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Development of finger millet (*Eleusine coracana*) based baked product as a substitute for wheat flour based food products

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Health consciousness is widely spoken of at present as incorrect food habits have led to increased incidence of non-communicable diseases. Finger millet (*Eleusine coracana*), popularly known as *Kurakkan* is an important staple food of dry zone farmers in Sri Lanka. Its health benefits are attributed to complex carbohydrates, dietary fiber and polyphenol etc. In keeping with 'Mahinda chinthana vision forward', government offices and schools took steps to promote rice and finger millet flour based items and discourage wheat flour based food products at their premises. The objective of the study was to introduce high fiber, low fat finger millet flour based sweet baked product as a substitute for wheat flour based food products. Three types of coconut incorporated cake mixtures were prepared with different finger millet and rice flour ratios: 30% finger millet flour: 70% rice flour; 50% finger millet flour: 50% rice flour and 70% finger millet flour: 30% rice flour. The dough of three mixtures was baked separately in a preheated oven at 150 °C for 45 minutes. The appearance, texture, flavor, aroma, color and overall acceptance of the three different baked products were evaluated on a 5-point hedonic scale using 30 panelists. The results obtained from hedonic test were analyzed using Friedman test. Non-parametric analysis was carried out using MINITAB version 16. The baked product which contained 70% finger millet flour and 30% rice flour recorded the highest preference for the flavor ($p = 0.000$), aroma ($p = 0.017$) and overall acceptability ($p = 0.001$). The general acceptance is that inclusion of finger millet flour in preparing food items is restricted due to its coarseness and bulky nature. The results showed that this supposition is not completely correct, as the consumer preference increased when the proportion of finger millet flour used was increased. This is a positive sign that there is a possibility of incorporating a higher proportion of finger millet flour in making food items in the future without affecting consumer preference and thereby, the production of wheat flour based food items can be discouraged.

Keywords: Acceptance, aroma, baked-product, finger millet, flavor