

Abstract:

Introduction: Obesity is a major health problem that affects an individual's overall health. Bariatric metabolic surgery is most important and has permanent impact on weight loss in comparison with conservative therapy. The downside is that it often leads to a row nutritional deficiencies requiring long-term supplementation.

Object: The aim of the thesis is to map the intake of nutrients in the diet of bariatric patients six months and one year after the procedure. The research is primarily focused on the intake of vitamin D and calcium in diet, vitamin D, parathyroid hormone and calcium levels are also evaluated. Marginally, laboratory values are assessed prior to surgery as deficiencies are known to occur before surgery.

Methodology: The research sample consists of 30 respondents who are six months (M6) and one year (Y1) from the procedure. Micronutrients are evaluated from three-day dining records recorded by respondents for at least one week. The research laboratory data was used from the medical information system of the hospital information system. The evaluation parameters for vitamin D-25 (OH)D (limit level was established to > 30 ng/ml). To assess the parathyroid hormone concentration, a minimum limit is set to 1.58 pmol/l, calcium 2.00-2.75 (mmol/l). We were wondering if the profile of the parameters being monitored varies by type of surgery, duration of surgery and whether deficiencies were detected prior to surgery. The control group consisted of 30 patients attending to obesity clinic who did not undergo a bariatric surgery. The values of vitamin D and calcium from the diet were assessed in this group.

Results: In the research group, the average vitamin D intake is 3.12 μg (± 3.91) and 645.2 mg (± 252.11). In M6, the average vitamin D intake is 2.28 μg (± 2.13) and calcium 737.46 mg (± 245.75). In group Y1, the average vitamin D intake is 3.76 μg (± 2.83) and calcium 574.65 mg (± 240.22). The control group did not show a better micronutrient saturation profile, average vitamin D intake was 2.52 μg (± 1.44) and calcium 606.76 mg (± 318.74). Thus, no group met the recommended daily allowance. Deficiency also occurred in examined laboratory parameters. 25(OH)D deficiency was found in 60% of respondents. Serum calcium and parathyroid hormone levels were normal in all respondents. Statistical dependence on the length of time since surgery was found at the calcium value. Also, a change in laboratory 25(OH)D before and after surgery was confirmed. Other hypotheses were not disproved.

Conclusion: The results confirm insufficient intake of vitamin D and calcium by the diet throughout the research set. This implies consistent education not only for patients with bariatric metabolic surgery, but also for the general public, in order to prevent possible deficiencies before the planned surgery.