

# The Impact of Marijuana Use on Glucose, Insulin, and Insulin Resistance among US Adults

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 Article Info

## Background

There are limited data regarding the relationship between cannabinoids and metabolic processes. Epidemiologic studies have found lower prevalence rates of obesity and diabetes mellitus in marijuana users compared with people who have never used marijuana, suggesting a relationship between cannabinoids and peripheral metabolic processes. To date, no study has investigated the relationship between marijuana use and fasting insulin, glucose, and insulin resistance.

## Methods



assessed by self-report in a private room. Fasting insulin and glucose were measured via blood samples after a 9-hour fast, and homeostasis model assessment of insulin resistance (HOMA-IR) was calculated to evaluate insulin resistance. Associations were estimated using multiple linear regression, accounting for survey design and adjusting for potential confounders.

## Results

Of the participants in our study sample, 579 were current marijuana users and 1975 were past users. In multivariable adjusted models, current marijuana use was associated with 16% lower fasting insulin levels (95% confidence interval [CI],  $-26, -6$ ) and 17% lower HOMA-IR (95% CI,  $-27, -6$ ). We found significant associations between marijuana use and smaller waist circumferences. Among current users, we found no significant dose-response.

## Conclusions

We found that marijuana use was associated with lower levels of fasting insulin and HOMA-IR, and smaller waist circumference.

### Keywords:

Glucose, Insulin, Insulin resistance, Marijuana use

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