



Strategies for early detection of psychopathologies in candidates for post-bariatric plastic surgery

Estratégias para detecção precoce de psicopatologias em pacientes candidatos a cirurgias plásticas pós-bariátricas

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■ ABSTRACT

Introduction: The increase in demand for post-bariatric plastic surgery has revealed a high prevalence of psychopathologies in patients undergoing the procedure, requiring the need to diagnose these diseases in the preoperative period. The use of specific psychological screening tools has been promoted; however, a gold-standard method has not yet been fully established. **Objective:** To carry out a review of the literature for alternatives available for the preliminary psychological evaluation of patients who are candidates for post-bariatric plastic surgery, presenting the method recommended in the Post-Bariatric Plastic Surgery outpatient clinic of the Federal University of Mato Grosso do Sul (UFMS). **Methods:** We reviewed the clinical trials which employed psychological screening tools preoperatively in patients who were candidates for post-bariatric plastic surgery; the MEDLINE/PubMed database was searched using keywords such as “bariatric surgery”, “body image”, “quality of life”, “obesity”, “plastic surgery” and “psychiatry”, for clinical trials published in the last 20 years. Herein, we discuss the findings and analyze the most common methodologies used. **Results:** Only four clinical trials used psychopathology screening tools in post-bariatric plastic surgeries preoperatively, and one method could not be identified. **Conclusion:** The use of appropriate strategies to screen for psychopathologies helps prevent significant losses in the postoperative period, but the tools still lack validation in the post-bariatric population. Besides possessing extensive clinical-surgical technical knowledge, the plastic surgeon must remain attentive to the signs and psychopathological symptoms in these patients, referring them for psychological and psychiatric evaluation when indicated.

Keywords: Plastic surgery; Bariatric surgery; Body image; Quality of life; Obesity; Psychiatry.

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■ RESUMO

Introdução: O aumento na demanda pelas cirurgias plásticas pós-bariátricas evidenciou a alta prevalência de psicopatologias nessa população, exigindo a necessidade do diagnóstico dessas doenças no pré-operatório. A utilização de ferramentas para triagem psicológica específica, já na primeira consulta, tem sido estimulada pela maioria dos autores, entretanto, um método padrão-ouro ainda não foi plenamente estabelecido e a busca persiste. **Objetivo:** Realizar uma revisão da literatura sobre as alternativas disponíveis para a avaliação psicológica preliminar de pacientes candidatos a cirurgias plásticas pós-bariátricas, apresentando a conduta preconizada no ambulatório de Cirurgia Plástica Pós-Bariátrica da Universidade Federal de Mato Grosso do Sul (UFMS). **Métodos:** Revisão dos ensaios clínicos, que empregaram ferramentas de triagem psicológica pré-operatória em pacientes candidatos à cirurgia plástica pós-bariátrica, nos bancos de dados MEDLINE/PubMed, utilizando os descritores “*bariatric surgery*”, “*body image*”, “*quality of life*”, “*obesity*”, “*plastic surgery*” e “*psychiatry*”, nos últimos 20 anos, discutindo os achados e analisando as metodologias mais utilizadas. **Resultados:** Foram encontrados apenas 4 ensaios clínicos que utilizaram ferramentas de triagem psicopatológica no pré-operatório de cirurgias plásticas pós-bariátricas, sendo que um método de eleição não pôde ser identificado. **Conclusão:** A utilização de estratégias apropriadas para a triagem das psicopatologias auxilia na prevenção de prejuízos significativos no pós-operatório, porém a construção da ferramenta ideal ainda carece de validação na população pós-bariátrica. Além do amplo conhecimento técnico clínico-cirúrgico, o cirurgião plástico deve manter-se atento aos sinais e sintomas psicopatológicos desses pacientes, encaminhando-os para avaliação psiquiátrica e psicológica quando indicado.

