



**Title : GI<sub>food</sub> value versus Glycemic Index of common carbohydrate containing foods in healthy individuals**

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**Introduction:**

Regulation of postprandial blood sugar is an important component of dietary management in metabolic disorders such as obesity and diabetes. The role of carbohydrate quality in influencing glycemia prompted researchers to classify carbohydrates using Glycemic Index (GI). GI has been used effectively for a very long time. But, GI accounts for the available carbohydrates in foods only and is an absolute unchanging value. Recent evidence shows that both the quality and quantity of carbohydrates alongwith the other co-nutrients and processing conditions affect the overall glycemic impact of foods. The concept of GI<sub>food</sub> has been introduced to predict the effect of equal quantities of whole foods on the 2h postprandial glycemic response.

**Methodology:**

Healthy adult volunteers (n=5) were fed 50g of common carbohydrate containing foods and white bread (standard) on separate occasions after an overnight fast and the resulting blood glucose was recorded at every 30 min interval upto 2 hours.

**Results:**

GI<sub>food</sub> value was found to be highest for puffed rice followed by chapatti, moderate for potato and least for rice. On the contrary, the reported GI values were highest for puffed rice and potato followed by rice and least for chapatti. The lower glycemic AUC with consumption of rice and potato can be attributed to their starch composition with lower amylose: amylopectin ratio, smaller starch granules, and lower density of starch due to high moisture content compared to chapatti and puffed rice. The quality of carbohydrates in rice and potato may be hyperglycemic but their physiological response in the body changes upon cooking.

**Conclusion:**

It can be concluded that factors other than available carbohydrate affect the metabolic response to foods. GI<sub>food</sub> provides a more relevant index for comparing responses to whole foods taking into consideration all the aspects of the food as consumed and a practical tool for dietary management in both obese as well as individuals with diabetes.

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