

## THE EFFECTS OF D-PSICOSE ON BODY COMPOSITION AND HEPATIC FAT IN OBESITY: A RANDOMIZED CONTROLLED STUDY

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**Background & aims:** D-psicose is a sugar substitute that has been shown to reduce weight gain and body fat accumulation. However, the changes in visceral adipose tissue (VAT) and hepatic fat beyond changes in body weight remain unexplored. We performed a 12-week randomized, placebo-controlled, double-blind, parallel group trial that compared the effects of D-psicose on body composition and hepatic steatosis in obesity. **Methods:** Ninety-nine subjects were randomly assigned to receive placebo, low-dose D-psicose (6 g/day), or high-dose D-psicose (12 g/day) at a 1:1:1 ratio. Dual-energy X-ray absorptiometry (DEXA) and abdominal CT scan were performed at randomization and at week 12. **Results:** Although overall changes in lean body mass were not significantly different among the groups ( $P = 0.088$ ), there was a decrease in VAT at week 12 in the D-psicose treatment groups ( $-12.25 \pm 17.58 \text{ cm}^2$  in 12 g D-psicose,  $p=0.022$  and  $-6.27 \pm 11.02 \text{ cm}^2$  in 6 g D-psicose,  $P = 0.001$ ). Consistent with the decreased visceral fat, D-psicose treatment showed increased liver attenuation, liver-to-spleen attenuation difference and liver-to-spleen attenuation ratio, which is indicative of an improvement in hepatic steatosis ( $P = 0.001$ ). **Conclusions:** D-psicose reduced visceral and hepatic fat without weight gain, indicating that D-psicose promotes a healthy fat distribution regardless of body weight change.