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BARIATRIC SURGERY: EVALUATION OF LONG-TERM RESULTS AND POSTOPERATIVE PSYCHOLOGICAL IMPACT

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ABSTRACT

Bariatric surgery is one of the most effective methods for the treatment of severe obesity, promoting sustained weight loss and improvement of metabolic comorbidities. However, the long-term effects, especially the psychological ones, are still the subject of investigation. This integrative review aimed to analyze the clinical outcomes and psychological impact of bariatric surgery in the late postoperative period. Articles published between 2015 and 2024 were selected in the PubMed, SciELO, LILACS, and Google Scholar databases. The analysis of the studies revealed that most patients maintain significant weight loss after five years of surgery. However, some have weight regain and symptoms of anxiety, depression,

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or eating disorders, indicating the need for continuous psychological follow-up. It is concluded that the success of bariatric surgery depends not only on the surgical technique, but also on an interdisciplinary approach with a focus on mental health.

Keywords: Bariatric surgery. Obesity. Psychology. Long-term follow-up. Mental health.

INTRODUCTION

Obesity is a chronic, multifactorial condition characterized by excessive body fat accumulation and associated with a significantly increased risk of cardiovascular disease, type 2 diabetes, sleep apnea, dyslipidemias, osteoarthritis, and certain cancers (WHO, 2023). In Brazil, data from the National Health Survey indicate that more than 60% of the adult population is overweight, with approximately 25% classified as obese (IBGE, 2020).

Bariatric surgery has been consolidated as one of the most effective interventions for the treatment of severe obesity, being indicated for patients with a Body Mass Index (BMI) ≥ 40 kg/m² or ≥ 35 kg/m² in the presence of associated comorbidities, such as type 2 diabetes, systemic arterial hypertension, and dyslipidemias (BRASIL, 2021). According to MINGRONE et al. (2021), the benefits of surgery go beyond weight loss, including improved quality of life, reduced mortality, and remission of metabolic diseases.

However, despite the good initial clinical results, the long-term effects of bariatric surgery are still the subject of debate, especially in relation to the mental health of patients. Studies indicate that, although many show improvements in emotional well-being after surgery, others develop or maintain symptoms of anxiety, depression, dissatisfaction with body image, and eating disorders, such as binge eating disorder (KUBIK; TRIPLETTE; GROTHE, 2013; VAN ZYL; LUSHER; MEYRICK, 2024).

Understanding the long-term outcomes of bariatric surgery, especially the psychological impacts, is essential to improve the multidisciplinary follow-up of these patients and ensure the success of the treatment. The absence of continuous psychological support can compromise the benefits of surgery and increase the risk of weight recurrence or the emergence of psychiatric disorders.

This integrative review aimed to evaluate the clinical outcomes and long-term psychological impacts in patients undergoing bariatric surgery, highlighting the importance of continuous follow-up and an interdisciplinary approach in the postoperative period.

THEORETICAL FRAMEWORK

Obesity is recognized worldwide as a multifactorial chronic condition, resulting from the interaction between genetic, environmental, and behavioral factors (WHO, 2023). In Brazil, data from the National Health Survey (IBGE, 2020) reveal that more than half of the adult population is overweight, and about 20% are obese, configuring a serious public health problem.

Bariatric surgery has stood out as an effective intervention for the treatment of severe obesity (BMI ≥ 40 kg/m² or ≥ 35 kg/m² with comorbidities), promoting significant

weight loss and improvement or remission of diseases such as type 2 diabetes, hypertension, dyslipidemia, and sleep apnea (MINGRONE et al., 2021). The Ministry of Health, through the Clinical Protocol and Therapeutic Guidelines for Obesity (BRASIL, 2021), recognizes bariatric surgery as an integral part of the line of care for patients with severe obesity, as long as it is included in a continuous multidisciplinary follow-up.

Despite the widely documented clinical benefits, the psychological impacts of long-term bariatric surgery still require further investigation. Studies point to the presence of symptoms of anxiety, depression, body image disorders, and relapses into dysfunctional eating behaviors after the procedure (KUBIK et al., 2013; VAN ZYL; LUSHER; MEYRICK, 2024). These effects may compromise treatment adherence and expected therapeutic outcomes.

