

Original

Quality of life of obese patients submitted to bariatric surgery

N. Barreto Villela*, O. Braghrolli Neto**, K. Lima Curvello***, B. Eduarda Paneili****, C. Seal*****, D. Santos***** and T. Cruz*****

*Associate Professor. Bahia Federal University (UFBA) Nutrition School. Coordinator of the Nutrition Staff of the Professor Magalhães Netto Pavilion. **Full Professor of Surgery. UFBA Medical School. ***Teaching Staff. UFBA Nutrition School. ****Graduation Students. UFBA Nutrition School. *****Graduation Students. Department of Psychology. UFBA Philosophy and Humans Sciences School. *****Associate Professor. UFBA Medical School. Chief of the Endocrine Service Prof. Edgard Santos University Hospital (HUPES). Brasil.

Abstract

Introduction: The quality of life (QOL) of patients with morbid obesity (MO) is reduced given the restrictions it imposes. Bariatric surgery is considered an efficient treatment for MO as it leads to marked and progressive weight reduction. Weight loss, appropriate nutritional advice and follow up may induce significant improvement in QOL.

Aim: To evaluate the degree of QOL in patients with MO before and after bariatric, surgery (Fobi-Capella reducing gastroplasty).

Cases. Material and Methods: 95 morbidly obese (BMI > 40 kg/m²) or moderately obese (BMI 35 - 39 kg/m²) patients with co-morbidities were seen, followed up and given advice by the Nutrition, Psychology, Endocrinology and Surgery staff at the Federal University of Bahia Hospital. Group I included 66 subjects at the pre-surgical stage and Group II was composed of 29 other patients in a late postsurgical phase. Group II patients were seen at 6, 12 and more months after bariatric surgery. The medical outcomes study Short-Form Health Survey (SF-36) was the instrument used to evaluate QOL in this study. Data were analyzed using the Mann-Whitney non-parametric method and the SPSS program.

Results: A statistically significant improvement in QOL was detected in the aspects of general health, functional ability and vitality. A progressive improvement in physical conditioning was particularly observed in the patients who had had bariatric surgery less than 6 months before, between 6 and 12 months and more than 12 months before. Small changes in subjective features were seen. An improvement in social aspects was observed after a post surgical fall. This explains why do not changes appear when pre and post surgical patients are compared.

Conclusions: Fobi-Capella bariatric surgery for our

CALIDAD DE VIDA EN PACIENTES OBESOS SOMETIDOS A CIRUGÍA BARIÁTRICA

Resumen

Introducción: La calidad de vida (QOL) de los pacientes con obesidad mórbida (OM) se ve reducida dadas las restricciones que esta situación impone. Se considera que la cirugía bariátrica es un tratamiento eficaz para la OM puesto que conduce a una reducción notable y progresiva del peso. Perder peso, el consejo dietético adecuado y el seguimiento pueden favorecer una mejora notable en la QOL.

Objetivo: Evaluar el grado de QOL en pacientes con OM, antes y después de la cirugía bariátrica (gastroplastia reductora de Fobi-Capella).

Casos, material y métodos: Noventa y cinco pacientes obesos mórbidos (IMC > 40 kg/m²), o moderados (IMC 35 - 39 kg/m²) con comorbilidades, fueron vistos, seguidos y recibieron consejo por parte del personal de Nutrición, Psicología, Endocrinología y Cirugía del Federal University Bahia Hospital. El grupo I incluía individuos en la etapa prequirúrgica y el grupo II se componía de 29 pacientes distintos en una etapa posquirúrgica avanzada. A los pacientes del grupo II se les vio a los 6, 12 y más meses después de la cirugía bariátrica. Se utilizó el estudio de resultados médicos Short Form Health Survey (SF-36) para evaluar la QOL en este estudio. Se analizaron los datos utilizando el método no paramétrico de Mann-Whitney y el programa SPSS.

