DEVELOPMENT OF A VALUE-ADDED SET YOGHURT BY INCORPORATING *NISHAMALAKI CHURNA*

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Nishamalaki Churna (NC) is a 1:1 mixture of turmeric and gooseberry powder used as a reputed ayurvedic treatment for diabetes mellitus (DM). The present study aims to develop a set yoghurt incorporating NC and evaluate its impact on postprandial blood sugar (PPBS) in healthy adults. Sensory evaluation with 30 untrained panellists revealed that the palatable NC concentration in a yoghurt (80 g) was 1 g of gooseberry: turmeric mixture in 3:1 ratio though the recommended dosage is 2 g of 1:1 ratio mixture. The physiochemical, microbiological, antioxidant (AO), and total phenolic content (TPC) of developed yoghurt (DY) were compared with a control yoghurt made with non-calorie sweetener (NY). Antioxidant capacity was determined using methanol extracts. On 3 separate days, fasting blood glucose levels and PPBS levels at every 30 min for 2 h were estimated daily using the glucose oxidase colourimetric method after giving a standard meal (872.6 kcal) of SM+NY and SM+DY for 14 healthy individuals. Blood glucose and time were plotted on a graph and the incremental area under the curve (IAUC) was estimated. Moisture (83.1±0.07%), crude fat (4.0±0.06%), and crude protein (3.2±0.10%) were not significantly different ($p>0.05$) among the two types of yoghurt. The ash content of DY (1.0±0.01%) was significantly higher ($p<0.05$) than the NY (0.7±0.01%). The AO and TPC were significantly higher ($p<0.05$) in DY (AO=31.3±1.57 µmol Trolox eq g^{-1}; TPC=199.6±1.31 mg GAE $100g^{-1}$) than NY (AO=1.5±1.60 µmol Trolox eq g^{-1}; TPC=25.3±0.53 mg GAE $100g^{-1}$). The IAUC of SM, SM+CY, and SM+DY were not significantly different ($p>0.05$). The dosage in DY was not effective in reducing PPBS, however, it could be recommended as a dessert for patients suffering from non-communicable diseases, as it contains an abundance of antioxidants.

Keywords: Antioxidants, Postprandial blood sugar, Set yoghurt