

Nutrient Composition, Antioxidant Activities and Glycaemic Response of Instant Noodles with Wood Ear Mushroom (*Auricularia cornea*) Powder

ABSTRACT

Auricularia cornea, or wood ear mushroom (WEM), is an edible macrofungus that is popular as a delicacy and for various biological activities. This study aims to determine the nutrient composition, in vitro antioxidant activities and the effect on postprandial blood glucose in human subjects after consuming instant noodles incorporated with 5% WEM powder. The proximate composition of WEM powder was 9.76% moisture, 2.40% ash, 7.52% protein, 0.15% fat, 37.96% crude fibre, 42.21% carbohydrate, and a total dietary fibre was 69.43%. Meanwhile, the proximate composition of 5% WEM noodles was 10.21% moisture, 2.87% ash, 11.37% protein, 0.16% fat, 5.68% crude fibre and 68.96% carbohydrates, while the total dietary fibre was 13.30%. The mineral content of WEM powder in decreasing order: potassium > calcium > magnesium > sodium > iron > zinc > manganese > copper > selenium > chromium. The incorporation of 5% WEM powder significantly ($p < 0.05$) reduced carbohydrates and increased the ash, crude fibre and total dietary fibre, antioxidant activities and total phenolic content of the instant noodles. Furthermore, the incorporation of 5% WEM significantly increased potassium, calcium, magnesium, iron, and zinc content. The addition of WEM powder reduced the postprandial glycaemic response and produced a moderate glycaemic index (GI). In conclusion, the incorporation with WEM powder could be an effective way of developing nutritious and low GI instant noodles, thus, improving nutrient intake and human health.