

# The Effects of Ramadan Fasting on Body Composition, Blood Pressure, Glucose Metabolism, and Markers of Inflammation in NAFLD Patients: An Observational Trial.

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## Abstract

### BACKGROUND AND AIM:

Nonalcoholic fatty liver disease (NAFLD) is a chronic liver disease and is a serious global health problem. Regarding the increasing prevalence of NAFLD, finding various strategies to prevent and manage the disease is of great importance. The aim of this study was to determine the effects of caloric restriction during Ramadan fasting on anthropometric indices, fasting glucose, plasma insulin, insulin resistance, and inflammatory cytokines (C-reactive protein and interleukin 6) in patients with NAFLD.

### METHODS:

We conducted this study with 83 patients with NAFLD, 42 of whom decided to fast and 41 controls who decided not to fast for Ramadan, between June 18 and July 17, 2015. Anthropometric parameters were measured and a sample of venous blood was obtained for biochemical assays before and after Ramadan.

### RESULTS:

There was a significant decrease in all anthropometric parameters as well as fasting glucose, plasma insulin, and insulin resistance. Relative to the nonfasting group, fasting significantly reduced circulating inflammatory, but changes in blood pressure after Ramadan were not significant.

### CONCLUSIONS:

This study shows significant effects on parameters during Ramadan fasting such as anthropometric indices, fasting glucose, plasma insulin, and inflammatory cytokines in patients with NAFLD. The results of this study suggest that Ramadan fasting may be useful to improve NAFLD, so further studies are needed in this area.

### KEYWORDS:

HOMA-IR ; Nonalcoholic fatty liver disease ; Ramadan fasting ; blood pressure ; blood sugar ; body composition ; caloric restriction ; insulin