Acceptability of Protein and Carbohydrate-rich Drinks made from Pigeon Pea (Cajanus Cajan L.) and Black Rice (Oryza Sativa L.)Flours through Sensory Evaluation

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The utilization of pigeon pea and black rice in developing new processed food products can contribute to the reduction of hunger in the country, hence ensure food security in the country, particularly in rural areas. It can also help with nutrition security as pigeon pea and black rice are good sources of nutrients. The purpose of this study was to develop drinks, particularly protein and carbohydrate-rich drinks to address Protein-Energy Malnutrition (PEM) in school children (6-12 years old). Aside from drinks made with 100% pigeon pea and 100% black rice, there were three ratio variations of pigeon pea flour : black rice flour (50:50, 25:75 and 75:25) made, ideally with serving temperature between 10-20^{0}C. The five samples of the drinks were then subjected to sensory evaluation (appearance, aroma, taste, sweetness, texture), general acceptability test and food action rating test. The results showed that sample with ratio 25:75 (pigeon pea: black rice) was the most preferred, thus most acceptable. One serving (53 grams) of this drink contains 143 kilocalories, 30 grams of carbohydrate, 4 grams of protein, 0.60 grams of fat and 2 grams of dietary fiber. It could suffice 7-10 % of total energy of school children per day based on Recommended Energy and Nutrient Intake (RENI). In conclusion, drinks made from pigeon pea and black rice flours can be used to supplement the energy needs of a school children as it is acceptable, nutrient-dense and economical.

Keywords: Pigeon pea, Black rice, Nutrition Security, Malnutrition, Sensory Evaluation, School Children