






Psychological Assessment in Post-bariatric Plastic Surgery: A Scope Review

Avaliação psicológica em cirurgia plástica pós-bariátrica: Uma revisão de escopo

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Abstract

Introduction Obesity can have physical, psychological, and social consequences. Bariatric surgery may improve the patient's biopsychosocial condition. However, excess skin after rapid and significant weight loss may result in psychological distress. Plastic surgery, as the only procedure for excessive skin removal, can improve self-image and encourage weight control.

Objective Through a scoping review, this study investigated whether the basic psychological assessment performed during screening by plastic surgeons can identify psychological distress in patients who wish to undergo plastic surgery after bariatric surgery.

Method The study consisted of a bibliographic survey of articles published from 2013 to 2023 in Portuguese, English, and Spanish in the MEDLINE, Virtual Health Library (VHL), and Embase databases.

Results In the search strategy, 48 articles met the inclusion criteria, and the study mentions 18 of these papers.

Conclusion The psychological assessment performed during plastic surgery screening allows the identification of suffering from excessive skin after bariatric surgery and previous psychological suffering, facilitating the medical decision about whether or not to refer the patient for specialized psychological evaluation. This approach broadens the patient's understanding of the relationship between body and mind.

Keywords

- bariatric surgery
- body
- body image
- contouring
- mental disorders
- plastic surgery
- psychosocial functioning

Resumo

Introdução A obesidade pode acarretar consequências físicas, psicológicas e sociais. A cirurgia bariátrica tem o potencial de melhorar a condição biopsicossocial do paciente. No entanto, o excesso de pele após uma perda de peso rápida e significativa pode causar sofrimento psicológico. A cirurgia plástica, como o único procedimento capaz de remover o excesso de pele, tem o potencial de aperfeiçoar a autoimagem. Além disso, ela pode incentivar o controle do peso.

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Palavras-chave

- cirurgia bariátrica
- cirurgia plástica
- contorno corporal
- funcionamento psicossocial
- imagem corporal
- transtornos mentais

Objetivo Este estudo investigou, por meio de uma revisão de escopo, se a avaliação psicológica básica, realizada durante a triagem pelo cirurgião plástico, é capaz de identificar o sofrimento psicológico em pacientes que desejam se submeter à cirurgia plástica após a bariátrica.

Método Foi realizado um levantamento bibliográfico, abrangendo artigos publicados entre 2013 e 2023, nos idiomas português, inglês e espanhol, nas Bases de dados MEDLINE, Biblioteca Virtual em Saúde (BVS) e Embase.

Resultados Na estratégia de busca, 48 artigos atenderam os critérios de inclusão e 18 artigos foram mencionados neste estudo.

Conclusão A avaliação psicológica realizada na triagem do cirurgião plástico permite identificar o sofrimento decorrente do excesso de pele pós-cirurgia bariátrica e o sofrimento psicológico prévio. Facilitando a decisão médica sobre encaminhar ou não o paciente para avaliação psicológica especializada. Essa abordagem amplia a compreensão do paciente sobre a relação entre corpo e mente.

Introduction

The World Health Organization classifies obesity as a highly complex chronic non-communicable disease and a 21st-century challenge with global repercussions. According to the Atlas of the Food and Nutrition Situation in Brazil, published by the Ministry of Health in 2020, a survey involving 12,776,938 adults revealed that 63% are overweight. Obesity is a multifactorial condition and poses a significant risk due to its comorbidities and psychosocial impacts that worsen with weight gain. Social stigma is an additional factor that harms the condition of obese subjects.¹ Psychological disorders, such as depression, anxiety, binge eating, low self-esteem, and dissatisfaction with body image have often been associated with obesity.^{2,3} Some studies highlight the significance of a multidisciplinary team in obesity treatment as, in addition to promoting health, these professionals act as a support for the patient.^{4,5}

