Abstract

Metabolic syndrome and type-2 diabetes are increasing health problems that negatively affect health care systems worldwide. There is a constant urge to develop new therapies with better effects, lower side effects at lower prices to treat these diseases. Lupinus species and their derivates are good candidates to be used as hypoglycaemic agents. A phase II clinical trial was conducted to assess the role of raw Lupinus mutabilis on blood glucose and insulin in normoglycemic and dysglycemic subjects. Results show that consumption of L. mutabilis by normal weight healthy young individuals did not change importantly blood glucose and insulin levels. On the other hand, consumption of similar doses of lupinus by dysglycemic individuals (fasting glucose > 100 mg/dL) decreased significantly blood glucose. Lupinus effects were greater in those subjects with higher basal glucose levels. Glucose lowering effects of lupinus were not observed after soy intake that was used as control. A statistically significant reduction in insulin levels was also observed in the lupinus group compared with the soy group after 60 minutes of treatment. Furthermore, only treatment with lupinus improved insulin resistance in dysglycemic subjects. These data demonstrate that lupinus consumption could be a feasible and low cost alternative to treat chronic hyperglycemic diseases.

Keywords

Lupinus mutabilis, Hypoglycemia, Diabetes, Ecuador, Alkaloids.