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Effect of abdominal resistance exercise on abdominal subcutaneous fat of obese women: a randomized controlled trial using ultrasound imaging assessments.

Kordi R[1], Dehghani S[2], Noormohammadpour P[3], Rostami M[4], Mansournia MA[5].

Author information

Abstract

OBJECTIVES: The aim of this study was to compare the effect of diet and an abdominal resistance training program to diet alone on abdominal subcutaneous fat thickness and waist circumference of overweight and obese women.

METHODS: This randomized clinical trial included 40 overweight and obese women randomly divided into 2 groups: diet only and diet combined with 12 weeks of abdominal resistance training. Waist and hip circumferences and abdominal skin folds of the subjects were measured at the beginning and 12 weeks after the interventions. In addition, abdominal subcutaneous fat thickness of the subjects was measured using ultrasonography. Percentage body fat and lean body mass of all the subjects were also measured using a bioelectric impedance device.

RESULTS: After 12 weeks of intervention, the weight of participants in both groups decreased; but the difference between the 2 groups was not significant (P = .45). Similarly, other variables including abdominal subcutaneous fat, waist circumference, hip circumference, body mass index, body fat percentage, and skin fold thickness were reduced in both groups; but there were no significant differences between the groups.

CONCLUSIONS: This study found that abdominal resistance training besides diet did not reduce abdominal subcutaneous fat thickness compared to diet alone in overweight or obese women.

KEYWORDS: Abdomen; Obesity; Resistance Training; Subcutaneous Fat; Ultrasonography

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