Resultados: Se detectó una mejoría estadísticamente significativa en la QOL, en los aspectos de salud general, capacidad funcional y vitalidad. Se vio una mejoría progresiva en la forma física, particularmente en los pacientes que habían sido sometidos a cirugía bariátrica en los últimos 12 meses, entre los 6 y 12 meses, y hacía más de 6 meses. Se vieron pequeños cambios en los puntos subjetivos. Se observó un cambio en los aspectos sociales tras una caída posquirúrgica. Esto explica el porqué los cambios no se ven cuando se comparan pacientes pre y posquirúrgicos.

Conclusiones: La cirugía bariátrica de Fobi-Capella en nuestros pacientes con obesidad mórbida o con obesi-

Correspondencia: N. Barreto Villela.
Nutricionist and Professor at the Nutrition School, Federal.
University of Bahia. Brazil.
E-mail: villelan@uol.com.br

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patients with MO or with co-morbidities associated moderate obesity resulted in QOL improvement, and gradual but marked improvements in physical condition over time.

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Key words: *Quality of life. Morbid obesity. Moderate obesity with co-morbidities. Bariatric surgery. SF-36.*

dad moderada y comorbilidades asociadas supuso una mejoría en la QOL, y una mejoría gradual, pero notable, en la situación física a lo largo del tiempo.

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Palabras clave: *Calidad de vida. Obesidad mórbida. Obesidad moderada con comorbilidades. Cirugía bariátrica. SF-36.*

Introduction

Obesity is a complex and multi-factorial disease arising from excessive storage of fat which results from the interaction of social, behavioral, cultural, psychological, metabolic and genetic factors.

The prevalence of obesity has increased significantly in the last decade in Brazil, especially in female adults reaching 13.3%¹. The rate at which obesity is increasing in this country is 0.36/year for the female and 0.2/year for the male populations, as compared to the US and the UK, where it varies from 0.5 to 1.0/year¹. These values are considered alarming when one takes into account the elevated prevalence of co-morbidities (high blood pressure, dyslipidemia, carbohydrate intolerance). A greater mortality rate is found among individuals whose obesity is classified as severe or morbid. The most recent version of the weight classification from the World Health Organization (WHO), shown in table I, uses the Quetelet or Body Mass Index (BMI) and expresses its values in kg/m².

Quality of life, as defined by the WHO QOL Group is "the perception of the individual in life, in the context of culture and in the system of values where he/she lives in relation to his/her objectives, expectations, standards and concerns"³. QOL may be understood as the degree of satisfaction an individual reaches in relation to his/her essential and secondary needs in the environment where he or she lives. Essential needs are those related to education and health: secondary

needs are subjective, psychological and frequently of an environmental and esthetic nature⁴.

It is important that people feel psychologically well, in good physical condition, socially integrated, functionally competent and thus able to reach an adequate QOL.

The tools for QOL evaluation are multidimensional, including both subjective and objective features of well being. They also reflect the effects of the treatment used and this may lead to new procedures in the post surgical follow-up and enable the provision of public and private expenses for the treatment.

Bariatric surgery is one of the therapeutic modalities considered able to offer acceptable results favoring rapid weight loss and a reduction of risks from morbid or co-morbidities-associated moderate obesity⁵⁻⁷.

The techniques of bariatric, surgery available today may be classified in three groups: a) dysabsorptive - resulting in reduction of the absorption of ingested nutrients; b) restrictive-causing reduction of gastric capacity and consequently diminishing food ingestion, and c) mixed-techniques including features from the two previous groups.

No surgical intervention is free of risk but there are factors that can interfere in the surgical outcome such as the type of surgery with its respective implications, the age and the clinical status of the patient. Despite the possible risks, bariatric surgery is used since it offers greater perspectives for a longer, and better quality of life.

It has been suggested that the QOL of morbidly or moderately obese patients with associated co-morbidities improves after bariatric surgery. However, this impression derives from individual observations, needing confirmation via a systematic group study capable of quantifying the variation of the level of QOL of the subjects. The present study proposes to evaluate this degree of variation in patients before and after bariatric surgery and to allow the drawing of conclusions confirming one of the following hypotheses:

- a) the surgical procedure led to an improvement in the QOL of the patients
- b) after bariatric surgery the level of QOL in both groups studied did not change.

