

## Effects of High-Protein, Low-Energy Diet on Body Composition in Overweight and Obese Adults: A Clinical Trial

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**Abstract :** Background: In addition to reducing body weight, the low-calorie diets can reduce the lean body mass. It is hypothesized that in addition to reducing the body weight, the low-calorie diets can maintain the lean body mass. So, the current study aimed at evaluating the effects of high-protein diet with calorie restriction on body composition in overweight and obese individuals. Methods: 36 obese and overweight subjects were divided randomly into two groups. The first group received a normal-protein, low-energy diet (RDA), and the second group received a high-protein, low-energy diet (2×RDA). The anthropometric indices including height, weight, body mass index, body fat mass, fat free mass, and body fat percentage were evaluated before and after the study. Results: A significant reduction was observed in anthropometric indices in both groups (high-protein, low-energy diets and normal-protein, low-energy diets). In addition, more reduction in fat free mass was observed in the normal-protein, low-energy diet group compared to the high-protein, low-energy diet group. In other the anthropometric indices, significant differences were not observed between the two groups. Conclusion: Independently of the type of diet, low-calorie diet can improve the anthropometric indices, but during a weight loss, high-protein diet can help the fat free mass to be maintained.

**Keywords :** diet, high-protein, body mass index, body fat percentage

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