Glycemic Response of Garlic and Bee Honey Combined Product in Healthy Sri Lankan Individuals

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Metabolic syndrome is a cluster of conditions that includes obesity and type 2 diabetes. They are major health issues in the world caused due to insulin resistance. Low glycemic foods are recommended for prevention and management of metabolic syndromes. The combination of garlic and bee honey is believed to have a hypoglycemic effect but its effect on blood glucose level is not scientifically proven. To bridge this gap, the study focused on the glycemic response of garlic-bee honey combined product compared to pure bee honey. As glycemic index (GI) does not take the amount of carbohydrate in a serving portion, glycemic load (GL) is a better indicator to study the influence of carbohydrates on blood glucose level. GL is obtained by multiplying the GI of a food by the amount of carbohydrate in a serving of that food. The physicochemical properties such as viscosity, pH, acidity, sugar content and moisture were assessed which showed different values from pure bee honey. The GI test was conducted according to ISO 26642:2010 (E) using 10 healthy individuals which found that GI of bee honey was 53 $\pm$ 6.00 (low) and garlic bee honey product was 62 $\pm$ 7.58 (medium). According to the results, an average recommended portion size of 12 g per day, GL of pure bee honey was 8 (low) and GL of garlic-bee honey product was 10 (low) with no significant difference ($p > 0.05$). Therefore, the research concluded, both tested bee honey and garlic-bee honey products could be an alternative sweetener for prevention of metabolic syndrome as it increases the blood glucose level slowly and to carry out the daily activities in a healthy way as it is a low GL food. It is suggested that further research should be done to determine the long-term effect of these products on human health.

Keywords: Bee Honey, Garlic, Glycemic Index, Glycemic Load, Post-Prandial