Table I
WHO classification according to the Body Mass Index (BMI)

BMI (kg/m ²)	Categories
18.5 to 24.9	Normal
25.0 to 29.9	Overweight
30.0 to 34.9	Grade I obesity
35.0 to 39.9	Grade II obesity
≥ 40	Grade III obesity

Source: Practical Guide: Identification, Evaluation and Treatment of Overweight and Obesity in Adults. NHLBI-Obesity Education Initiative-WHO. October 2000.

Cases, material and methods

Design

Cross-sectional study evaluating the groups studied at different intervals.

Patients

Data were collected between October 2002 and May 2003 from patients classified as Grade III and comorbidities-associated grade II obese patients. These patients were divided into 2 groups. Group I was made up of individuals recommended for surgical treatment for their obesity. Group II includes patients who had had bariatric surgery. Most patients evaluated in this study had comorbidities usually associated with obesity (arterial hypertension, dyslipidemia, glucose intolerance or even diabetes mellitus).

In total 95 patients with obesity, classified either as grade III or grade II with co-morbidities, 66 of which were in pre-operative phase and 29 who had been operated on at least 2 months before, were studied. The aim was to measure their quality of life before bariatric surgery (group I) and to follow their recovery from surgery and to evaluate their quality of life (group II). No patients were evaluated before and after the surgery. All 95 patients were seen and followed during the perioperative period by the staff of Surgery, Endocrinology, Nutrition and Psychology at the Professor Magalhães Netto Pavilion, a multidisciplinary clinic which is an annex to Professor Edgard Santos University Hospital (HUPES).

The following criteria were used to exclude patients from this study; a) age lower than 16 and above 65 years; b) heavy alcohol use or drug addiction; c) unstable personality; d) depression or history of suicidal attempts; e) strong family opposition to the surgery, and f) unreal expectations related to the surgical results or clues that the patient would not follow the recommendations and requirements during follow up.

Material

The questionnaire adopted in this study for the analysis of quality of life of the patients was the SF-36⁸, validated in Brazil by Ciconelli in 1991⁹. The questions are subdivided into eight subscales: limitations on physical activities, limitations on social activities due to physical or emotional problems, limitations on daily activities, pain mental health (psychological disturbances), limitations on daily activities due to emotional problems, vitality.

Methods

The patients in group I were first seen by the endocrinology staff and then passed to surgical staff for evaluation, decision-making and scheduling of the surgery. They were then sent to the nutrition and psy-

chology staff who obtained anthropometric measurements, collected social data and gave diet counseling. Consent was also obtained and the SF-36 questionnaire was applied.

The staff of the 1.^a Clínica Cirúrgica (First Surgical Service) of the Professor Edgard Santos University Hospital was responsible for the surgical intervention. The surgical technique used in all patients was the Fobi-Capella technique which is classified as mixed (restrictive and dysabsorptive). Patients who had undergone surgery (group II) were subsequently seen by the above mentioned staff at various intervals.

In the Nutrition and Psychology Outpatients Clinic the entire protocol was followed as for group I after the surgical procedure. Dietary orientation depended on the post-operative phase the patients were in when seen.

Data Analysis

Data were analyzed by the Mann-Whitney non-parametric method in order to verify, at a 95% confidence level, if there was difference in the average scores of the patients in the QOL index between the pre and post operative groups.

The SPSS program, version 10.0, was used for statistical analysis and a hypothesis test was performed for each point (the variables composing the QOL index), by comparing the averages found for both groups.

Results

After statistical analysis between groups I and II improvement was observed in postoperative well-being and it was statistically significant in the items concerning functional ability (from 20.2 to 25.3), vitality (from 14.6 to 17.8) and general health (from 16.5 to 26.5) as can be observed in figure I.

