

## EFFECT OF BANANA ON GLYCAEMIC INDEX

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**Background:** Glycaemic Index (GI) is a dietary index that is used to rank carbohydrate-based foods. It measures the rate at which the carbohydrate in a certain food is digested and absorbed into the blood stream as glucose. The GI of food represents its blood-glucose raising potential. The lower GI diets are good for diabetes mellitus patients for the reduction of blood glucose levels. When a person consumes basic foods with different side dishes, GI values could be altered. Therefore, when dietary advices are given to diabetic patients not only do the basic foods have to be considered, but also the side dishes to be consumed must be considered as to their ability to alter the blood glucose level.

**Objectives:** The aim of this study is to evaluate the glycaemic index of black gram based mixed meals and to evaluate the effect of the 'Itharai' banana on GI values of black gram based mixed meals. The results will be helpful to physicians and the public when deciding upon the consumption of mixed meals, particularly by diabetic and coronary heart disease patients.

**Methods:** 20 Healthy volunteers were recruited for this study with the mean age, weight, height, and body mass index of 20.05 ( $\pm 0.92$ ) years, 54.70 ( $\pm 5.74$ ) kg, 1.63 ( $\pm 0.08$ ) m, and 20.73 ( $\pm 2.63$ )  $\text{kgm}^{-2}$  respectively. They were selected then they provided their informed written consent. After overnight fasting, 75g glucose and each test food containing 75g digestible carbohydrates were administered at different intervals and blood glucose levels were measured half hourly for two hours. The GR and GI values were calculated and analyzed by Randomized Complete Block Design using SAS analytical package.

**Results:** The mean GI values of 'dhosai'/'idly' either with 'sambol' or 'sampar' or 'sambol' & 'sampar' were 63.93 ( $\pm 7.62$ ), 71.90 ( $\pm 4.73$ ), 63 ( $\pm 3.46$ ), 56.85 ( $\pm 6.26$ ), 70.32 ( $\pm 8.22$ ) and 63.99 ( $\pm 3.29$ ) % respectively. Adding 'Itharai' plantain to those foods, GI values were 60.17 ( $\pm 3.58$ ), 68.57 ( $\pm 4.18$ ), 63.04 ( $\pm 5.05$ ), 51.10 ( $\pm 6.57$ ), 67.45 ( $\pm 7.87$ ) and 61.30 ( $\pm 3.09$ ) % respectively. The mean GI values of 'dhosai'/'idly' either with 'sambol' or 'sampar' or 'sambol' & 'sampar' differed significantly from those foods with the added 'Itharai' plantain ( $P < 0.05$ ).

**Conclusion:** Based on these GI values, it can be suggested that when plantain ('itharai') was given with 'dhosai' and 'idly', the GI values were decreased. When these foods were eaten with 'sampar', the GI values were increased. The GI values were increased when the foods were consumed with 'sampar' alone or with 'sampar' and 'sambol'. Thus, when consuming the basic foods with different side dishes, the GI values were altered. Therefore, when dietary advices are given to diabetic and coronary heart disease patients, not only the basic foods have to be considered but also the side dishes to be consumed.