

Depression, Anxiety, Body Dissatisfaction, and Eating Disorders in Plastic Surgery Patients

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Background: This study aimed to identify and describe indicators of depression, anxiety, body dissatisfaction, and risk of an eating disorder in patients who undergo plastic surgery.

Methods: The sample was made up of 90 patients from a private clinic in Lima, Peru, with ages between 20 and 50 years. The participants were asked to answer the Aaron Beck Depression Inventory (BDI-II), the Aaron Beck Anxiety Inventory, the Body Shape Questionnaire, and the Abbreviated and Modified Eating Attitudes Scale (EAT - 26M).

Results: Through data analysis with the SPSS statistical program, it was found that 80% of patients who access plastic surgery are women, and the average age is 32.4 years. Likewise, of the total sample, no anxiety traits have been identified; however, 3.3% present traits of moderate depression, pathological body discomfort, and risk of an eating disorder.

Conclusion: The presurgical psychological evaluation in plastic surgery patients is crucial because it allows for the identification of predisposing factors to mental health problems and proposes support if needed. (*Plast Reconstr Surg Glob Open* 2024; 12:e5555; doi: [10.1097/GOX.0000000000005555](https://doi.org/10.1097/GOX.0000000000005555); Published online 25 January 2024.)

INTRODUCTION

Access to surgical procedures involving body changes without necessarily having a medical purpose has increased in recent years. The recent global survey by the International Society of Aesthetic Plastic Surgery shows an overall increase of 19.3% in procedures performed by plastic surgeons, with over 12.8 million surgical procedures and 17.5 million nonsurgical procedures performed worldwide.¹ Also there has been a substantial increase in plastic surgery research over time. The increase is not the same distributed among the nations; in the case of South America, the presence in research corresponds to 3.6% of the total publications made in the world.²

It is also important to promote new research approaches and obtain evidence that allows us to understand the psychological traits of the patients we treat as plastic surgeons because body image can be understood as a mental representation influenced by psychological and social factors. It

is considered that plastic surgery patients are psychiatric patients.³ In these patients, there is a higher incidence of mood disorders compared with patients undergoing other types of surgery.⁴

There are differences in postsurgery psychological reactions; however, few differences have been identified in the presurgery psychology of patients. Depression and anxiety are the most common mental health diagnoses in patients undergoing facial and breast plastic surgery, and anxiety is more common in patients undergoing abdominoplasty procedures⁵; a higher incidence of dysmorphia and body dissatisfaction has been identified in patients undergoing rhinoplasty and breast augmentation.^{6–8} Regarding eating disorders (EDs), 90%–95% of the affected population are women, which represents the largest percentage of the plastic surgery population.⁹ Recognizing the risk factors for developing an ED is essential because successful prevention and care require their identification.

From a comprehensive health perspective, it is of utmost importance to carry out an intervention aimed at reducing risks, preventing mental disorders, and promoting well-being in people.⁹ Understanding the decision to undergo plastic surgery from a global approach allows for a comprehensive and specialized intervention, in which plastic surgery does not focus only on physical change but also considers the evaluation of psychological factors.

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To contribute to the improvement of procedures performed by plastic surgeons, it is important to incorporate psychological evaluation processes that identify the factors influencing the decision to undergo surgery, the postsurgery response, and the future adaptation of patients to the results of the surgery. In this study, the objective is to identify traits of depression, anxiety, body dissatisfaction, and risk of an ED in 90 patients from a private clinic in Lima, Peru.

MATERIALS AND METHODS

The present research is a descriptive, cross-sectional, nonexperimental study with descriptive and inferential statistical analysis.¹⁰ The study sample is nonprobabilistic intentional and consisted of 90 patients from a private plastic surgery clinic in Lima, Peru, aged between 20 and 50 years and attended by a single doctor. The patients who participated in this study sought body contouring interventions, specifically lipoabdominoplasty and breast implants, with no history of previous aesthetic surgery. For data collection, we used the virtual tool Google Forms,¹¹ allowing patients to complete the four evaluation instruments before undergoing surgery.

