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Glycemic responses by coconut (*Cocos nucifera*) jaggery and cane sugar (*Saccharum officinarum*): A comparative study

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Abstract

Cane sugar (*Saccharum officinarum*) and coconut (*Cocos nucifera*) jaggery are prominent sweeteners in food industry. The aim of this study was to evaluate Glycemic Indices (GI) of cane sugar and coconut jaggery using healthy human subjects. The sugar profile and starch fractions (Total starch – TS, Resistant starch-RS, and Digestible starch – DS) of cane sugar and coconut jaggery, two test foods, were studied using thirty-six (n=36) healthy volunteers aged 20 – 40 with a body mass index of 18-25 after a health screening. Fifty grams of digestible carbohydrate containing test food portions were given for each subject who had been fasting for 8 - 12 hours. Intravenous blood samples were collected to analyze blood glucose concentration. It was known that cane sugar contained high percentages of TS (95.86 ± 1.58 %), and DS (95.73 ± 1.59 %) while showing and RS was just 0.13± 0.02% while coconut jaggery contained a lower percentage of sucrose (76.12±1.62 %) and glucose (5.22±0.11%) compared to cane sugar. In addition, healthy volunteers (25.95±3.62 years) who were having healthy fasting blood glucose concentrations (73.54±8.89 mg/dL) and HbA1c (5.05±0.35 %) were tested with glucose, and the two test foods. There was no significant difference (p<0.05) between blood glucose response curves as well as GI of coconut jaggery (65.19±36.53) and cane sugar (60.76±35.80), where both can be considered as moderate GI sweeteners.

Keywords: Cane sugar, Coconut jaggery, Glucose response, Glycemic Index

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