Some authors agree that bariatric surgery is an effective and most performed resource worldwide to treat morbid obesity, potentially promoting psychological well-being.⁶ However, rapid and significant weight loss can result in the appearance of excessive skin, and skin folds may present wounds and bad odors. This condition can be uncomfortable and affect both physical health and self-esteem. Moreover, the changes in a person's life as a result of surgery and the difficulty in adjusting the perception of one's thin body and self-image can lead to psychological issues.⁷

Plastic surgery, as the only procedure to remove excessive skin resulting from significant weight loss, can optimize bariatric surgery outcomes, encourage weight control, and contribute to self-esteem and psychological well-being improvement.⁸ However, patients with psychological distress may express dissatisfaction with plastic surgery outcomes, even after achieving the initially planned goal. The psychological status of patients with body dysmorphic disorder who undergo plastic surgery may worsen, potentially compromising the satisfaction with the procedural outcomes.⁹

This study aims to raise awareness among plastic surgeons, bariatric surgeons, and the interdisciplinary team about the relevance of the biopsychosocial approach in the preoperative care of patients who wish to undergo plastic surgery after bariatric surgery. In the screening phase performed by plastic surgeons, the psychological assessment plays two critical roles. First, it allows exploring the patient's desires, expectations, anxieties, and fantasies. Second, the assessment process, combined with careful and transparent feedback from the physician when the patient shows signs of psychological distress, helps the patient to recognize the need for and importance of a more in-depth psychological investigation conducted by specialists. This initial approach aims to understand the emotional and psychological context of the subject and promote their mental health.

Objective

Through a scoping review, this study aimed to determine whether the basic psychological assessment conducted during the plastic surgery screening can identify psychological distress in patients seeking post-bariatric plastic surgery.

Method

This study is a scoping review and part of the project entitled "Biopsychosocial Care Protocol in Post-bariatric Plastic Surgery," conducted during the Professional Master's Degree Program in Science, Technology, and Management Applied to Tissue Regeneration at the Universidade Federal de São Paulo (Unifesp). The Unifesp Research Ethics Committee approved the study under opinion number 5825924, corresponding receipt 097949/2022, and the Certificate of Presentation of Ethical Appreciation (CAAE, for its acronym in Portuguese) number 62914222.2.0000.5505.

Initially, we formulated the following research question using the population, intervention, comparator, and

outcome (PICO) approach: Can biopsychosocial care for preoperative post-bariatric plastic surgery patients identify excessive skin-related psychological distress? In our research, P refers to preoperative post-bariatric plastic surgery patients, I to biopsychosocial care, C is not applicable, and O is the identification of excessive skin-related psychological distress. Next, we applied the acronym FINER (feasible, interesting, novel, ethical, and relevant) to assess whether the question was well formulated. We searched for articles published from 2013 to 2023 in Portuguese, English, and Spanish in Medline, Virtual Health Library (BVS), and Embase databases using the Health Sciences Descriptors (DECS/MeSH) psychosocial functioning, plastic surgery, bariatric surgery, and body image. The search strategy was: [("psychosocial functioning" OR "bariatric surgery") AND ("plastic surgery" OR body image)]. The inclusion criteria for study selection were male and female adults undergoing bariatric surgery and post-bariatric plastic surgery. The non-inclusion criteria were studies with adolescents, expert comments, posters, theses, and incomplete articles. Exclusion criteria were duplicate articles and studies on plastic and bariatric surgeries without focusing on the psychological context. The Rayyan.ai and Zotero.org platforms managed the

references of the bibliographic survey, including the identification of duplicates and application of the eligibility criteria.

Results

The bibliographic survey retrieved a total of 362 studies. We selected 48 papers as they met the established inclusion criteria (►Figure 1).

From the selected papers, this scoping review cited and discussed 18 (►Box 1).

Discussion

Obesity treatment is complex, and, throughout it, patients may face clinical comorbidities, social stigmas, and negative self-judgment, which can affect their psychological state. Although the literature suggests a correlation between obesity and psychiatric disorders, research does not establish a direct connection between obesity, depression, and anxiety. Considering the controversy, Casselli et al.³ emphasized that these disorders can potentially increase the risk of obesity.

