NUTRITIONAL STATUS AND LIFE QUALITY IN PATIENTS UNDERGOING BARIATRIC SURGERY

Estado nutricional e qualidade de vida em pacientes submetidos à cirurgia bariátrica

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ABSTRACT – Background: The obesity has achieved an alarming increase in recent years, which led this disease to global epidemic condition. Aim: To evaluate the nutritional status as well as the quality of life of obese patients undergoing bariatric surgery. Methods: A transversal study was conducted with obese adults of both genders who underwent bariatric surgery by Fobi-Capella technique for at least 30 days. It was evaluated: age, gender, marital status, occupation, weight before surgery, current weight, height, preoperative and current BMI, weight loss and loss of excess weight percentages, presence of clinical manifestations and food intolerances. Results: The sample consisted of 70 patients, being 81.4% female, 37.1% aged 30 to 39 years, 58.6% were married, 41.4% have undergone the bariatric surgery in the last 12 months. It was observed a reduction in BMI from 37.2 kg/m² (one to three months) to 28.9 kg/m² (>12 months) and consequent increase in weight loss and loss of excess weight percentages. The most frequent clinical manifestation was alopecia (62.9%). The most reported food intolerance was on the red meat (24%). According to the Baros questionnaire, 50% of patients were classified as having good quality of life. Conclusion: The operation of Fobi-Capella proved to be effective in promoting gradual and lasting weight loss. Quality of life was considered good in most patients, indicating that the operation had a positive impact on their lives.

INTRODUCTION

According to the World Health Organization\textsuperscript{27}, obesity is a non-communicable chronic illness characterized by excess of the body fat causing damage to health. With its increase, in recent years was considered a condition of global epidemic\textsuperscript{4}.

Surveillance of risk factors and protection for chronic diseases made by phone inquiring\textsuperscript{13} showed that obesity presents prevalence around 15.5% for women and 14.4% for men. In this way, the current scenario of obesity in Brazil is 30 million people and 600 million in the world population, according to the Brazilian Society of Bariatric and Metabolic Surgery\textsuperscript{22}.

One of the criteria for diagnosing obesity is the body mass index (BMI), being calculated by body weight in kilograms and height in square meters\textsuperscript{26}; are considered as obese the person with a BMI equal or superior to 30 kg/m\textsuperscript{2} and morbid obesity with equal or superior to 40 kg/m\textsuperscript{2}. At this stage can exist co-morbidities, such as diabetes mellitus type 2, hypertension, congestive heart failure, hyperlipidemia and atherosclerosis, contributing to higher mortality from cardiovascular diseases and other pathological complications, reducing the quality of life\textsuperscript{17,18,29}.

The cause of obesity is multifactorial; can occur for endocrine, metabolic, genetic, nutritional and behavioral factors. The alteration of nutrition can be due to the fact that the obese person, mainly women, is less physically active than non-obese persons, because of the body being more resistant to fatigue\textsuperscript{23}. Another factor is the hormonal imbalance between the hypothalamus and the pituitary gland. The inadequate release of corticosteroids and cortisol, hormones that act on insulin and the body's energy metabolism, can cause the release of fat and insulin resistance in the body. Another factor is the lack of physical activity, which is related to the sedentary lifestyle characteristic of the computer era\textsuperscript{24}. It is also well known that the ability of the body to burn calories is reduced by about 10% in the obese person\textsuperscript{25,26}.


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psychological and environmental amendments. For the weight reduction, dietary guidance, physical activity and the use of anti-obesity drugs can be successful in short period of time. Bariatric surgery is an option for people with morbid obesity who cannot lose weight by traditional methods.

Due to failures on the conservative methods, the literature emphasizes several surgical procedures for weight reduction with long-term efficacy. Several techniques are being used reducing the size of the stomach - limiting food intake - or by restricting the gastric capacity, or by its division with proximal jejunal anastomosis. The indication should be based on several clinical aspects, assessed by a multidisciplinary team; the nutritional criteria is presence of BMI superior or equal to 40 kg/m² or BMI exceeding 35 kg/m² associated with comorbidities, according to the Brazilian Federal Council of Medicine. Brazilian resolution CMN 1.766/05 surgery is contraindicated in subjects with severe renal failure, lung diseases, myocardial damage and cirrhosis of the liver.