The literature shows, therefore, the importance of understanding not only the metabolic results of bariatric surgery, but also the long-term psychological effects, with a view to ensuring more comprehensive, preventive, and humanized care (WHO, 2023; BRAZIL, 2021).

METHODOLOGY

This study is an integrative review of the literature, designed according to the methodological criteria described by Mendes, Silveira and Galvão (2008), which comprise six fundamental stages: formulation of the guiding question, definition of inclusion and exclusion criteria, identification and selection of studies, categorization of the information extracted, critical analysis of the data obtained and, finally, the synthesis of relevant findings. The guiding question that guided this review was: "What are the main long-term clinical and psychological outcomes in patients undergoing bariatric surgery?"

The search for studies was carried out in the PubMed, SciELO, LILACS and Google Scholar databases, considering publications made available between 2015 and 2024. Only texts published in Portuguese, English or Spanish were included, with free access and content available in full.

The inclusion criteria involved: original articles, cohort studies, systematic reviews, or randomized clinical trials that addressed long-term clinical (such as weight loss and control of comorbidities) or psychological (such as depression, anxiety, and eating disorders) outcomes, defined as a period of more than two years after bariatric surgery. On the other hand, duplicate articles, studies involving pediatric patients, publications prior to 2015, case reports, and studies with inadequate or incomplete methodology were excluded.

After the initial screening of 122 studies, based on titles and abstracts, 29 articles were selected because they fully met the established criteria, thus composing the final sample of this review.

RESULTS

The analysis of the 29 selected studies revealed three main thematic axes related to the long-term effects of bariatric surgery: maintenance of weight loss, improvement of comorbidities, and postoperative psychological impact.

MAINTENANCE OF WEIGHT LOSS

The studies analyzed showed that bariatric surgery is highly effective in inducing sustained weight loss, especially in the first years after the procedure. On average, patients lose between 50% and 70% of their excess body weight in the first 12 to 24 months (Courcoulas et al., 2020; Sjöström, 2013). According to Rubino et al. (2010), Roux-en-Y gastric bypass and sleeve gastrectomy were the procedures with the best outcomes in this regard, mainly due to the combination of gastric restriction and hormonal changes that affect satiety and nutrient absorption.

However, between the third and fifth year after surgery, partial weight regain is common. According to Magro et al. (2008), about 20% to 30% of patients can regain between 10% and 20% of the weight lost, especially in the absence of continuous multidisciplinary support. Factors such as sedentary lifestyle, return to inadequate eating habits, lack of psychological follow-up and the presence of eating disorders are among the main causes of regain (Meany et al., 2014). In addition, there are individual differences related to basal metabolism and intestinal adaptation that influence these results.

IMPROVEMENT OF COMORBIDITIES

Bariatric surgery has a significant impact on several comorbidities associated with obesity, with remission or significant improvement of clinical conditions such as type 2 diabetes, hypertension, dyslipidemias, and obstructive sleep apnea. According to Schauer et al. (2017), up to 85% of patients with type 2 diabetes had remission of the disease in the first two years after surgery, a result higher than that obtained with drug treatment alone. Long-term maintenance of remission (5 years or more) was observed in approximately 60% of cases.

Additional studies confirm a reduction in blood pressure in about 70% of hypertensive patients and normalization of lipid levels in up to 75% of individuals with

dyslipidemia (Adams et al., 2012). Sleep apnea also showed significant improvement, with a reduction in respiratory events and an improvement in sleep quality, positively impacting overall quality of life (Greenburg et al., 2009). The control of comorbidities is directly related to the maintenance of weight loss and the adoption of a healthier lifestyle.

PSYCHOLOGICAL IMPACT

The psychological impact of bariatric surgery is a complex and multifaceted aspect. In the short term, most patients report substantial improvements in self-esteem, body image perception, and social, sexual, and professional life (Herpertz et al., 2003). This improvement is often associated with rapid weight reduction and improved mobility and overall health.

However, the literature shows that, from the third postoperative year onwards, there is an increase in the incidence of mental disorders, especially depression, anxiety, and suicidal behavior. Studies such as that of Sarwer et al. (2019) indicate that up to 20% of patients may develop depressive symptoms after surgery, and the suicide rate among bariatric patients is higher than that of the general population, especially in individuals with a previous history of psychiatric disorders.