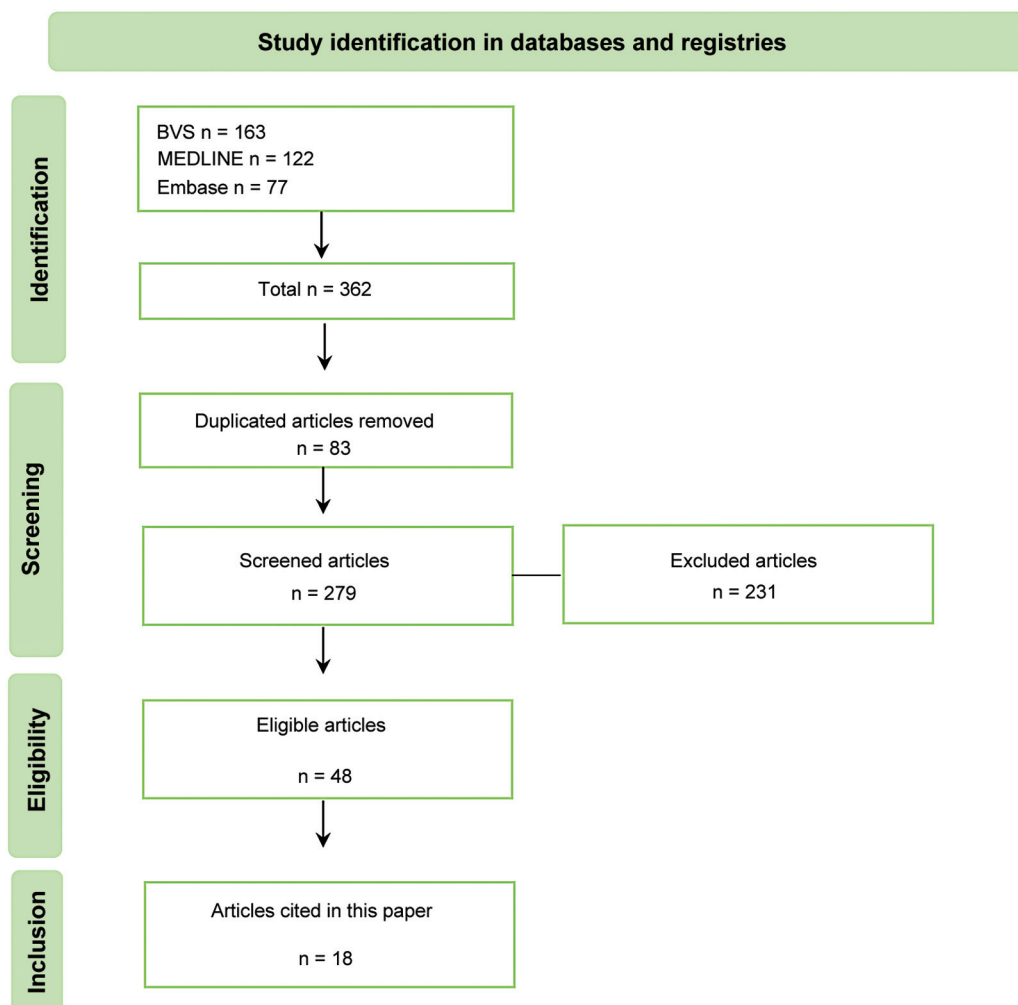


Fig. 1 Literature survey flowchart.

