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Impact by value-added coconut (*Cocos nucifera L.*) jaggery on blood glucose level

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Consumer awareness of low sugar-containing food intake has increased, and people use different types of rating method to identify the quality of food such as Glycemic Index (GI). GI shows how quickly each food intake impact on your blood sugar level. Three categories of GI could be identified such as low, medium, and high.

We have studied GI of different types of coconut jaggery such as jaggery prepared from traditionally collected coconut sap with hal (*Vateria capallifera*) bark (HAL Jaggery), value-added coconut jaggery with 0.2% cinnamon (*Cinnamomum zeylanicum*) (CIN Jaggery) and nutmeg (*Myristica fragrans*) (0.05%) added jaggery (NUT Jaggery). Twenty-one healthy human volunteers (female: 9 and male:11) aged between 20 to 40 years were used to evaluate the GI of jaggery samples after analyzing fasting blood glucose concentration, body mass index, and a simple blood test that measures your average blood sugar levels over the past 3 months (HbA1c). After fasting, intake of food sample blood sugar concentrations were analyzed during 2 hr duration while keeping 30 min gaps to evaluate the fluctuation of blood sugar concentration. When we look at the results of initial blood analysis, participants of the study had healthy limits of fasting blood glucose concentration and HbA1c values. The total and digestible starch percentages were similar in three types of jaggery, but higher resistant starch content was observed in HAL Jaggery. The peak value of glucose concentration of three types of jaggery, were 143.33 ± 12.61 mg/dL, 153.07 ± 15.25 mg/dL and 145.13 ± 22.39 mg/dL, respectively, in HAL, CIN and NUT Jaggery types. The results confirmed that the GI of HAL (55.79 ± 20.36), NUT (57.56 ± 22.95) and CIN (59.45 ± 20.36) Jaggery was similar, and all three types can be categorized as medium GI sweeteners.

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