Descritores: Cirurgia plástica; Cirurgia bariátrica; Imagem corporal; Qualidade de vida; Obesidade; Psiquiatria

INTRODUCTION

In recent years, the increase in demand for post-bariatric plastic surgery has presented new and unique challenges to plastic surgeons in Brazil¹. With the increasing demands for this procedure, new competencies began to be required and new challenges were presented². In general, the clinical management of these patients, often malnourished and anemic, is delicate and laborious; their surgical plans are generally more extensive and detailed, requiring multiple procedures; their scars are usually extensive and postoperative recovery is more prolonged; and in particular, the results are often idealized by the patients, usually far exceeding what is achievable with surgery, adding to the complexity of this treatment³.

The need for a better preoperative psychological approach was identified recently by plastic surgeons⁴. Several authors have demonstrated that approximately 60% of candidates for post-bariatric plastic surgery

present with some type of psychopathology, frequently subclinical or neglected^{5,6,7,8}, with depression, generalized anxiety disorder, and body dysmorphic disorder being the most prevalent ones^{3,9,10,11}.

Unlike what was imagined in the past^{3,9}, the incidence of these psychological disorders tends to increase after bariatric surgery¹⁴. In addition to the intrinsic causes, two factors seem to contribute to the worsening psychological conditions of these patients in the postoperative period: the esthetic loss due to generalized dermatochalasis caused by rapid and significant weight loss and the relative delay between repair procedures, postponing the conclusion of the entire surgical process and the envisioned results^{2,3,5,12}.

Faced with this emotional instability, post-bariatric plastic surgery, considered by some to be a “life-saver,” frequently becomes a point of great frustration and regret for patients¹³. The levels of satisfaction with the procedure are generally lower than those in the general plastic surgery

population, since the evaluation of the quality of the surgical outcome is compromised by an emotionally unstable or psychologically compromised patient^{6,14}. Frustration at not obtaining the idealized postoperative result is generally exacerbated in these patients, further aggravating their psychological conditions⁵. Furthermore, in clinical practice, it is observed that patients do not always present the ideal psychological profile for a plastic surgery, even when presenting significant physical indications for the procedure^{6,14}.

To help with this identification, a professional psychological evaluation is essential for understanding the true motivations of the patient, often subconscious, as well as for the detection of possible eating and mood disorders, which can potentially damage the postoperative and long-term results^{15,16}. Currently, several authors recommend the referral of patients to a specialized service for the diagnosis of psychological conditions before performing any post-bariatric surgical procedure, a strategy considered as the first line to prevent psychiatric complications in the postoperative period^{1,15,17}.

Currently, this preoperative evaluation is common in centers of excellence in plastic surgery in order to minimize psychiatric complications in the postoperative period¹. However, this practice is still far from a reality for most privately practicing plastic surgeons in Brazil, especially those who work outside major surgical centers¹. Often, the mere mention of the need for a psychological evaluation places significant stress on the ex-obese, undermining the already fragile doctor-patient relationship¹⁷. This resistance frequently prevents follow-up treatment, or it requires the plastic surgeon to permit the patient to desist referral to a psychologist^{1,17}.

One recommended solution is the use of psychological screening tools during the first consultation¹. With these, the plastic surgeon would be able to more easily identify the patients at risk for psychological disorders and, concomitantly, predict associated complications^{1,17}. According to the literature, this process would minimize resistance on the part of patients, as it rationalizes the potential problem, demonstrating the importance of referral to a specialist for assessment^{1,5,17}.

The challenge of researchers is to develop a simple, quick, and easily applicable tool which provides an efficient psychological screening to be used in plastic surgery clinics without requiring the presence of a mental healthcare professional such as a psychologist or psychiatrist⁹. Several tools have already been proposed; however, a gold standard has not yet been fully established and the search continues¹⁸.

The objective of this study is to conduct a review of the literature on the alternatives available for the preliminary psychological evaluation of patients who are candidates for surgery, presenting the process recommended in the Post-Bariatric Plastic Surgery outpatient clinic of the UFMS.

METHODS

Using the MEDLINE/PubMed database, articles in the medical literature which described the psychological evaluation of patients who are candidates for post-bariatric plastic surgery published in the last 20 years were analyzed.