Box 1 Articles included in the literature survey and cited in this paper

Number	Title	Author(s)	Year
1	Gender difference in requesting abdominoplasty after bariatric surgery: based on five years of experience in two centers in Sulaimani Governorate	Ahmed HO, Arif SH, Abdulhakim SA, Kakarash A, Ali Omer MA, Nuri AM.	2018
2	Eating attitudes, perceptions of body image and patient quality of life before and after bariatric surgery	Akkayaoğlu H, Çelik S.	2020
3	Beyond body size: focusing on body functionality to improve body image among women who have undergone bariatric surgery	Alleva JM, Atkinson MJ, Vermeulen W, Montpellier VM, Martijn C.	2023
4	Patient-reported satisfaction following post-bariatric surgery: a systematic review	Barone M, Cogliandro A, Salzillo R, Tambone V, Persichetti P.	2018
5	Body image concerns and associated impairment among adults seeking body contouring following bariatric surgery	Bennett BL, Grilo CM, Alperovich M, Ivezaj V.	2022
6	<i>Insatisfação com a imagem corporal em indivíduos com obesidade que procuram cirurgia bariátrica: explorando a carga de novos fatores mediadores.</i> Body image dissatisfaction in individuals with obesity seeking bariatric surgery: exploring the burden of novel mediating factors.	Bianciardi E, Di Lorenzo G, Niolu C, Betto S, Zerbin F, Gentileschi P, Siracusano A.	2019
7	<i>Transtorno dismórfico corporal: revisão da literature</i> Body dysmorphic disorder: literature review	Bonfim GW, Nascimento IPC, Borges NB.	2016
8	Comparing bariatric surgery patients who desire, have undergone, or have no desire for body contouring surgery: a 5-year prospective study of body image and mental health	Buer L, Kvaalem IL, Bårdstu S, Mala T.	2022
9	<i>Atuação da equipe interdisciplinar no pós-operatório de cirurgia bariátrica: uma revisão sistemática</i> Interdisciplinary team performance in the postoperative period of bariatric surgery: a systematic review	Campos KK, Guckert SB, Gonçalves LF, Paiva KM, Stefani FM, Haas P.	2022
10	<i>Comorbidade entre depressão, ansiedade e obesidade e complicações no tratamento</i> Comorbidity between depression, anxiety, and obesity and treatment complications	Casselli DN, Silva ESM, Figueira GM, Demarch ME, Souza JC.	2021
11	<i>Avaliação de imagem corporal em obesos no contexto cirúrgico de redução de peso: revisão sistemática</i> Body image assessment in obese patients in the context of weight loss surgery: a systematic review	Castro TG, Pinhatti MM, Rodrigues, RM.	2017
12	Interpersonal functioning and body image dissatisfaction in patients referred for NHS aesthetic surgery: A mediating role between emotion regulation and perfectionism?	Couper SL, Moulton SJ, Hogg FJ.	2021
13	<i>Representações sociais do sobrepeso e da obesidade: revisão sistemática</i> Social representations of overweight and obesity: systematic review	Couss A.	2021
14	<i>Um nuevo instrumento de evaluación de resultados desde la perspectiva del paciente en cirugía del contorno corporal estética y post bariátrica</i> A new instrument for assessing outcomes from the patient's perspective in cosmetic and post-bariatric body contouring surgery	Danilla ES, Cuevas TP, Domínguez CC, Jara CR, Ríos VM, Calderón GM, Sepúlveda PS.	2015
15	Body contouring surgery improves weight loss after bariatric surgery: a systematic review and meta-analysis	ElAbd R, Samargandi OA, AlGhanim K, Alhamad S, Almazeedi S, Williams J.	2021
16	Quality of life and complications in the morbidly obese patient following post-bariatric body contouring	Elfanagely O, Othman S, Mellia JA, Messa CA, Fischer JP.	2021

Box 1 (Continued)

