EFFECTS OF BITTER GOURD SUPPLEMENTED MUFFINS ON SATIETY AND GLYCEMIC RESPONSES BEFORE AND AFTER A MEAL IN HEALTHY YOUNG MEN

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Abstract

Bitter gourd (*Momordica charantia*) is a common vegetable praised for its role in glycemic control; however, the same role of food products containing this valuable vegetable is not much explored. The present study examined the effects of muffins supplemented with different levels of bitter gourd aqueous extract (BGAE) on subjective appetite, blood glucose (BG) and insulin before and after a pizza meal consumed by healthy young men through a randomized, cross over, repeated measures experiment. Twenty-four healthy body-weight young males consumed two fixed servings (125g) of muffins without BGAE (control) or with added BGAE (5%), starch or with added BGAE (10%). An *ad libitum* pizza meal was served at 120min following treatments. Subjective appetite, glucose, insulin and food intake were measured at intervals from baseline to 170min. Post-treatment (0-120min) glucose, but not insulin, decreased more after muffins with both BGAE 5% and 10% compared to the control ($P<0.0001$). However, post meal glucose (140 min) was lower only after muffins with BGAE (10%) compared to the control. No differences were observed in subjective appetite and food intake among the treatments. In conclusion, baked foods supplemented with bitter gourd extract upto 10% carry the potential to regulate postprandial glycemic responses without disproportionate increase in insulin concentration, but not appetite.

Keywords: Bitter gourd extract; Blood Glucose; Insulin; Appetite