Effects of Holy Basil (**Ocimum tenuiflorum**) Leaf Consumption on Postprandial Blood Glucose and Satiety in Healthy Subjects: A Preliminary Study

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Abstract

Introduction: Holy basil **(Ocimum tenuiflorum)** leaves have been reported to reduce blood glucose. In Indian traditional medicine, they are applied in the treatment of diabetes mellitus. However, the short-term effects of holy basil leaf on blood glucose are still not known. The present study investigated effects of holy basil leaf consumption on postprandial blood glucose and satiety in healthy subjects.

Methods: This study was randomized crossover design. Nine healthy subjects aged between 20 and 22 years old were enrolled. They randomly consumed either 110 g of rice and white omelet (control group) or 110 g of rice and white omelet cooked with 2 g of holy basil leaf powder. Determination of blood glucose was performed before consumption and at 30 min (T30), 60 min (T60), 90 min (T90), and 120 min (T120) after the consumption.

Results: Postprandial blood glucose at T30 was significantly lower in subjects who consumed holy basil leaves ($p < 0.05$) compared with those without holy basil leaves. Area under the glucose curve of the holy basil leaf consumption from 0-30 min (AUC_{0-30}) was also significantly lower ($p<0.05$) than control group. However, satiety levels were not significantly different between two groups.

Conclusions: The present study shows that short-term consumption of holy basil leaves could reduce postprandial blood glucose in healthy subjects. The data suggest preventive effects of the holy basil leaves in attenuating postprandial hyperglycemia and preventing diabetes mellitus.

Keywords: Holy basil, Blood glucose, Satiety, Diabetes mellitus