Number	Title	Author(s)	Year
17	Becoming ex-obese: narrations about identity changes before and after the experience of the bariatric surgery	Faccio E, Nardin A, Cipolletta S.	2016
18	<i>O psicólogo com o bisturi na mão: um estudo antropológico da cirurgia plástica</i> The psychologist with a scalpel in their hand: an anthropological study of plastic surgery	Feriani D.	2014
19	Feasibility and clinical usefulness of the unified protocol in online group format for bariatric surgery candidates: study protocol for a multiple baseline experimental design	Ferreres-Galán V, Quilez-Orden AB, Osma J.	2022
20	Psychological distress among bariatric surgery candidates: the roles of body image and emotional eating	Geller S, Levy S, Goldzweig G, Hamdan S, Manor A, Dahan S.	2019
21	Quality of life among adults following bariatric and body contouring surgery: a systematic review	Gilmartin J, Bath-Hextall F, Maclean J, Stanton W, Soldin M.	2016
22	Dis-appearance and dys-appearance anew: living with excess skin and intestinal changes following weight loss surgery	Groven KS, Råheim M, Engelsrud G.	2013
23	Post-bariatric body contouring	Herman CK, Hoschander AS, Wong A.	2015
24	The complexity of body image following bariatric surgery: a systematic review of the literature: Bariatric surgery and body image. Obesity reviews	Ivezaj V, Grilo CM.	2018
25	A systematic review of body contouring surgery in post-bariatric patients to determine its prevalence, effects on quality of life, desire, and barriers	Jiang Z, Zhang G, Huang J, Shen C, Cai Z, Yin X.	2021
26	Psychological aspects of bariatric surgery as a treatment for obesity	Jumbe S, Hamlet C, Meyrick J.	2017
27	Assessing outcomes in body contouring	Klassen AF, Cano SJ, Scott A, Tsangaris E, Pusic AL.	2014
28	The impact of bariatric surgery on psychological health	Kubik JF, Gill RS, Laffin M, Karmali S.	2013
29	A longitudinal analysis of variation in psychological well-being and body image in patients before and after bariatric surgery	deMeireles AJ, Carlin AM, Bonham AJ, Cassidy R, Ross R, Stricklen A.	2020
30	Body image dissatisfaction and depression in post-bariatric patients is associated with less weight loss and a desire for body contouring surgery	Monpellier VM, Antoniou EE, Mulkens S, Janssen IMC, Van Der Molen ABM, Jansen ATM.	2018
31	Body contouring surgery after massive weight loss: excess skin, body satisfaction, and qualification for reimbursement in a Dutch post-bariatric surgery population	Monpellier VM, Antoniou EE, Mulkens S, Janssen IMC, Jansen ATM, Mink Van Der Molen AB.	2019
32	Preoperative evaluation of the body contouring patient	Naghshineh N, Rubin JP.	2014
33	Space perception, movement, and insight: attuning to the space of everyday life after major weight loss	Natvik E, Groven KS, Råheim M, Gjengedal E, Gallagher S.	2019
34	The long-term effect of body contouring procedures on the quality of life in morbidly obese patients after bariatric surgery	Paul MA, Opyrchal J, Knakiewicz M, Jaremków P, Duda-Barcik Ł, Ibrahim AMS.	2020
35	Depressive disorders in patients who seek cosmetic surgery: a broad and updated view	Paula PRD, Freitas-Júnior R, Prado M, Neves CGL, Arruda FCFD, Vargas VEB	2016
36	Psychological and psychiatric traits in post-bariatric patients asking for body-contouring surgery	Pavan C, Marini M, De Antoni E, Scarpa C, Brambullo T, Bassetto F.	2017

(Continued)

Box 1 (Continued)

Number	Title	Author(s)	Year
37	Patient-reported outcome measures	Poulsen L, McEvenue G, Klassen A, Hoogbergen M, Sorensen JA, Pusic A.	2019
38	Evolution of the body image perception of people with obesity on the pathway from bariatric surgery to body contouring lift surgery	Proczko M, Postrożny D, Szymański M, Pouwels S, Major P, Stepaniak P.	2022
39	Quality of life and predictive factors for complications in patients undergoing abdominoplasty after gastric bypass: A retrospective cohort. Surgery for obesity and related diseases	Rosa SC, Macedo JLSD, Canedo LR, Casulari LA.	2019
40	Anthropometric and clinical profiles of post-bariatric patients submitted to procedures in plastic surgery	Rosa SC, Macedo JLSD, Casulari LA, Canedo LR, Marques JVA.	2018
41	Body image and body contouring procedures	Sarwer DB, Polonsky HM.	2016
42	Access to reconstructive plastic surgery for patients undergoing bariatric surgery in the unified health system	Secanho Ms, Cintra Jr W, Carneiro Ic, Alves Gff, Gemperli R.	2023
43	<i>O corpo (im)possível através da intervenção cirúrgica: uma revisão sobre imagem corporal, obesidade e cirurgia bariátrica</i> The (im)possible body through surgical intervention: a review on body image, obesity, and bariatric surgery	Schakarowski FB, de Oliveira VZ.	2014
44	Strategies for early detection of psychopathologies in candidates for post-bariatric plastic surgery	Silva DNE, Rosseto M, Vargas KFM, Rezende AABM, Balbino EG, Andrade TRD.	2020
45	<i>Educação em saúde em grupo no tratamento de obesos grau III: um desafio para os profissionais de saúde</i> Group health education in the treatment of grade III obese patients: a challenge for health professionals	Soeiro RL, Valente GSC, Cortez EA, Mesquita LM, Xavier SCDM, Lobo BMIDS.	2019
46	Does body contouring after bariatric weight loss enhance quality of life? A systematic review of QOL studies	Toma T, Harling L, Athanasiou T, Darzi A, Ashrafian H.	2018
47	More than just body weight: the role of body image in psychological and physical functioning	Wilson RE, Latner JD, Hayashi K.	2013
48	Psychological predictors of mental health and health-related quality of life after bariatric surgery: a review of the recent research	Wimmelmann CL, Dela F, Mortensen EL.	2014

