Background: According to the World Health Organization obesity it’s a 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. **Objective:** To evaluate micronutrient deficiencies in patients submitted to bariatric surgery in preoperative and postoperative periods. **Methods:** In this longitudinal study, we evaluated, retrospectively and prospectively, patients who attended the nutrition consultation at Centro Hospitalar São João. We completed preexisting database containing anthropometric and biochemical data, adding biochemical data, at various periods: pre and post-surgery 6th, 12th, 18th, 24th, 30th and 36 months. Results: from the 12 patients submitted to bariatric surgery, 79.3% were female. The most prevalent deficiencies were 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. Hence, periodic and long term monitoring is fundamental. Future studies are needed, with long follow-up times, to clarify the clinical impact of deficiencies.