

## Abstract

**Starting points:** Low-calorie diets (LCD) and very low-calorie diets (VLCD) are often indicated for effective and rapid weight reduction in patients with higher degrees of obesity ( $BMI \geq 35$ ). However, in many of these patients, short-term diets end in the typical yo-yo effect. In the presence of various diseases, the patient's health may also be harmed during these regimes. On the other hand, for many patients, these diets can represent a major shift in treatment if timed and executed correctly.

**Goals:** The main goal of this study is to evaluate two- to three-week LCD and VLCD regimes conducted during hospitalization in ward D3 of the III Internal Clinic of the General University Hospital in Prague as part of weight-reduction stays and to assess their long-term effect.

**Methods:** Quantitative, non-interventional research was conducted retrospectively. The research sample consisted of 60 patients who underwent a weight-reduction stay in inpatient ward D3 in 2022. With consent from the patients, initial data were taken from their medical records and from the mobile application Čas pro zdraví. Anthropometric data provided by the patients were used to calculate BMI and EBW (excess body weight). The collected data were processed in Excel program. Subsequently, the data were sorted for research purposes and statistical outputs were obtained from the selected data. The results of the research are presented graphically and described in the practical part of this thesis.

**Results:** Comparison of the mean excess weight loss during the weight-reduction stay – 8.5% ( $\pm 4.33$ ) – with the mean excess weight loss in the following year – 15.51% ( $\pm 21.11$ ) – clearly demonstrated the persistence of in-hospital weight loss. Statistical outputs confirmed significant differences ( $p < 0,05$ ) in weight loss depending on gender, the presence of type 2 diabetes mellitus and tobacco abuse, both during the weight-reduction stay and over the longer time frame of 12 months after its completion.

**Conclusion:** The practical part confirmed the initial thesis of this study, namely that LCD and VLCD diets can be a very effective method in the treatment of obesity if used correctly. The results of the research showed that when the diet is professionally indicated (by an obesity specialist) and implemented during hospitalization, the benefits of the treatment clearly outweigh its risks. In terms of therapeutic effect, the weight-reduction effect was demonstrably maintained 12 months after the end of the hospital stay in 39 out of the 60 patients involved in the study.

**Keywords**

obesity, LCD, VLCD, weight-reduction stays, yo-yo effect, type 2 diabetes mellitus, nicotine dependence