As obesity becomes a growing public health concern, bariatric surgery is gaining prominence on a global scale. This procedure has benefits beyond the clinical scope, encompassing significant psychosocial improvements, well-being, and a more positive body image view. However, Meirelles et al.⁶ highlighted a concern about bariatric surgery and mental health, i.e., some preoperative psychological assessments may be incipient. Psychological assessment is a complex process using several techniques, methods, and instruments to collect information about a person's psychological state. Nevertheless, if the psychologist does not collect sufficient data or apply the proper techniques, the depth and effectiveness of the assessment may be compromised. A crucial aspect to consider is that some patients do not follow the recommendation to continue psychotherapy after the procedure as advised by the psychologist responsible for the psychological report or the bariatric surgeon. In addition to the process of adapting to bariatric surgery, the interruption of psychological monitoring may worsen the patient's mental state.

Despite its many benefits, some authors, such as Poulsen et al.¹⁰ and Natvick et al.,⁷ highlighted that bariatric surgery outcomes lead to significant weight loss potentially resulting in unsatisfactory adaptation to the new, slimmer body and discomfort due to excessive skin. Monpellier et al.¹¹ emphasized that plastic surgery can remove excessive skin after massive weight loss and that patients seeking solutions to this problem may experience psychological distress. According to Silva et al.,⁹ research has indicated that 60% of people seeking post-bariatric plastic surgery have some psychological condition, most commonly depression, generalized anxiety disorder, and body dysmorphic disorder.

Considering the challenges faced in obesity treatment, bariatric surgery consequences and adaptation process, and the discomfort resulting from excessive skin, the patient may not be fit to undergo plastic surgery, requiring referral for specialized mental health evaluation or treatment.

Preoperative psychological evaluation should be a fundamental element in the initial consultation for patients seeking plastic surgery. Silva et al.⁹ and Ferreres-Galán et al.¹²

emphasized that the evaluation aims to identify psychological disorders, such as depression, anxiety, impulsivity, binge eating, low self-esteem, and body image dissatisfaction. Medical screening requires careful investigation, as some patients adopt an attractive and seductive posture, influencing the consultation course and the development of the surgical plan. Some patients may hide their complaints and minimize their expectations to obtain surgical approval. A psychological evaluation can prevent significant postoperative damage.

The plastic surgeon must know how to conduct an initial psychological screening of the patient, using validated psychometric instruments widely applicable to health professionals from several areas and semi-structured interviews. Attentive listening is critical to identifying signs of distress the patient may not have expressed explicitly. In case of identification or suspicion of any signs of mental disorder during the patient's admission consultation, the recommended course of action is to refer them for further specialist evaluation.

During the psychological screening, the plastic surgeon can investigate factors helping to understand the patient's motivation for the procedure, potentially revealing psychological issues, especially when the main motivation is external. Motivation can be intrinsic, such as the desire for health, well-being, and resumption of social and work activities, and extrinsic, such as pleasing others or obtaining social benefits. Although both are significant, intrinsic factors should predominate as they are linked to health and quality of life.

