

Antidiabetic Effects of Bitter Melon

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Abstract : Type 2 diabetes is a heterogeneous group of metabolic disorders featured by a deficit in or loss of insulin activity to maintain normal glucose homeostasis. Mainly, it results from the compromised insulin secretion and/or reduced insulin activity. The frequency of type 2 diabetes (T2D) has been increased rapidly in recent decades with the increase in the trend of obesity due to life style and food habit. Obesity is considered to be the primary risk factor for the development of insulin resistance and thereby developing T2D. Traditionally naturally occurring fruits, vegetables etc. are being used to treat many pathogenic conditions. In this study, we tried to find out the effect of a popularly used vegetable in Bangladesh and several other Asian countries, 'bitter melon' on high fat diet induced T2D. To investigate the effect, we used 70% ethanol extract of bitter melon (BME) as dietary supplement with chow. BME was found to attenuate the high fat diet (HFD) induced body weight and total fat mass significantly. We also observed that BME reduced the insulin resistance induced by HFD effectively. Furthermore, dietary supplementation of BME was highly effective in increasing insulin sensitivity, and reducing the hepatic fat and obesity. These results indicate that BME could be effective to attenuate T2D and could be a preventive measure against T2D.

Keywords : bitter melon, obesity, type 2 diabetes, high fat diet

Conference Title : ICFND 2015 : International Conference on Food, Nutrition and Diagnostics

Conference Location : Bangkok, Thailand

Conference Dates : December 17-18, 2015