Development of a Fish Powder Incorporated Instant Noodles

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Instant noodles are a popular food in many parts of the world. However, most of the instant noodles commercially available are nutritionally not balanced. The aim of this study was to improve the nutritional composition of instant noodles by incorporating fish powder as a protein, vitamin and mineral source, and to evaluate its physicochemical and sensory properties. Different formulations of instant noodles were prepared with wheat flour and 0, 10, 15 and 20% of fish powder from four fish species, such as, Indian anchovy (*Stolephorus indicus*), kelee shad (*Hilsa kelee*), milk shark (*Rhizoprionodon acutus*) and sea chicken (*Balistoides viridescens*). Cooking properties (optimum cooking time, cook loss, cooking yield, swelling index and water absorption index) among fish powder incorporated noodles were not significantly (P>0.05) different. Therefore, 15% fish powder incorporated formulations were selected based on the cost factors and nutritional quality to study textural (hardness, adhesiveness, elastic recovery and firmness) and sensory properties. Among the 4-types of fish powder (15%) incorporated instant noodles, titan triggerfish and milk shark fish powder incorporated noodles had the highest consumer preference. Incorporation of fish powder did not significantly (P>0.05) affect the cooking or textural parameters of the noodles. Milk shark fish powder (15%) and sea chicken fish powder (15%) could increase protein content in noodles up to 26.10% and 27.40% respectively. According to this study, it can be concluded that milk shark and sea chicken fish powders can be successfully incorporated into instant noodles to improve its nutritional and sensory qualities.

Keywords: Fish powder, Instant noodles, Nutritional properties, Textural properties, Sensory evaluation

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