The keywords used were “bariatric surgery”, “body image”, “quality of life”, “obesity”, “plastic surgery”, and “psychiatry”, terms validated by MeSH through various combinations and their respective translations into Portuguese. From the studies found, clinical trials which used preoperative psychological screening tools in candidates for post-bariatric plastic surgery were selected for analysis.

RESULTS

After excluding the articles that did not address the specific psychological evaluation of post-bariatric patients, only 4 publications were included in this study (Chart 1).

DISCUSSION

In the past, post-bariatric plastic surgery was deemed to benefit the emotional component of patients due to the improvement in body esthetics, relieving some pre-existing psychopathology⁴. Unfortunately, several studies show that this is not true^{13,14,19}. Although able to offer a significant improvement in quality of life by enhancing body image and increasing self-esteem, the positive influence of plastic surgery on already established mental illness has not yet been fully elucidated and cannot be guaranteed^{5,6,14}. In fact, according to some authors, the more prevalent psychopathologies in this population even tend to worsen in a significant portion of the patients in the postoperative period^{1,13,19}.

There is no consensus recommendation for plastic surgeries in patients with mental disorders^{1,11,13}. According to Ferreira, in 2004²⁰, plastic surgery contours the body, leading to more pleasant form, but it does not address the emotional problems that already exist. The academic literature is rich in “disastrous cases” involving plastic surgeries and psychopathologies, associating them with higher rates of postoperative complications, surgical failures, and chronic dissatisfaction^{11,21}.

Chart 1. Preoperative psychological evaluation in patients who are candidates for post-bariatric plastic surgery.

Title	Authors	Publication	Method Used	Findings
Body Contouring Surgery after Bariatric Surgery: A Study of Cost as a Barrier and Impact on Psychological Well-Being	Arash, Azin; Carrol Zhou; Timothy Jackson; Stephanie Cassin; Sanjeev Sockalingam; Raed Hawa	Plast. Reconst. Surg. 133: 776e, 2014	<i>Patient Health Questionnaire</i> (PHQ-9); <i>Generalized Anxiety Disorder</i> (GAD-7); <i>Short Form-36</i> .	Using this association of methods, the authors reported that patients undergoing post-bariatric plastic surgery can present a more satisfactory psychological status.
Body image and quality of life in patients with and without body contouring surgery following bariatric surgery: a comparison of pre- and post-surgery groups	Martina de Zwaan Ekaterini Georgiadou Christine E. Stroh Martin Teufel Hinrich Köhler Maxi Tengler Astrid Müller	<i>Front Psychol.</i> 2014;5:1310. Published 2014 Nov 18.	Multidimensional Body-Self Relations Questionnaire (MBSRQ); Quality of life (IWQOL-Lite), Symptoms of depression (PHQ-9), and anxiety (GAD-7).	Using this association of methods, the authors did not identify any psychological benefit in patients who underwent post-bariatric plastic surgery. However, those who submitted to body contouring surgery reported improvements in body satisfaction, appearance, and functional capacity.
Body Image and Quality of Life in Post Massive Weight Loss Body Contouring Patients	Angela Y. Song; J. Peter Rubin; Veena Thomas; Jason R. Dudas; Kacey g. Marra; Madelyn H. Fernstrom	Obesity (Silver Spring, Md. vol. 14. No.9 - 1626-36. September 2006	Beck Depression Inventory (BDI)	The authors found no benefit in the psychological screening of patients undergoing post-bariatric plastic surgery, since all patients in the study were within the normal range of the screening inventory used at 0, 3, and 6 months post-surgery.
Psychological and Psychiatric Traits in Post-bariatric Patients Asking for Body-Contouring Surgery	Chiara Pavan; Massimo Marini; Eleonora De Antoni; Carlotta Scarpa; Tito Brambullo; Franco Bassetto; Annapina Mazzotta; Vicenzo Vindigni	Aesthetic Plast Surg. 2016 Dec 28 Published online 2016 Dec 28.	Mini International neuropsychiatric interview (MINI); BDI-II.	Using this combination of methods, the authors did not identify any benefit in psychological screening of patients undergoing post-bariatric plastic surgery.

