

A Study on the Association between Type of Obesity and Level of Changes in Obesity Indices Following Weight-Loss Diet

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Abstract

Background and Objectives: Some studies have shown that body fat distribution pattern, and waist-to-hip ratio (WHR), which differentiate between gynoid (hip) and android (abdominal) obesity, have a more important role in identification of diseases' risk compared to body mass index (BMI). This study was conducted aiming at determining the association between type of obesity and level of changes in obesity indices following weight-loss diet.

Methods: This study was performed on 301 women with overweight (BMI>25) and obesity (BMI>30), and according to WHR criteria for measuring abdominal obesity, the subjects were divided into three groups: 1) 102 subjects with WHR<0.8, women with no abdominal obesity and with hip obesity (gynoid), 2-105 subjects with 0.8<WHR<0.85, women with ventral border obesity, and 3-95 subjects with WHR>0.85, women with severe abdominal obesity (android). Then, the effect of one month diet with a fixed ratio of macronutrients was assessed on the changes of obesity indices, including weight, BMI, waist circumference (WC), and hip circumference (HC). To investigate obesity indices in the three groups, one-way analysis of variance test was used. The level of significance was considered 0.05.

Results: By following this diet, significant decreases were seen in weight ($p<0.007$), BMI ($p<0.005$), and waist circumference ($p<0.002$) in subjects with severe abdominal boundary obesity (android), compared to those with hip obesity (gynoid).

Conclusion: In this study, weight loss diet with a fixed ratio of macronutrients showed that weight loss and body size is associated with type of obesity, this means that the higher is the abdominal obesity, the greater is this difference.

Keywords: Obesity, Abdominal; Waist Circumference; Waist-Hip Ratio; Obesity; Diet.