

Anti-diabetic activity of red pitaya (*Hylocereus polyrhizus*) fruit

ABSTRACT

This study investigated the anti-insulin resistant activity of red pitaya (*Hylocereus polyrhizus*) fruit. Fresh pitaya along with two heat-processed pitaya samples with different proportions of phenolic contents, scavenging activities, and soluble dietary fibers were tested in insulin resistant rats over 6 weeks of treatment in a cause-effect study to investigate the anti-insulin resistant components of red pitaya. The results showed that fresh pitaya significantly ($p < 0.05$) attenuated the insulin resistance, hypertriglyceridemia and atherosclerotic changes induced by fructose supplement in rats. Thermally-treated pitaya at 95 °C for 30 min (containing a low antioxidant content) significantly ($p < 0.05$) improved hyperinsulinemia. Thermally-treated pitaya at 105 °C for 60 min (containing a low antioxidant and soluble dietary fiber content) fed to rats had no significant effect on insulin resistance, dyslipidemia and atherogenesis. Based on this study, the anti-insulin resistant effect of red pitaya can be attributed to its antioxidant and soluble dietary fiber contents.

Keyword: Anti-insulin resistant; *Hylocereus polyrhizus*; Red pitaya