Another aspect to explore is social beliefs often leading patients to seek bodily perfection, fueling the idea that a slender body solves all problems. Akkayaoglu & Celik² pointed out that studies on the concept of ego have focused on body image, which represents the physical aspect of the ego. This relationship between ego and self-image is important to understand how psychological factors may influence people's health and well-being. In some cases, the idealized body image emerges as a way to alleviate anxiety and dissatisfaction. Complementing this view, Elfanagely et al.¹³ and Bennett et al.¹⁴ highlighted the significance of investigating patients' expectations before and after surgery, making them aware of the general changes potentially occurring in the postoperative period. In this context, Bianciardi et al. reported the importance of explaining the procedure to the patient, establishing realistic expectations for the recovery period, and warning about potential complications.¹⁵ Such measures can significantly help reduce patient anxiety, enhance treatment adherence, and optimize postoperative outcomes. After all, a well-informed and mentally prepared patient becomes more active in their recovery process. Pre and postoperative emotional support are also effective in managing stress and anxiety from the procedure. In addition, collaboration with other health professionals, such as psychologists, nutritionists, and physical therapists, can be effective in addressing all patient's concerns. It is also critical to clearly define with the patient their goals and priorities and to emphasize the replacement of loose skin with scars. This information can help the patient establish realistic expectations and prepare more effectively for the postoperative

recovery. Buer et al. highlighted that psychological screening by the plastic surgeon can help identify people who are less likely to benefit from surgery and those who may need extra attention and guidance.¹⁶ It is worth remembering that patients with body dysmorphia regularly seek aesthetic procedures and, after undergoing them, tend to feel dissatisfied with the results. According to Silva et al.,⁹ in some circumstances, the patient may develop a distorted perception of the surgical outcome due to mental disorders, potentially leading to legal action against the plastic surgeon, even when the surgery achieved the planned goal and followed all the established technical criteria.

This study demonstrated that excessive skin after bariatric surgery can result in psychological distress. It is worth emphasizing that numerous challenges permeate the obese patient's journey to the body contouring procedure and these difficulties may lead to mental health problems.

Thus, post-bariatric plastic surgery can help patients control their weight. Additionally, surgery can improve body image, potentially restoring or increasing a person's self-esteem and confidence. Jiang et al.¹⁷ observed a significant improvement in these aspects in patients who underwent post-bariatric plastic surgery especially when compared to those who did not. Therefore, psychological research should be deemed relevant and cannot be relegated to the background. Ignoring it would contradict the understanding that obesity is a disease with biopsychosocial causes and impacts. Appropriate treatment should adopt an interdisciplinary approach, considering the physical symptoms and the psychological and social aspects, consistent with studies such as the one from Elabd et al.¹⁸

The limitation of this scoping review was the lack of assessment of the methodological quality of the selected articles.

Conclusion

Mental health care in post-bariatric plastic surgery can occur through careful patient selection and detailed preoperative planning, including a psychological assessment. In this context, psychological screening in post-bariatric plastic surgery does not eliminate the possibility of the patient undergoing the procedure. On the contrary, it identifies psychological distress for treatment and provides ongoing support throughout the entire process. This comprehensive approach aims to promote a clearer understanding of the relationship between body and mind, enhancing the appreciation of future surgical outcomes. Therefore, in addition to having comprehensive clinical and surgical technical knowledge, the plastic surgeon must have a basic understanding of mental disorders to promptly identify signs or symptoms in their patients. Upon detecting any indication, the surgeon should be prepared to refer the patient for an evaluation with a mental health specialist.

Authors' Contribution

ACM: data analysis, interpretation, or both, statistical analysis, conceptualization, study concept and design,

methodology, writing – original draft preparation, writing – review and editing, visualization; DN: final manuscript approval, supervision, validation; VYS: supervision; SSS: data collection; LMA: statistical analysis.

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Clinical Trial

None.

Conflict of Interests

The authors have no conflict of interest to declare.

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