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Development of Herbal Tea Blended with Cinnamon bark powder (*Cinnamomum verum*) and the Leaves of Guava (*Psidium guajava*) and Garcinia (*Garcinia quaesita*)

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Tisanes or herbal teas are a popular beverage in modern days, as it is considered natural, safe, and help in promoting health. Nowadays, consumer patterns and lifestyle modification are in concern regarding the burden of many non-communicable diseases, including diabetes mellitus. Hyperglycaemia is the most predominant condition in diabetes patients and prediabetes patients. This study was intended to develop a herbal tea blend incorporated with selected plant extracts; Cinnamon, Guava, and Garcinia, which are known to have hypoglycaemic effects. The product development involved preliminary evaluation of individual herbal infusions and optimising the best temperature and time combination to obtain the highest preference in organoleptic properties. Initial limits of the ingredients found to be 2 g, 1 g, and 1 g for Cinnamon, Guava and Garcinia, respectively in a green tea base to obtain a 200 mL of the tea brew. The final products' brews were sensorily evaluated using thirty-membered semi-trained panellists on a 5-point hedonic scale, against a well-established commercial green tea product. Based on analysed sensory data, it was found that the selected best brewing temperature-time combination was 95 °C for 5 min. The prepared herbal tea blend was significantly ($p<0.05$) preferred by the panellists for all attributes except the colour, which was due to the opaqueness of the brew. The developed herbal tea blend also received overall preference due to its less astringency, pleasant smell, and the smooth citrusy flavour. The measured Brix and the acidity (pH) of prepared herbal tea blend brew were 0.3 and 5.5, respectively, whereas those were in the commercially available Green tea brew, 0.5 and 6.9, respectively. The shelf-life study (Total Plate Count) was revealed that the developed herbal tea blend powder, packed in a tea bag with double laminated polythene, could be stored for three months at ambient temperature condition. As a conclusion, herbal tea blend with medicinal plant incorporation has been successfully developed in this study that can be used in supporting to improve hyperglycaemia.

Keywords: Garcinia leaves, *Guava leaves, Herbal tea, Sensory evaluation*