Aaron Beck Depression Inventory (BDI-II)¹²

This is a self-administered instrument with 21 items. It assesses the severity of depressive symptoms in adults. In each item, the person must choose from a set of four alternatives ordered from least to most severe, the phrase that best describes their state during the last 2 weeks. Regarding scoring, each item is valued from 0 to 3 points; after summing the direct score of the items, a total score ranging from 0 to 63 can be obtained.

Aaron Beck Anxiety Inventory (BAI)^{13,14}

This inventory presents 21 items with a format designed to assess the severity of clinical anxiety symptoms. Each item reflects an anxiety symptom, and for each one, respondents rate the degree to which they were affected by it during the last week on a four-point Likert scale, ranging from 0 (not at all) to 3 (severely). Regarding scoring, each item is valued from 0 to 3 points; after summing the direct score of the items, a total score ranging from 0 to 63 can be obtained.

Body Shape Questionnaire (BSQ-20)^{15,16}

This questionnaire assesses the presence of concern and dissatisfaction with body image. It consists of 20 direct questions with six Likert scale response options, ranging from never to always. This test has two factors: (1) body discomfort and (2) pathological body discomfort.

Modified and Abbreviated Eating Attitudes Scale (EAT-26M)¹⁷

This scale has been used as a screening tool to determine the risk of eating disorder. It measures the level of dissatisfaction based on the fear of gaining weight, self-devaluation due to physical appearance, the desire to lose weight, and the avoidance of situations where physical

Takeaways

Question: Is it important to psychologically evaluate patients before plastic surgery?

Findings: This study aimed to identify traits of depression, anxiety, and body dissatisfaction in patients before plastic surgery. It is important to identify that patients are psychologically stable to face the operation and its results.

Meaning: A prior psychological evaluation in plastic surgery patients is crucial because it allows for the identification of predisposing factors to mental health problems and proposes support if needed.

appearance might attract the attention of others. For data collection, one and a half months before setting the patients' surgery date, an initial interview was conducted in which the expectations of the operation were identified, and the associated factors of the operation were explained, such as plastic objectives and physical achievements.

In addition, the patients were informed about the psychological evaluation process. They were provided with a link to the evaluation instruments and a sociodemographic form. In this form all patients signed an informed consent form before surgery and authorized the use of their results in psychological evaluation. The present study is conducted in accordance with the Helsinki guidelines, and the research protocol was approved by the institutional research ethics board. The analysis of the results was carried out using the SPSS statistical program version 29.

RESULTS

Eighty percent of patients are women, with an average age of 32.4. Of the total, 86.7% are from Lima, 46.2% have university studies, and 66.7% are single (Table 1). The sample mean for depression (BDI-II) corresponds to 3.26 (SD = 5.5). Of the total evaluated, it was found that 93.3% do not present depression traits, 3.3% present mild depression traits, and 3.3% moderate depression traits. Some of the identified depression traits are pessimism, failure, loss of pleasure, self-criticism, dissatisfaction with oneself, among others.¹²

Table 1. Sociodemographic Data of the Sample

Variable	Category	%
Sex	Female	80%
	Male	16.7%
	Transgender	3.3%
Procedence	Lima	86.7%
	Province	6.7%
	Foreign	6.7%
Instruction	High school	29.7%
	Institute	13.2%
	University degree	46.2%
	Postgraduate degree	9.9%
Civil status	Single	66.7%
	Married	13.3%
	Cohabitant	16.7%
	Divorced	3.3%

Table 2. Descriptive Results of Depression, Anxiety, Body Dissatisfaction, and Risk of ED

Variable	M	SD	%	Category
Depression	3.2	5.5	3.3	Moderate depression
			3.3	Mild depression
			93.3	Not depression
Anxiety	3.04	3.9	100	Not anxiety
Dissatisfaction with body image	37.65	16.7	3.3	Pathological body discomfort
			96.6	Body discomfort
Risk of ED	7.2	7.05	3.3	Risk of ED

Likewise, the sample mean for anxiety (BAI) corresponds to 3.04 (SD = 3.93). Of the total evaluated, it was identified that they do not present anxiety traits.

