

Original Paper

Association between glycemic index, glycemic load and cardiovascular risk factors in adults

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Abstract

Background and Objective: Limited studies on the relation between the cardiovascular diseases (CVDs) risk factors and dietary glycemic index (GI) and glycemic load (GL) are available. This study was done to determine the association between glycemic index, glycemic load and cardiovascular risk factors in adults.

Materials and Methods: This descriptive study was carried out on 2284 subjects (1327 males, 957 females) with 19-84 age in Tehran, Iran during 2005-08. Dietary GI and GL were assessed using a validated semi quantitative food-frequency questionnaire. Blood pressure, Anthropometric, fasting blood of glucose and lipid profiles including total cholesterol, triglyceride, high density lipoprotein (HDL) and low density lipoprotein (LDL) as a CVDs risk factors were measured. The mean intake of nutrient, adjusted for energy production, gender, age, according to GI and GL, using general linear model analysis covariance test was measured. Data were analyzed using SPSS-15, one-way analysis variance, Chi-Square, partial correlation and Linear regression.

Results: The mean intakes of glycemic index and glycemic load were 68.3 and 244.8, respectively. Dietary GI and GL was inversely associated with whole grain and positively associated with refined grained, fruits, dairy products and simple sugar. After adjustment for lifestyle and dietary variables, dietary GI was inversely associated with triglyceride and HDL cholesterol concentrations among obese subjects. Dietary GL was inversely associated with fasting and 2-h blood glucose among non-obese subjects after adjustment for confounders.

Conclusion: GI in obese men associated with serum increase triglyceride and reduced HDL-C. Glycemic load in a non-obese man is correlated with reducing fasting blood glucose.

Keywords: Glycemic index, Glycemic load, Cardiovascular diseases, Lipid profiles, FBS, Blood pressure

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