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## Effect of legume consumption on leptin and adiponectin concentration among type 2 diabetic patients: A randomized cross-over clinical trial

**Shabnam Hosseini**

Nutrition and Endocrine Research Center, Iran

**Background:** The aim of this randomized cross-over clinical trial was to investigate the effect of substitution of legume with meat consumption in the Therapeutic Lifestyle Change (TLC) diet on leptin and adiponectin concentration among type2 diabetic patients.

**Methods:** Thirty-one type2 diabetic patients (24 women, age:  $58.1 \pm 6.0$  years) were randomly assigned to consume legume-free TLC diet and legume-based TLC diet for 8 weeks. Both of diets were similar, except for the replacement of two servings of red meat with legumes 3 days per week in the legume-based TLC group. Groups were then advised to follow the alternate treatment for 8 weeks. Leptin and adiponectin concentrations were measured at baseline and after the 8-week intervention.

**Results:** After consumption of the non-soy legume-based TLC diet, adiponectin increased significantly from baseline values. Compared to the legume-free TLC diet, the non-soy legume-based TLC diet significantly increased adiponectin (change:  $1.9 \pm 0.4$ ,  $P < 0.01$ ). Leptin concentrations did not change significantly after consumption of either the legume free TLC diet or the non-soy legume-based TLC diet.

**Conclusions:** Substitution of legume with meat in a TLC diet increased serum adiponectin concentration among type 2 diabetic patients, independent of weight change.

[h.shabnam@yahoo.com](mailto:h.shabnam@yahoo.com)