

ABSTRACT

Introduction: Despite modern methods of obesity treatment, such as pharmacotherapy and bariatric surgery, lifestyle intervention remains a key element of therapy. Changing exercise and dietary habits leading to a negative energy balance is a prerequisite for weight reduction. Undoubtedly, this is a long-term process in which the patient needs the professional supervision of a multidisciplinary team of healthcare professionals. Dietitians provide the obese patient with individualized dietary recommendations with regard to his or her health and current living conditions. Thus, regular nutritional intervention can contribute to a higher success of the reduction regime.

Objectives: The aim of this theses is to find out what effect nutritional intervention has on the development of body weight, body composition and dietary regime in a cohort of obese patients who consulted with a dietitian during 6 months. To compare changes in body weight, a control group of obesity outpatients who were under the care of a physician only and had not attended any consultation with a dietitian or had attended at most one nutritional consultation was selected.

Methodology: Data collection took place on III. Department of Internal Medicine, Department of Endocrinology and Metabolism, 1st Faculty of Medicine, Charles University and General University Hospital in Prague, specifically in the outpatient clinic of dietitians. The research involved 24 new patients of the obesity clinic with a BMI > 30 kg/m² who underwent nutritional intervention between April and August 2021. Input data on weight, body composition, energy intake and diet composition were obtained. The same data were analyzed after 6 months, during which the patients consulted with a dietitian at 2-3 month intervals. Data on weight and body composition, specifically the amount of adipose and muscle tissue, were provided by measurements on an InBody230 bioimpedance device. Data on energy intake and diet composition were obtained from a 7-day diet record in the application „Kalorické Tabulky“. The obtained data were then statistically processed and evaluated.

Results: The average decrease in weight after 6 months of nutritional intervention in the cohort was $5,9 \pm 5,1$ kg. The decrease in adipose tissue averaged $5,2 \pm 5,0$ kg, while the average amount of muscle tissue decreased by only $0,1 \pm 0,9$ kg. The average input energy intake was $8\ 070 \pm 1\ 598$ kJ, where protein averaged 88 g, fats 82 g, carbohydrates 191 g and fiber 16 g. After 6 months, energy intake decreased by an average of $1\ 309 \pm 1\ 004$ kJ to 6 760

$\pm 1\,325$ kJ. The final average nutrient intake was 82 g of protein, 63 g of fat, 168 g of carbohydrates and 16 g of fiber. In the control group, there was an average weight loss of $0,9 \pm 4,3$ kg after 6 months. There was a statistically significant weight loss in the cohort, in contrast to the control group, where the weight loss was not statistically significant. At the same time, a linear relationship between the resulting weight loss and the number of nutritional consultations was demonstrated.

Conclusion: Based on the results of this research, repeated nutritional intervention leads to a more significant weight loss in obese patients. In the cohort, there was a loss of adipose tissue while maintaining muscle tissue, which is a key factor in the long-term sustainability of the reduction regime. Nutritional intervention led by a dietitian should become a basal part of obesity treatment.

Keywords: nutritional intervention, dietitian, body weight, body composition