Formulation of Instant Porridge Cube from Hingurala Yam (*Dioscorea alata*) Flour, Soybean (*Glycine max*), and Flax Seed (*Linumusitatis simum L*)

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Abstract

Instant Porridge is a very popular food among people regardless of age. This study was carried out to develop a convenient, nutritious, and functional food product to meet the dietary needs of a diverse population. In the formulation of this instant cube, key ingredients were incorporated that have been identified in previous studies as beneficial for alleviating postmenopausal symptoms and ensuring a high carbohydrate content along with other important nutritional elements. This means that it will support hormonal balance and also energize, providing overall nutritional value that makes it fitting for an even bigger audience of people looking for functional health benefits and a nutrient-dense food option. The cube contains Hingurala flour, soybean flour, flax seed flour, curry leaves, garlic, pepper, and coconut powder. Sensory evaluation was performed to determine the optimal formulation with the highest level of consumer acceptance across four treatment samples. The sensory attributes, including color, aroma, viscosity, flavor, mouthfeel, appearance, and overall acceptability, were evaluated by an untrained panel of 30 individuals. The product containing 80% Hingurala flour, 10% flax seed, and 10% soybean flour was selected as the best product considering its sensory attributes. Each attribute received a score exceeding the average value of 4.0. Sensory attributes were analyzed using SPSS Software. It was found to contain 43.27% carbohydrate, 13.96% Crude protein, 23% Crude fat, 2.31% Fiber, 10.13% Ash and 9.63% Moisture. In conclusion, the instant porridge cube selected with the highest consumer acceptance represents an optimal combination of ingredients for making a novel, convenient, nutritious, and functional food product.

Keywords: *Flax seed, Hingurala, Postmenopausal symptoms, Soybean*