Accordingly, during the routine pre-operative consultation, the mere suspicion of the presence of mental disorders, especially mild disorders, should serve as an impasse to the plastic surgeon¹¹. The consultation is generally focused on the technical difficulty of the case, the surgical strategies to be proposed, and the clinical evaluation of the patient; all these aspects present a high degree of difficulty in post-bariatric patients¹¹. Therefore, the attention towards the detection of psychiatric alterations usually remains in the background, although it is perhaps the greatest paradigm requiring more qualified care in post-bariatric plastic surgery.

A good anamnesis has been believed by most healthcare professionals to identify most psychological problems; unfortunately, although essential, it is much less effective in individuals with psychological disorders who are eager for a surgical procedure¹⁰. In general, these patients maintain a positive demeanor during

the consultation and the discussion of the surgical plan. They usually conceal their complaints and minimize their expectations, deluding even the most attentive and experienced physician^{11,17}. Another factor that hampers a psychological screening is that many of the neurovegetative and somatic symptoms caused by mental illness, such as fatigue, insomnia, and weight loss, can be easily confused with symptoms resulting from the condition of being formerly obese²¹.

The diagnostic process of psychiatric disorders is based on the identification of clinical syndromes, which are extremely hindered by the absence of consistent biological markers²². Thus, several authors have recommended the use of specific methodologies for psychological screening in the initial consultation: the so-called psychopathology screening tools^{17,18}. The purpose of their application would identify the patients more susceptible to mental disorders, sending them for a specialized psychological evaluation¹⁰. However, as yet

there is no specific and well-validated tool with utility in plastic surgery clinics for post-bariatric candidates for esthetic procedures^{9,10,18,21,23}.

In the literature review presented here, only four clinical trials (Chart 1) used screening methods in pre-operative consultations in candidates for post-bariatric plastic surgeries. This extremely low number of studies is surprising and worrying, especially since the results are divergent and insufficient to elect, even if superficially, a gold-standard psychological screening method.

Azin et al. in 2014²⁴ and Zwaan et al. in 2014²⁵ used a combination of different tools in post-bariatric candidates for body contouring surgery. The authors claimed that this combination would be useful to more easily diagnose psychopathologies. However, despite using similar methods, the authors obtained contradictory results, weakening the thesis that this combination is the ideal screening method. In addition, this strategy with multiple tests has less clinical applicability, requiring more time for the initial preoperative evaluation, and thus it cannot be recommended as an ideal method for initial evaluation. The laborious applicability of the combination of tests also hinders its reproduction in other studies, tending to make its clinical applicability unfeasible. In their conclusions, both authors honestly refer to the difficulties and the limitations of their studies.

In the article by Song et al. in 2006²⁶, the authors used the Beck Depression Inventory (BDI) to focus more on depressive symptoms without identifying differences between the groups studied. According to the literature, the use of the BDI alone can underdiagnose very prevalent disorders in these patients, such as anxiety and somatoform disorders²⁷. In this case, the BDI, when applied alone, does not seem to be the best choice for screening patients who are candidates for post-bariatric plastic surgery. The conclusions of Azin et al. in 2014²⁴, Zwaan et al. in 2014²⁵, and Song et al. in 2006²⁶ underline the weaknesses of the study and the long road to be traveled until the ideal screening tool for the post-bariatric population is defined.

Pavan et al. in 2017²⁸ combined the BDI II with the Mini International Neuropsychiatric Interview (MINI) Plus method. The conclusion of the study reveals a discrepancy in the results obtained and the psychopathologies analyzed, as the authors themselves failed to outline a clear strategy of the screening method they advocate. According to Pavan et al. in 2017²⁸, the combination of multiple instruments seems to be the current trend for the psychological screening of candidates for post-bariatric surgeries, especially due to the emotional complexity of the ex-obese patient and

the absence of a comprehensive tool to assess a wide range of all possible components.

