ABSTRACT

Title: Influence of physical intervention on the musculoskeletal system in patients before and after planned bariatric surgery.

Objectives: The main objective of this study was to evaluate the effect of three months physical intervention on the development of static postural stability, musculoskeletal pain, health-related quality of life and physical fitness of obese individuals before and after bariatric surgery.

Methods: This is a monocentric prospective non-randomized study. The study included 25 patients of both sexes aged 40 to 57 years (BMI 36-49 kg/m^2). The patients were divided into an intervention and a control group. The intervention group (INT, n = 7; age 48.9 ± 5.6 years; BMI 40.6 ± 5.5 kg/m^2) underwent a 3-month resistance aerobic exercise program with a frequency of exercises 3 times a week. The control group (KON, n = 18; age 46.8 ± 12.7 years, BMI 44.2 ± 6.4 kg/m^2) was not subjected to the exercise program. The level of static postural stability, perceived musculoskeletal pain, health-related quality of life and the level of physical fitness in the periods before and 3, 6 and 12 months after bariatric surgery were assessed.

Results: The study showed that resistance aerobic physical intervention improves musculoskeletal pain and health-related quality of life in obese patients undergoing bariatric surgery. On the contrary, a change in the static postural stability or physical fitness of the patients cannot be attributed to the chosen physical intervention.

Keywords: obesity, bariatric surgery, exercise, postural stability, pain, quality of life, physical fitness