

## **ABSTRACT**

This thesis focuses on bariatric-metabolic surgery and its impact on serum concentrations of various metabolic parameters. The thesis is divided into two parts – theoretical and practical. Basic facts about bariatric-metabolic surgery such as its history, indications, contraindications, surgical methods and their results, nutrition after surgery and the frequency of micronutrient's deficits are described in the theoretical part. Furthermore, information about calcium-phosphate metabolism and metabolites such as calcium, phosphorus, magnesium, vitamin D, vitamin K, parathyroid hormone and osteomarkers is also included. The influence of nutrition and nutritional status on the quality of bone tissue is also mentioned. Last section of the theoretical part is focused on the important vitamins and minerals.

The practical part discusses measurements of selected metabolites in serum before and half a year after the surgery. Results of questionnaires which were given to respondents are also included. Questionnaires were focused on lifestyle, nutrition, physical activities and whether the patients take some supplements of micronutrients and protein concentrates. The goal of this work is to evaluate the effect of the surgery on serum concentrations of metabolic parameters and their effect on the health and nutritional status.