For the surgical treatment of obesity restrictive, disabsortive or mixed techniques may be used. Purely restrictive ones act on the stomach, shrinking its size and causing reduction in food consumption. Others include vertical gastroplasty, adjustable elastic bands and intragastric balloon. The disabsortive act only in the intestine, with a technique called bilio-pancreatic derivation and duodenal transposition, resulting in loss of weight by limiting nutrient absorption. Mixed operations promote early satiety, where gastric bypass is associated to gastrojejunal derivation in Y-of-Roux - Fobi-Capella technique - decreasing the volume of the stomach to 30 ml.

Some postoperative nutritional complications - protein malnutrition, deficiency of vitamins and minerals -, occur due to reduced food consumption and lower absorption of nutrients. Clinical studies show that, after the operation, there is rapid weight loss that extends from 18 to 24 months after the procedure and can keep 50-60% of the loss of excess weight by up to 10 to 14 years. In addition to weight loss, individuals who have undergone bariatric surgery showed changes in lifestyle and improvements in quality of life in physical, psychological and social relationship.

This study aimed to assess the nutritional status and the quality of life of obese patients undergoing bariatric surgery.

METHODS

The research was approved by the Research Ethics Committee of the College of Vale do Ipojuca, Protocol 00080 /2012. All participants have authorized the study and signed an informed consent. It was descriptive transverse type research done a private clinic in the city of Caruaru, PE, Brazil. Obese were of both genders aged 18-59 years, who underwent the operation of Fobi-Capella. Were excluded patients with psychiatric disorders and pregnant women.

The data collection was realized from August to September 2012, through individual interview applying a questionnaire specially prepared containing the following variables: age, sex, marital status, occupation, time of surgery, weight prior to the operation, current weight, height, pre-surgery BMI and current one, percentage of weight loss, loss of weight excess, clinical manifestations and presence of food intolerances.

To the anthropometric evaluation (weight and height) patients used scales with capacity of 150 kg and precision of 100 g. The obesity classification and BMI was calculated as stipulated by the World Health Organization (WHO) using the following equation: body weight in kilograms by the square of height in meters. To determine the weight loss was followed the WHO 2007 guidance for the calculation of the percentage of loss of weight (PP%) and for loss of excess weight.

For the evaluation of quality of life after the operation was applied a questionnaire elaborated by Oria and Moorehead (Bariatric Analysis and Reporting Outcome System - Baros), which includes questions about self-esteem, physical status, sociability, ability to work and/or study, sexual performance, percentage of excess weight loss and displeasure with side effect and complications of the operation.

According to the responses obtained, the quality of life was ranked: insufficient (1 point <), acceptable (1 to 3 points), good (>3 to 5 points), very good (>5 until 7 points) and excellent (>7 to 9 points).

The data obtained were processed and analyzed by Microsoft Excel® version 2007. Continuous variables were demonstrated in averages and standard deviation and the categorical in numerical and percentage frequency.

RESULTS

The sample was composed of 70 patients. Table 1 shows the general characteristics, where it can be seen predominance of female, age between 30 and 39, married status and mostly liberal professionals. Respondents had in greater proportion exceeded 12 months post-surgery period.

| TABLE 1 - Characterization of obese patients undergoing Fobi-Capella operation |
|-------------------------------|------------------|------------------|
| Variables                      | N  | %     |
| Gender                         |     |       |
| Masculine                      | 13  | 18,6  |
| Feminine                       | 57  | 81,4  |
| Age group (year)               |     |       |
| 19 to 29                       | 16  | 22,9  |
| 30 to 39                       | 26  | 37,1  |
| 40 to 49                       | 22  | 31,4  |
| ≥50                            | 6   | 8,6   |
| Marital status                 |     |       |
| Single                         | 25  | 35,7  |
| Married                        | 41  | 58,6  |
| Divorced/ Widowed              | 4   | 5,7   |
| Professional activities        |     |       |
| Student                        | 2   | 2,9   |
| Free Lance                     | 35  | 50    |
| Formal professional            | 33  | 47,1  |
| Time of surgery (months)       |     |       |
| 1 to 6                         | 26  | 37,2  |
| 7 to 12                        | 15  | 21,4  |
| >12                            | 29  | 41,4  |

Table 2 presents the anthropometric parameters according to the postoperative periods. Can be observed significant BMI reduction, as well as gradual increase in the percentage of loss of weight and percentage of excess weight loss over time.
The operation of Fobi-Capella proved to be effective in promoting gradual and lasting weight loss. Quality of life was considered good in most patients, indicating that the operation had a positive impact on their lives.
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