

Original Paper

The association of dietary β -carotene and β -cryptoxanthin with the incidence of insulin resistance in adults: Tehran Lipid and Glucose Study

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Abstract

Background and Objective: Dietary intake of β -carotene and β -cryptoxanthin may be associated with reduce the risk of insulin resistance, due to their antioxidant properties. The aim of this study was to determine the relation between dietary intake of β -carotene and β -cryptoxanthin and the risk of insulin resistance in adults.

Methods: In this prospective cohort study, 938 (421 men and 517 women), aged between 19 to 82 years were selected from among participants of the Tehran Lipid and Glucose Study in Iran. Dietary intake of β -carotene and β -cryptoxanthin were determined using a valid and reliable food frequency questionnaire. Fasting serum glucose and insulin were measured at base line and again after a 3-year of follow up. Logistic regression models were used to estimate the occurrence of insulin resistance across tetiles of β -carotene and β -cryptoxanthin with adjustment for potential confounding variables.

Results: The mean age of participants was 40.7 ± 12.1 years. β -carotene was inversely associated with insulin resistance after adjustment for confounder variables (95% CI= 0.25–0.72, OR= 0.42, P-value for trend=0.01). Also, an inverse association was found between dietary intake of β -cryptoxanthin and insulin resistance risk (95% CI= 0.30-0.84, OR= 0.51, P-value for trend=0.01).

Conclusion: There was inverse association between dietary intake of β -carotene and β -cryptoxanthin and risk of insulin resistance in adults.

Keywords: Insulin, Insulin resistance index, β -carotene, β -cryptoxanthin

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