Regarding body dissatisfaction (BSQ-20), the sample mean corresponds to 37.65 (SD = 16.7). Of the total evaluated, 96.6% present body discomfort, but it is within the normal range of dissatisfaction that a person has about their body. Only 3.3% had a pathological body discomfort level. Some of the pathological traits are linked to discomfort when undergoing a physical examination, concern about physical appearance that leads to extreme diets, constant fear of fatness or weight gain, feeling bad about one's body figure to the level of screaming or crying, among others.¹³⁻¹⁵

Finally, the sample mean for eating attitudes corresponds to 7.2 (SD = 7.05). Of the total evaluated, it was found that 96.7% do not present a risk of developing an ED, and 3.3% present a risk of developing an ED (Table 2). The EAT-26 does not yield a specific diagnosis of an ED, but it can be an efficient case finding or screening instrument to identify those who are at increased risk for serious EDs.¹⁶

DISCUSSION

In relation to sociodemographic variables, the trend that recognizes the highest percentage of people undergoing plastic surgery are women is confirmed.¹⁷ A higher percentage are single, with completed university studies and coming from Lima.

Currently, there is an increase in interest in plastic surgery among men.¹⁸ This research included the participation of men and transgender individuals; however, it is not a statistically representative sample, which limits conclusions by sex.

Regarding the presurgery evaluation of patients, it is essential that surgery is indicated for healthy and stable individuals from a psychological and physical standpoint, as the aim is to ensure the benefits of the intervention outweigh the risks involved.^{5,6} Therefore, a baseline evaluation is important. Of the total number of individuals evaluated in the sample, it was found that none showed signs of anxiety, and only 3.3% of patients displayed pathological body discomfort, moderate depression, and risk of developing an ED. The result of this study suggests two perspectives of analysis.

Firstly, 96.7% of people who undergo plastic surgery are psychologically stable enough to face the operation.

The theoretical review demands that plastic surgeons gain a better understanding of their patients' psychological burdens during consultation to maximize mood benefits after surgery.^{5,6} This helps inform and regulate postsurgery expectations, as well as reduce the likelihood of mental health issues arising.¹⁹

Therefore, it is necessary to promote effective and assertive communication in the doctor/patient relationship, clarify what plastic surgery entails before and after the procedure, and educate on what can realistically be achieved physically in the patient's body to avoid conflicts with their over-expectations and misconceptions about the operation.⁶⁻¹⁷

Secondly, for the 3.3% of patients who show signs of mental health problems, regarding the sociodemographic characteristics of this group, it has been identified that they are women, entirely single and with university studies. The presence of depressive symptoms is more common in women than in men, probably due to certain biological, hormonal, and social factors that are exclusive to women. Regarding body dissatisfaction, it is undoubtedly true that there is a culture that promotes the ideal of a thin body, which is internalized and can trigger higher-risk eating behaviors.^{5,12} Promoting plastic surgery without psychological support could exacerbate these symptoms. The plastic surgeon must also promote a relationship of trust with the patient, by taking into account the psychological state of the patients, an empathetic and assertive relationship allows patients to be more receptive to recommendations for the care of their physical and mental health.⁶⁻¹⁷

Among the limitations of this study is that the results correspond to a specific group of Peruvian patients who access a private clinic and for two types of operations: abdominoplasty and breast augmentation. Therefore, the results cannot be generalized to another group of patients; however, it allows us to understand the psychological background of this group of patients and better satisfy their needs.

From an ethical standpoint, plastic surgeons should encourage discussion about the psychological impact of different plastic surgery procedures on decision-making, presurgery preparation, postsurgery response, and adaptation to results as a standard part of informed conversation with patients.

CONCLUSIONS

A prior psychological evaluation in plastic surgery patients is crucial because it allows for the identification of predisposing factors to mental health problems and proposes support if needed. The evaluation does not serve to discard patients for the operation but to understand them from a comprehensive approach and offer support based on their expectations and needs.

