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Development of sausages from immature jackfruit (Artocarpus heterophyllus) with rice bran fermented with Lactobacillus delbrueckii subsp. bulgaricus

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Jackfruit (Artocarpus heterophyllus) is used as a food and for primary healthcare in traditional medicine of Sri Lanka for a long time. A survey was carried out in Mihintale Divisional Secretariat, North Central Province in Sri Lanka with the aim of finding the use of young jackfruit for medicinal and nutritional purposes. Data was gathered from randomly selected 175 villagers and 25 traditional physicians, including ayurvedic doctors using key informant interviews. Results of the survey reveal that 85% of the respondents state that jackfruit has valuable pharmacological and nutritional properties and used for it for generations. Fifteen percent of respondents said that it used only as food and not for medicinal value. Ten percent of the above majority, being traditional physicians stated that immature jackfruit (polos) is used to enhance platelet count of the blood circulation system in the human body. The survey revealed, processing immature jackfruit into novel food was timely and useful. Therefore, sausages were developed with polos and rice bran fermented with Lactobacillus delbrueckii subsp. bulgaricus. Three types of rice bran, including brans of red rice, white rice and mix of both were fermented separately with L. delbrueckii was used to make sausages from polos. Similarly, above three types of rice bran, without fermentation, were also used in another set of treatments. A sensory evaluation was performed and statistical analysis revealed that fermented white bran included polos sausages has significantly higher consumer preference for taste (p = 0.002) than sausages with non-fermented white rice bran. The fermentation of rice bran did not significantly affect (p > 0.05) for overall appearance of the sausages irrespective of the type of rice bran. The aroma of sausages with the mixture of fermented rice bran showed a significantly higher consumer preference (p=0.01). Therefore, mixing immature jackfruit and fermented rice bran with L. delbrueckii can be used to produce an alternative food, sausages which have got nutritional and medicinal properties.

Keywords: Traditional medicine, Immature jackfruit, *Polos* sausages, *Lactobacillus delbrueckii*, Fermentation