

Effect of *Cosmos caudatus* Kunth. (Ulam Raja) aqueous and dry extracts on the physicochemical and functional properties, and sensory acceptability of herbal yellow alkaline noodles

ABSTRACT

Introduction: *Cosmos caudatus* (Ulam Raja) is rich in phytochemicals and can be utilised in diet diversification strategies to improve the health of individuals. This study was designed to incorporate dry and aqueous extracts of *C. caudatus* for the preparation of herbal noodles. **Methods:** For this purpose, different proportions of dry extract (2, 4 and 6% dry extract) and aqueous extract (5, 10 and 15% aqueous extract) of *C. caudatus* were used. The physicochemical properties of noodles evaluated were pH, cooking time, cooking loss, texture and colour. Total polyphenol contents (TPC) and 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay were carried out to assess the antioxidant potential. Lastly, sensory appraisal of functional noodles was carried out to assess consumer acceptance and marketability. **Results:** The results on physicochemical properties indicated that the pH value of noodles varied from 8.66 to 10.47. In terms of textural analysis and colour properties, firmness and greenness (a^*) were higher in dry extract noodles. TPC varied between 115 to 149 mg gallic acid equivalents (GAE/100g) whilst the highest DPPH free radical inhibition was exhibited in herbal noodles prepared using 4% dry extract (92.8%). In contrast, in terms of sensory appraisal, herbal noodles prepared with aqueous extract were more acceptable than dry extract noodles. **Conclusion:** *C. caudatus* can be utilised to prepare herbal noodles thus enhancing the dietary intake of phytochemicals especially antioxidants. Such functional foods can improve the health of consumers and offer the potential of protection against various ailments.

Keyword: Antioxidants; *Cosmos caudatus*; DPPH assay; Functional foods; Herbal yellow alkaline noodles