Understanding patients from a biopsychosocial perspective enables support from a holistic approach. If necessary, as plastic surgeons, referring patients to mental health specialists demonstrates maturity and professional commitment. From psychology, the evaluation,

intervention, and support of patients can be encouraged both in the presurgery stage and during postsurgery adaptation.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

REFERENCES

1. International Society of Aesthetic Plastic Surgery (ISAPS). Encuesta mundial anual sobre procedimientos estéticos y cosméticos [Nota de prensa]. Available at <https://www.isaps.org/discover/about-isaps/global-statistics/reports-and-press-releases/global-survey-2022-full-report-and-press-releases/>. Published 2023.
2. Karamitros G, Goulas S. Human capital and productivity in plastic surgery research across nations. *Aesthetic Plast Surg*. 2023;47:1644–1657.
3. Linn L, Goldman IB. Psychiatric observations concerning rhinoplasty. *Psychosom Med*. 1949;11:307–314.
4. Baldin AV, Telich-Tarriba JE, Díaz-Lozano Dovalí J, et al. Depresión y cirugía plástica. *Cirugía Plástica*. 2018;27:3–7.
5. Jones HE, Faulkner HR, Losken A. The psychological impact of aesthetic surgery: a mini-review. *Aesthet Surg J*. 2022;4.
6. Mulkens S, Bos AER, Uleman R, et al. Psychopathology symptoms in a sample of female cosmetic surgery patients. *J Plast Reconstr Aesthet Surg*. 2012;65:321–327.
7. Londoño PC. Factores sociodemográficos y de salud, esquemas maladaptativos, satisfacción/insatisfacción con la imagen corporal como predictores de la aceptación de cirugías plásticas estéticas. *Acta Psicológica peruana*. 2019;3:154–176.
8. Montealegre G, Román Herazo CE. Trastornos del comportamiento alimentario en pacientes de cirugía plástica estética ¿Es o no una población en riesgo? *Revista Repertorio de Medicina Y Cirugía*. 2013;22:21–27.
9. Ministerio de Salud [MINSA]. Dirección General de Epidemiología. *Boletín Epidemiológico Lima*. 2015;24:495–511. Available at <http://www.dge.gob.pe/portal/docs/vigilancia/boletines/2014/25.pdf>.
10. Hernandez-Sampieri R, Fernandez-Collado C, Baptista-Lucio M. *Metodología de la Investigación*. 6th ed. México, D.F.: McGraw Hill; 2015.
11. Google Forms. Online Form Creator | Google Workspace. Available at <https://www.google.com/forms/about/>. 2023.
12. Beck AT. The evolution of the cognitive model of depression and its neurobiological correlates. *Am J Psychiatry*. 2008;165:969–977.
13. Baños-Chaparro J, Aguilar Marca K. Body Shape Questionnaire (BSQ): Estructura factorial y fiabilidad en universitarios peruanos. *Avances En Psicología*. 2020;28:269–278.
14. Pagano AE, Vizioli NA. Estabilidad temporal y validez discriminante del Inventario de Ansiedad de Beck. *Liberabit: Revista Peruana De Psicología*. 2021;27:e450.
15. Cooper PJ, Taylor MJ, Cooper Z, et al. The development and validation of the Body Shape Questionnaire. *Int J Eating Disord*. 1987;6:485–494.
16. Veloso Gouveia V, Lucena Pronk SD, Santos WS, et al. Test de Actitudes Alimentarias: Evidencias de Validez de una Nueva Versión Reducida. *Revista Interamericana de Psicología/ Interamerican Journal of Psychology*. 2010;44:28–36.
17. Sociedad Española de Cirugía Plástica Estética y Reparadora (SECPRE). (2023, 11 de septiembre). “La realidad de la Cirugía Estética en España” [Nota de prensa]. Available at <https://acortar.link/dQLuuc>
18. Papadopulos NA, Meier AC, Henrich G, et al. Aesthetic abdominoplasty has a positive impact on quality of life prospectively. *J Plast Reconstr Aesthet Surg*. 2019;72:813–820.
19. Unlu RE, Sensoz M, Uysal AA, et al. The psychiatric view of patients of aesthetic surgery: self-esteem, body image, and eating attitude. *Aesthetic Plast Surg*. 2003;27:345–348.