The analysis of the data obtained from Group II patients was carried out by comparing the patients at three different stages: less than 6 months after surgery, 6 to 12 months and more than one year after bariatric surgery. A progressive improvement was observed to have occurred in aspects related to physical condition (functional ability and physical aspects). The item physical aspects improved more than 100% from less than 6 to more than 12 months after bariatric surgery. Slight changes were found in the features evaluated more subjectively (general health, mental health, emotional aspects). Changes in the social aspects were not observed.

Emotional aspects also significantly differed in Group I and II patients. Patients submitted to Fobi-Capella's gastroplasty socialize more than pre-surgical morbidly obese or comorbidities associated moderately obese patients seen before bariatric surgery. Post surgical participation in family and social events after a initial fall became more constant due to better mobi-

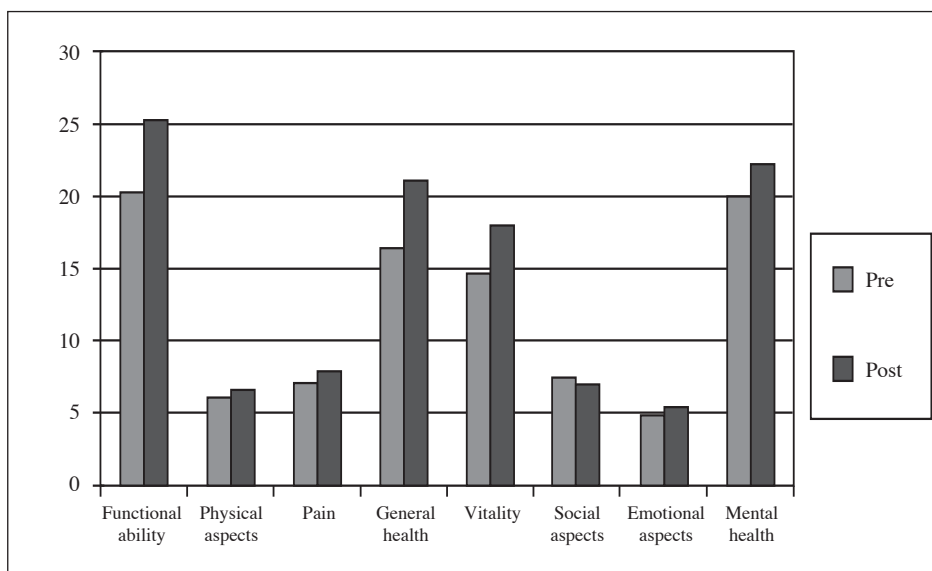


Fig. 1.—Average values of the indicators of quality of life in the obese patients seen in the Professor Magalhães Netto (UFBA) Out-patient service before (Group I) and after (Group II) bariatric surgery. Salvador, 2003.

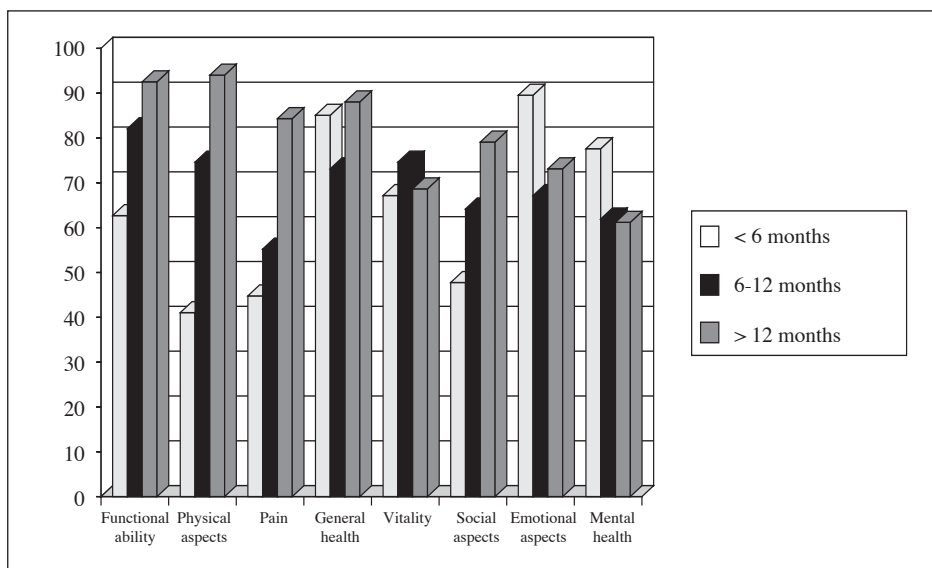


Fig. 2.—Average value of the indicators of quality of life according to the time from bariatric surgery in the patients seen in the Prof. Magalhães Netto Outpatient Service (UFBA). Salvador, 2003.

