent inhibition of α-amylase, with IC_{50} values of 19.83 ± 1.41 mg/ml for PC and 10.07 ± 0.12 mg/ml for AU, while they didn't show valuable α-glucosidase inhibition activity. These findings support the traditional use of parsley and bear's garlic as beneficial antioxidants and mild hypoglycemics, and as spices, they could be considered integral for the implementation of diabetes diet therapy.

Keywords: Petroselinum crispum, Allium ursinum, phenolics, antioxidant, α-amylase

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