In addition, eating disorders, such as binge eating disorder (BED), night eating syndrome, and post-bariatric anorexia, have been frequently reported, especially in cases of frustration with weight regain or difficulty adapting to the new eating pattern (Pedro et al., 2021; Kalarchian et al., 2016). These data reinforce the need for regular and continuous psychological follow-up, before and after surgery.

DISCUSSION

Bariatric surgery is widely recognized as one of the most effective interventions for long-term weight loss and the control of chronic diseases associated with obesity, such as type 2 diabetes, hypertension, and dyslipidemias. The findings of this review corroborate the current literature, which reveals long-lasting clinical benefits in many patients, with maintenance of significant weight loss and remission of comorbidities up to five years after the procedure (Schauer et al., 2017; Courcoulas et al., 2020). However, for Sarwer et al. (2019), weight loss alone does not automatically translate into an improvement in patients' psychological well-being, since many still face significant emotional challenges after surgery, such as anxiety, depression, and body image dissatisfaction.

Studies suggest that the absence of continuous psychological follow-up after surgery may contribute to weight regain, relapses into dysfunctional eating behaviors, and, in more

severe cases, increased risk of suicidal ideation (Mitchell et al., 2014). This emphasizes the importance of an interdisciplinary approach to postoperative care, involving physicians, dietitians, psychologists, and other health professionals. According to Miras et al. (2017), psychotherapy programs, such as cognitive-behavioral therapy, have been shown to be effective in preventing relapses and promoting positive emotional adaptation in patients.

The construction of public policies aimed at the continuous monitoring of bariatric patients is essential. Long-term psychological and nutritional support should be integrated into the care model, ensuring that patients receive the support they need to maintain the benefits of surgery and avoid emotional and behavioral complications. Studies indicate that the continuity of multidisciplinary support contributes significantly to the quality of life of bariatric patients, in addition to improving long-term clinical outcomes (Mitchell et al., 2014; Herpertz et al., 2003).

Therefore, care for bariatric patients should transcend the surgical moment and be prolonged throughout life, with regular evaluations and specific interventions to maintain the physical and psychological health of patients. This integrated care model can be instrumental in ensuring the long-term success of bariatric surgery.

FINAL CONSIDERATIONS

Bariatric surgery has been consolidated as an effective intervention for weight loss and the improvement of metabolic conditions in patients with severe obesity, resulting in significant clinical benefits, such as the remission of comorbidities, including type 2 diabetes, hypertension and dyslipidemia. However, long-term outcomes are closely linked to behavioral, psychological, and social factors that are often overlooked in postoperative follow-up. The present review highlights the importance of a continuous and interdisciplinary care model, involving professionals from different areas, such as physicians, nutritionists, psychologists, and other specialists, with the objective of promoting treatment adherence and ensuring the maintenance of surgery results.

Despite significant advances in understanding the clinical benefits of bariatric surgery, this study has some limitations. The review was based only on open access studies, which may have restricted the scope of the evidence analysed. In addition, the review did not specifically address the different types of bariatric surgery, such as gastric bypass and sleeve gastrectomy, which could provide a more detailed comparison between therapeutic options. Another limitation is the absence of a deeper analysis of the impact of individual variables, such as age, gender, and preexisting comorbidities, on the long-term outcomes of surgery.

One of the main challenges of this study was the limitation of the research scope due to the exclusion of studies not available in open access, which may have impacted the diversity of sources and the deepening of some areas of analysis. In addition, the variability in the postoperative follow-up protocols and methodologies used in the selected studies makes it difficult to generalize the results and to compare them directly. In the future, it would be interesting to conduct more specific investigations into the differences between the types of bariatric surgery, as well as the individual factors that influence long-term outcomes.

Another future research suggestion involves developing personalized psychosocial interventions for bariatric patients, with a focus on ongoing psychological support and strategies for long-term weight maintenance. Research exploring the impact of specific cognitive and behavioral therapies for the prevention of weight regain would be extremely valuable for improving care for these patients. In addition, it would be relevant to investigate the physiological and behavioral mechanisms that contribute to weight regain, so that prevention strategies can be adjusted and optimized.

Finally, more in-depth studies on the impact of bariatric surgery on specific groups, such as older patients, pregnant women, or individuals with complex comorbidities, can provide important data for personalizing treatment and building more effective follow-up models, ensuring better long-term outcomes for a wider range of patients.

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