

## **Characterization of Physicochemical Properties and Post-prandial Glycemic Response of Garlic and Bee Honey Combined Product**

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Bee honey and garlic are used as valuable medicine from ancient times due to their antioxidant, anti-inflammatory, anti-diabetic and anti-cancer properties. The combination of garlic and bee honey is considered as an ayurvedic remedy to improve cardiovascular health, weight loss and for hypoglycemic effect. The reason for this is both garlic and bee honey are rich in antioxidants. The objective of this study was to identify the post-prandial glycemic response of garlic-bee honey combination. Furthermore, the physicochemical properties of the garlic and bee honey combined product was accessed. The measured parameters were viscosity, pH, acidity, sugar content, moisture content and water activity. The results of the proximate analysis revealed that the carbohydrate content of bee honey and the garlic-bee honey product was 79.9% and 73%, respectively. Additionally, the garlic-bee honey product contains 1.6% protein, 0.4% ash, 25% moisture and fat was not detected. The glycemic index (GI) test was conducted using 11 healthy subjects aged between 22-25 years, mean Body Mass Index (BMI) of  $20.8 \pm 1.9$ . The GI was measured according to ISO 26642:2010 (E). Participants were given 50 g of glucose as the reference food. Bee honey garlic product which contains 50 g of available carbohydrate was given. The results of the GI test revealed that bee honey had a mean GI of  $57 \pm 6.10$  (medium GI) and for the garlic-bee honey product was  $66 \pm 8.14$  (medium GI) with no significant difference ( $P > 0.05$ ). Therefore, the research concludes that, compared to the table sugar (reported GI  $\approx 80$ ) the garlic-bee honey product can be recommended for diabetic patients as it is a medium GI food as well as due to its reported high antioxidant capacity. It is suggested that further tests should be done to determine the long-term effect of the garlic-bee honey product on human health.

**Keywords:** Antioxidant, Bee honey, Garlic, Glycemic index, Post-prandial

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