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Time-restricted eating and its impact on weight loss, adipose tissue distribution, lean mass and blood pressure in women with cardiometabolic risk factors

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Abstract

Background: It is currently considered that the main cardiometabolic risk factors are related to the behaviors that contribute to the appearance or decrease of cardiovascular diseases. It has been described that time-restricted eating (TRE) is a strategy that can promote metabolic control compared to a hypocaloric diet without time restriction; However, evidence needs to be strengthened on the impact of TRE on the distribution of adipose tissue, especially on visceral and subcutaneous mass and other cardiometabolic risk factors (CMRFs). The objective of this study was to evaluate the impact of TRE in visceral and subcutaneous fat, blood pressure, glucose, waist circumference, and body weight in women with CMRFs.

Methods: 4 week, parallel-arm, pilot randomized clinical trial con 13 mujeres de edad with CMRFs. Body composition analysis was performed using DEXA. Blood pressure, glucose, and hip and waist circumferences were measured. All participants received weight-loss treatment (energy restriction [ER]) and were randomized to TRE plus ER (8-hour eating window) or ER without time restriction eating (≥ 12 -hour window).

Results: 13 Women enrolled (mean \pm SD, body mass index, 31.2 \pm 4.3 kg/m²; age, 41.0 \pm 12.7 years. The TRE intervention was more effective for losing weight than ER diet (-1.9 kg; 95% CI, -4.3 to 0.47 kg; $P = .053$), waist circumference (-3.8 kg; 95% CI, -6.6 to -1.1 cm; $P = .005$) but did not affect body fat (-1.8 %; 95% CI, -7.1 to 3.5 %; $P = .238$). The TRE intervention also showed a decreasing trend in systolic blood pressure (-6.3 mm Hg; 95% CI, -14.8 to 2.1 mm Hg; $P = .063$) and visceral adipose tissue (-17.3 cm²; 95% CI, -43.5 to 8.7 cm²; $P = .086$).

Conclusions: It was shown that establishing specific eating schedules, with healthy eating habits, there is a significant decrease in weight, waist circumference and other CMRFs. Thus, TRE is a therapeutic strategy to improve cardiometabolic health.

Keywords: Time Restricted Eating; DEXA; Cardiometabolic Health; Visceral Fat.

Abbreviations: TRE, Time-Restricted Eating; CMRFs, cardiometabolic risk factors; DEXA, Dual Energy X-Ray Absortometry; BMI, Body Mass Index.

Ethical approval: Participants provided written informed consent.

Conflict of interest: The authors declare that they have no conflict of interest.

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