

# Abstract

**Author:** Simona Pašková

**Supervisor:** Mgr. Markéta Křivánková

**Title:** Analysis of Weight Loss Reduction Methods and Modern Approaches in the Treatment of Obesity in Adults

**Objectives:** The aim of this bachelor thesis is to analyze various methods of weight loss reduction and approaches to obesity treatment in order to identify the most effective strategies in terms of clinical outcomes.

**Methods:** A comparative method was used for this thesis. Relevant scientific articles were searched through databases such as PubMed, Scopus, Web of Science, and Google Scholar.

**Results:** A combination of dietary changes and physical activity, particularly aerobic exercise (AE) and high-intensity interval training (HIIT), led to an average weight loss of 2.5–5 %, positively impacting body composition while preserving muscle mass. Pharmacological interventions such as semaglutide showed higher efficacy, with average weight loss of 12–15 %, reaching a maximum reduction of 20 %, along with a decrease in visceral fat and improvement in metabolic parameters. Bariatric surgery proved to be the most effective method, with patients losing up to 60 % of excess weight over 7–8 years, making it a sustainable long-term approach.

**Keywords:** Body composition measurement; Semaglutide; Bariatric surgery; Physical activity