lity and greater acceptance by people around them. It may be that a significant difference between pre and post surgery does not appear either due to this fall or to insufficient time to have elapsed.

Discussion

Obesity is considered an important component of a metabolic syndrome usually associated with high blood pressure, dyslipidemia and impaired glucose tolerance and is implicated in increased cardiovascular risk. Disorders involving other system as seen as psychological problems are more frequent in obese patients^{2,10-12}. Physical restrictions associated with excessive weight may limit individual mobility. Social

disadvantages caused by prejudice may result in psychological deterioration, depression and self esteem loss, which may worsen the clinical picture. All these factors work against a good QOL for morbidly obese or moderately obese individuals with associated comorbidities¹².

Therapy for morbid obesity and co-morbidities-associated moderate obesity require the coordinated attention of a professional team, each playing a relevant role to achieve success. The medical staff count on the collaborations of endocrinologists for initial evaluation and therapy and frequently the help of experienced surgical staff specialized in bariatric surgery. The evaluation of QOL, tracing its improvement or deterioration, therefore depends on the involvement of se-

veral health professionals interacting together. The psychology team, also part of this group, not only evaluates QOL but can also help to alleviate affective and emotional suffering. Their work is essential to promote the learning of new abilities and changes in patterns of thinking and behavior. It is also important for reflection on the new strategies the individual adopts in the relationship with him/herself and with others, promoting well being^{4,13}. The nutrition staff play an active role during the entire perioperative period. Before surgery a diet is prepared so as to favor weight reduction and correct possible biochemical abnormalities thereby contributing to lowering surgical risk. The patient's dietary re-education for their new post surgical condition is of utmost importance to avoid nutritional deficiencies frequently present in operated patients^{14,15}.

The present day concern with the concept of quality of life reflects a movement within human and biological sciences to widen and attach greater importance to parameters other than the control of symptoms, mortality reduction or the extension of life expectation¹⁶.

The quest for well being and quality of life begins with self knowledge. The first step to reach this consists of the perception, by the individual, of his/her state of physical, psychological and nutritional health, as well as the good or bad habits acquired over the years. To obtain this perception a global evaluation of health, via the collection of anthropometric, biochemical, clinical and psychological data is often necessary.

The present investigation included two groups of patients who, at first glance, cannot be compared because they were not composed of the same patients evaluated before, followed up and reevaluated after surgical treatment of obesity. Measuring quality of life in such a group would give more precise and comparable results of the change in QOL than evaluate the benefits bariatric surgery would offer. However, Group I could serve as control group and group II as treated group and this could be a way to proceed to infer what changes in QOL surgical treatment may bring in extreme or complex obesity.

Our results, although incomplete, give an idea of the advantages of the Fobi-Capella's therapeutic option in the type of patients studied. They demonstrate a significant reduction in the QOL in group I (pre-surgical patients) and they show improvement in functional ability, vitality and general health in operated patients (group II). The results also demonstrated that this improvement increases after surgery and may be able to reduce potential complications. Improvement in the emotional problems associated with extreme or complicated obesity is important because patients pro-

fit from feeling emotionally better and become more enthusiastically engaged in treatment, which in turn helps their progress.

Finally, this paper underlines the importance of the feasibility of multi-professional work in treatment and the advantages of interdisciplinary team-work in the treatment of morbid or comorbidities-associated moderate obesity.

Further investigation with more prolonged follow up is required for a better understanding of the role of bariatric surgery in positive changes in QOL.

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