As seen here, the literature on the subject is still emerging, requiring more studies and a greater acknowledgement of its importance in plastic surgery. The literature review is completely different when we analyze obese patients who have not yet had bariatric surgery. In these cases, the literature produced by digestive tract surgery teams is abundant in studies, and the production of knowledge is continuous and well-founded.

One of the tools most commonly used in research evaluating candidates for bariatric surgery is the BDI^{10,21,23}. This tool evaluates the intensity of depressive symptoms, and it can be easily executed during pre-operative consultations^{9,17}. It is a quick and practical instrument with a high rate of acceptance, credibility, and accuracy in screening for depressive symptoms²². Although it does not have diagnostic assertions, its use facilitates the screening of psychopathologies with a high level of sensitivity and specificity^{21,22,23}. The patient responds to 21 statements in a questionnaire, correlated with depressive symptoms and attitudes²⁹ determining the intensity of responses that vary from 0 to 3, suggesting increasing degrees of severity of the disease³⁰. The final score is the sum of the responses, with a minimum score of zero and maximum of 63 points¹⁸. According to the authors, a score ≥ 17 classifies the patient as "at risk"³⁰. In 1996, the BDI was significantly revised, which resulted in its second edition (BDI-II), which is more straightforward and easier to understand³¹, approaching the new diagnostic criteria for Major Depression present in 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V)⁸.

Another widely used method in studies with pre-bariatric patients is the Patient Health Questionnaire (PHQ-9). It is a rapid application tool, widely used for the evaluation and screening of depressive disorders. Based on the diagnostic criteria of the DSM-5, it has 9 dimensions, evaluated by a scale that ranges from 0 ("not at all") to 3 ("nearly every day"), corresponding to the frequencies of the signs and symptoms of depression, which could result between 0 and 27 points. When the sum is ≥ 10 , it is a positive indicator of the disorder. The PHQ-9 is derived from the Primary Care Evaluation of Mental Disorders (PRIME-MD), which was created to screen for major mental disorders in primary care, such as alcohol abuse, depression, anxiety, eating, and somatoform disorders³².

Despite their widespread applications, the PHQ and BDI are not free from criticism^{18,22}. Some authors claim that they are too specific to depression, not evaluating the other psychopathologies prevalent in ex-obese patients²². In addition, the tools would

still need adaptation for post-bariatric patients, with different cut-off levels and application and control strategies. Some authors even recommend that screening tools less focused on depressive symptoms and more on personal interrelationships and quality of life analysis be associated with these methods²². Examples include the Medical Outcomes Study Short Form, the Adaptation Self-Evaluation Scale, the Social Adjustment Scale Self-Report, the Multiple Affective Adjective Check List, the Brief Symptom Inventory, the Hamilton Depression Rating Scale, and the Zung Self-Rating Depression Scale^{21,22,23}.

Specifically related to plastic surgery, Sarwer et al. in 2008²³ developed a questionnaire that assesses the motivations and expectations of patients, their perceptions of body self-image, as well as their psychiatric status at the time of the consultation. Pinho et al. in 2011¹ recommended the use of the Sarwer questionnaire, giving it an excellent rating. D'Assumpção, in 2017¹¹ changed the Pisa Scale, a practical tool for this population, to be diagnostic of Body Dysmorphic Disorder⁸. However, the validation of these methods in the post-bariatric population still needs confirmation and further studies.

The development of the ideal tool still seems far from a reality in clinical practice and merits more questions¹⁸. In the Post-Bariatric Plastic Surgery outpatient clinic of the University Hospital of the UFMS, we utilize a Multiaxial Screening²², based on the triad of humanized anamnesis, detection of “risk markers”, and the BDI score.

At the first pre-operative consultation, we pay attention to the biopsychosocial aspects of the patients, valuing a humanistic and committed doctor-patient relationship, sharing with patients the complexity of the process and the challenges to be faced²⁰. We believe that gaining the trust of this complex patient must occur in this first meeting, and the analysis of technical-surgical aspects, previously the major focus of interest, should now be reserved for the final part of the consultations.

