

Glycemic Index values of some Jaffna fruits

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Submission date: December 7, 2011, Acceptance date: February 29, 2012; Publication date: February 29, 2012

Abstract

Background: The incidence of diabetes mellitus has recently increased in developing countries. Scientific data on glycemic index values of common meals is essential to modify the diets for diabetes mellitus patients. This study aimed to evaluate the glycemic index (GI) values of fruits such as 'Kathali' (Yellow plantain), 'Kappal' (Golden plantain), and 'Itharai' (Green plantain) varieties of plantains, jack fruit and papaya. The results will be helpful to physicians and the general public to decide the benefits of the consumption of fruits, particularly by diabetic and coronary heart disease patients.

Methods: Healthy volunteers (20 Nos.) of 21.05(±0.92) years, 53.90 (±9.36) kg body weights, 153.92 (±9.15) m heights, and 20.55 (±2.22) kgm⁻² body mass indexes were selected with their written consent. After overnight fasting, 75g glucose and each test fruit containing 75g digestible carbohydrate were administered at different instances and blood glucose levels were measured half hourly for two hours. The glycemic response and GI values were calculated and analyzed by Randomized Complete Block Design using SAS analytical package.

Results: The mean GI values of the 'Kathali', 'Kappal', 'Itharai' varieties of plantains, jack fruit and papaya were 54.45 (±9.26), 50.43 (±5.79), 48.47 (±10.13), 65.36 (±8.00) and 34.80 (±12.78) % respectively. The GI value of papaya differed significantly (P<0.05) from other fruits. The GI value of 'Itharai' variety of plantain differed significantly (P<0.05) from other fruits except the 'Kappal' variety of plantain.

Conclusion: The three varieties of plantains and papaya were low GI fruits, and jack fruit was found to be an intermediate GI fruit. The presence of dietary fiber, esp. soluble fiber, reduces the glycemic response and glycemic index of foods.

Keywords: Glycemic index, glycemic response, fiber, fruits.