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GLYCEMIC INDICES OF FIVE COMMERCIALLY AVAILABLE BREAKFAST CEREAL-BASED PRODUCTS

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The glycemic index (GI) of a particular type of carbohydrate affects the rate of change in blood glucose concentration or glucose metabolism in the body. For healthy eating, foods with a low GI are recommended. This study aimed to determine the GI of five commercially available cereal products. The GI was determined using measured portions of food containing 50 g of carbohydrates given to the six healthy volunteers. Blood glucose curves were constructed based on the blood glucose concentrations at times 0, 30, 60, 90 and 120 min following the meal. The GI was calculated by dividing the Incremental Area Under the Curve (IAUC) for the tested food by that of the Incremental Area Under the Curve of Standard food (IAUCS). After the meal, the average of the respective blood glucose concentrations was used to draw a blood glucose response curve for the two hours. The individual IAUC values for each test food in each subject are expressed as a percentage of the mean IAUC value for the repeated reference food tests taken by the same subject. The mean of the resulting values for each food is the GI value. The Glycemic Load (GL) of a specific serving of each food was calculated using the following equation: GL = (GI of test food × available carbohydrate in a serving of test food [g])/100. MS Excel 2013 and Minitab 2017 were used to analyze the data. The mean values of GI for products 1 to 5 (PRO 1 - PRO 5) were 58.6, 53.5, 82.9, 76.3 and 55.4%, respectively. There was no difference in GI *vs.* GL. The study concludes a significant difference in GI among tested cereal products ($p<0.05$).

Keywords: Cereal products, Glycemic index, Glycemic load