In this initial part of the first consultation, we conduct an anamnesis directed at specific psychiatric aspects, taking a detailed history, highlighting the individual and not the physical symptoms, offering the chance to expose feelings, complaints, and expectations. We investigate the patient's personal and relational life, habits, sources of pleasure, and sorrows¹³. Then we present the BDI, explain its motivations, and ask the patient to respond the inventory.

While the patient analyzes the BDI, we assess the findings of the anamnesis, seeking to identify the so-called “markers of psychopathology”, risk factors related to a poor postoperative outcome: a) patients with many unrealistic demands and expectations

about the procedure; b) patients very dissatisfied with a prior esthetic surgery (with good results); c) patients with minimal bodily deformities but many complaints; d) patients with intellectual conditions limiting their understanding of the complexities and technical limits of the surgeries; e) patients with vague motivations due to relationship problems; f) patients with extremely low self-esteem; g) patients with a history of depression or psychiatric hospitalizations; h) solitary patients; i) patients with personality disorders; j) and patients with suicidal ideation²⁹.

In the presence of at least one of these markers or if the BDI score is ≥ 17 , we initially counsel against the procedure and forward the patient to an assessment by a mental health professional^{9,13,27}. We explain that the future implementation of the procedure shall be subject to the release of this professional and that this will be attached to the Informed Consent Form (ICF)¹⁷. Pinho et al. in 2011¹ recommended a complete documentation of the pre-operative psychological/psychiatric approach, with the presence of reports of specialized professionals, as a measure of protection for the plastic surgeon. Some patients dissatisfied with their post-bariatric plastic surgeries have used their preoperative psychiatric condition in medical error litigation as a justification for not understanding the terms of consent and guidelines about the procedure¹.

Even in those patients without identified risk factors (markers and/or BDI ≤ 16), we devote substantial time to the consultation, explaining the details of the pre-, trans-, and post-operative periods³³. Unfortunately, this approach, although very effective, cannot prevent all disappointments. Even with a negative screening and all the care dispensed, some patients develop psychiatric issues during the postoperative period. In these cases, it is essential to refer them immediately to a psychiatrist to minimize losses, controlling the situation as quickly as possible¹³, in addition to psychological, cognitive and behavioral interventions.

CONCLUSION

The use of appropriate strategies for pre-operative screening of psychopathologies of post-bariatric plastic surgeries can assist in the prevention of significant losses during the postoperative period. The ideal tool still lacks validation in the post-bariatric population, requiring more accurate development and validation by the scientific community. In addition to extensive clinical and technical surgical knowledge, the plastic surgeon must remain attentive to the psychopathological signs and symptoms of these patients, being prepared to refer them to psychiatric and psychological evaluation when indicated.

COLLABORATIONS

DNS	Analysis and/or data interpretation, Conception and design study, Conceptualization, Data Curation, Final manuscript approval, Formal Analysis, Investigation, Methodology, Project Administration, Realization of operations and/or trials, Resources, Supervision, Validation, Visualization, Writing - Original Draft Preparation, Writing - Review & Editing
MR	Analysis and/or data interpretation, Conception and design study, Conceptualization, Final manuscript approval, Formal Analysis, Project Administration, Validation, Writing - Review & Editing
KFMV	Analysis and/or data interpretation, Conception and design study, Conceptualization, Final manuscript approval, Project Administration, Realization of operations and/or trials, Supervision, Writing - Review & Editing
AABMR	Analysis and/or data interpretation, Conceptualization, Final manuscript approval, Project Administration, Realization of operations and/or trials, Validation, Writing - Original Draft Preparation, Writing - Review & Editing
EGB	Analysis and/or data interpretation, Conceptualization, Data Curation, Final manuscript approval, Investigation, Methodology, Realization of operations and/or trials, Writing - Review & Editing
TRA	Analysis and/or data interpretation, Conception and design study, Data Curation, Final manuscript approval, Investigation, Methodology, Realization of operations and/or trials, Writing - Review & Editing
HJOC	Analysis and/or data interpretation, Conception and design study, Data Curation, Final manuscript approval, Methodology, Realization of operations and/or trials, Writing - Original Draft Preparation, Writing - Review & Editing

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