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## Pre and postoperative deficiencies in iron, ferritin and B12 vitamin among portuguese patients undergoing bariatric surgery

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### Abstract

**Introduction:** According to the World Health Organization obesity it's the result of an abnormal or excessive body fat accumulation, which presents a high risk for the health. Bariatric surgery appears as an alternative to the conventional treatment for the morbid obese individuals. However, this type of intervention causes changes in the anatomy and physiology of the gastrointestinal tract, which may lead to the development of nutritional deficiencies in patients, in particular anemia.

**Aim:** To evaluate micronutrient deficiencies in patients submitted to bariatric surgery in preoperative and postoperative periods, in particular iron, ferritin, and B12 vitamin.

**Methods:** In this longitudinal study, we evaluated, retrospectively and prospectively, patients who attended the nutrition appointment at a central hospital. We completed a preexisting database containing anthropometric and biochemical data, adding biochemical data, at various periods: pre at 6th, 12th, 18th, 24th, 30th and 36th months post-surgery.

**Results:** from the 121 patients submitted to bariatric surgery, 79,3% were female. The prevalence of iron deficiency reached 15%, ferritin deficiency reached almost 10% and B12 vitamin deficiency reached 18%. Furthermore there were deficiencies in other nutrients, e.g., vitamin D, magnesium and zinc. There was more than 85% adhesion to take the multivitamin supplementation and frequent use of specific supplementation.

**Conclusion:** The prevalence of nutritional deficiencies is high, with a tendency to persist over time even with use of multivitamin supplementation, leading to the need for complementary supplementation, in particular to prevent the risk of anemia. Hence, periodic and long term monitoring is fundamental.

### Conflict of Interest

There is no conflict of interest.