Nutritional quality and antioxidant activity of selected edible wild mushrooms

Abstract

Five species of edible wild mushrooms were selected to determine the proximate composition, vitamins (retinol, α-tocopherol, γ-tocopherol, thiamin, riboflavin, and ascorbic acid) and mineral contents (Fe, Zn, Co, Ca, Mg, K, and Na), antioxidant activity, and total phenolics. Hygrophorus sp. showed significant higher ($p<0.05$) fat content as compared to other wild mushrooms with the mean value of 6.57%. However, Polyporus tenuiculus was found to be a good source of fiber while Hygrocybe sp. was good in α-tocopherol among the mushrooms tested. The iron and calcium contents were the highest in Hyrocybe (175.64 μg/g) and Hygrophorus sp. (81.70mg/100g) respectively. The in vitro antioxidant activities of petroleum ether (PE) and methanolic extracts of the edible wild mushrooms were comparable to the cultivated oyster mushroom. The radical scavenging activity was highest for PE extract of Pleurotus sp. (85%) while methanolic extract of Hygrocybe sp. exhibited the highest (94%) chelating effect, in correlation with its significantly higher ($p<0.05$) phenolics content (42.21 mg GAE/g extract). In conclusion, edible wild mushrooms can be an excellent source of micronutrients and antioxidant components.

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