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Sri Lankan Rice Mixed Meals: Effect on Glycaemic Index and Contribution to Daily Dietary Fibre Requirement

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ABSTRACT

Introduction: The glycaemic index (GI) concept ranks starchy foods according to the blood glucose responses following ingestion. When considering commonly consumed Sri Lankan meals, only a few can be categorised as low GI. However, a significant negative correlation between the GI of Sri Lankan meals and fibre content has been observed indicating the potential to reduce the GI of meals by incorporating naturally occurring sources of fibre. Thus, the objective of this study was to study the effect of increased edible quantities of fibre on the GI of rice meals consumed in Sri Lanka. **Methods:** Meal 1 consisted of rice with several meal accompaniments (lentil curry, boiled egg, coconut gravy and *Centella asiatica* (*gotukola*) leaves salad). Meal 2 contained similar constituents as meal 1 and a *Lasia spinosa* (*kohila*) rhizome salad. The composition of meal 3 was similar to meal 2 but contained *Trichosanthes cucumerina* (snake gourd) salad instead of *Lasia spinosa* salad. Meal 3 contained similar fibre contents as meal 1 and similar meal size as meal 2. The glycaemic indices of the three meals were determined with healthy individuals (n=10, age =20-30 yrs, BMI=24±3 kg/m^2) using bread as the standard. **Results:** Meals 1 and 3 contained total dietary fibre (TDF) contents of 15.2g. Meal 2 contained 16.3g TDF. The GI values of the three meals were 63±5, 57±5, 61±5 respectively and were not significantly different from one another (p>0.05). The GI of the rice mixed meal 2 was reduced by 9% when total edible dietary fibre content of the actual meal was increased by 7.2%. **Conclusion:** The study results show that the GI of rice mixed meals may be reduced by including naturally occurring sources of fibre with starchy staples while fulfilling daily dietary fibre requirement of an adult at low cost.

Keywords: *Centella asiatica*, dietary fibre, glycaemic index, *Lasia spinosa*, rice meals