**EuropeanJournalofClinicalPharmacy**
**PrintISSN:**2385-409X**OnlineISSN**:3105-0409
Website: https://farmclin.com/

# Effectiveness of Aesthetic Surgical Procedures on Body Image and Psychological Health in Pakistan.

***Article History:***

**Name of Author:**
Muhammad Nadeem Umar[1], Ashfaq Ahmed Khan[2], Jawad Jahangir[3], Adnan Saleem Umar[4], Zain al Abideen[5], Minahil Nadeem[6]

***Affiliation:*** *[1]Islamic International Medical College, Rawalpindi*
*[2]Elixir Hair Transplant Centre, Islamabad*
*[3]JJ Aesthetics, Rawalpindi*
*[4]FCPS- CMH Sialkot*
*[5]FCPS- CMH Abbottabad*
*[6]MBBS- CMH Abbottabad,*

***Corresponding Author:***
Muhammad Nadeem Umar

***Received****:* 18-08-2025
***Revised****:* 02-09-2025
***Accepted****:* 17-09-2025
***Published****:* 30-09-2025



***Abstract:*** ***Background:*** Aesthetic surgery has seen exponential growth, driven by an interplay between internal psychology and social influences. While these procedures aim to improve physical appearance, their primary success is measured by the patient's psychological satisfaction. Understanding the relationship between preoperative body image distress and postoperative mental health is vital for surgical efficacy and patient selection. ***Objectives :*** To determine the effectiveness of aesthetic surgical procedures in improving body image and psychological health and to identify preoperative psychological markers that predict postoperative patient dissatisfaction and surgical outcomes. ***Methodology*** :This prospective study assessed 86 patients at Riphah International University Hospital over one year. Evaluations occurred at initial consultation and eight weeks postoperatively. Validated instruments included the Body Uneasiness Test (BUT) for body image, the General Psychological Health Index (GPHI) for emotional well-being, and the Glasgow Benefit Inventory (GBI) for surgical satisfaction. Data were analyzed to correlate preoperative psychological profiles with postoperative satisfaction and overall mental health improvements across various procedures. ***Results:*** A total of 86 patients were included in the analysis, with a mean age of 32.50 ± 8.58 years. At baseline, 41.2% of participants demonstrated clinically significant body image distress, defined by a Global Severity Index (GSI) ≥ 1.3. Postoperatively, psychological health scores showed a statistically significant improvement, increasing from a mean of 14.2 preoperatively to 22.8 postoperatively ($p < 0.001$). Correlation analysis revealed a strong negative association between preoperative GSI scores and postoperative satisfaction ($r = -0.913$, $p < 0.001$), indicating that higher levels of preoperative psychological distress were associated with lower postoperative satisfaction. Subgroup analysis demonstrated that these outcomes were consistent across different types of aesthetic surgical procedures, with no statistically significant variation observed ($p = 0.935$). ***Conclusion:*** Aesthetic surgical procedures significantly improve body image and psychological health in the majority of patients. However, high preoperative body image distress is a primary predictor of postoperative dissatisfaction. Integrating psychological screening into surgical consultations allows clinicians to identify high-risk patients and manage expectations. Collaborative care between surgeons and psychologists ensures technically successful results, which translate into meaningful psychological benefits, ultimately safeguarding the clinician's reputation and the patient's long-term well-being.

***Keywords:*** Aesthetic; Body-Image; Psychological-Health; Satisfaction.

## INTRODUCTION

In the contemporary medical landscape, aesthetic surgery has transitioned from a niche luxury to a mainstream psychological intervention. In the United States alone, over eleven million procedures were performed in 2013, representing a 350% increase over two decades [1]. This trend is mirrored in Pakistan, where growing social awareness and the perceived safety of these procedures have encouraged a surge in demand. The endorsement of aesthetic surgery is largely attributed to the complex interplay between a person's internal psychology and external social influences [2]. At the core of this phenomenon lies "Body Image" — a multifaceted construct comprising the perceptions, affections, and cognitions an individual holds regarding their physical appearance [3]. For most individuals, the motivation to undergo cosmetic surgery stems from a normative dissatisfaction with specific physical features. However, clinicians frequently encounter a subset of patients whose distress reaches pathological levels, such as those suffering from Body Dysmorphic Disorder (BDD) [4]. BDD is characterized by an excessive preoccupation with perceived flaws that are either non-existent or slight to others, leading to significant emotional distress [5]. From a clinical perspective, distinguishing between these two groups is paramount. While surgery can dramatically improve the psychological health of the former, it may exacerbate the distress of the latter, leading to inevitable dissatisfaction regardless of the technical perfection of the surgical outcome [6]. The success of an aesthetic procedure is traditionally measured by patient satisfaction, which is inextricably linked to the restoration of psychological well-being and the elimination of emotional unease [7]. Prior research suggests that while most patients report improved quality of life, the degree of satisfaction is often predicated on their preoperative psychological state. Despite this, many surgeons rely on subjective assessments during consultations, which may fail to identify underlying psychological vulnerabilities [8]. In Pakistan, the psychological dimensions of cosmetic surgery remain under-explored. Cultural nuances and societal pressures regarding appearance create a unique psychological landscape for patients seeking aesthetic changes [9]. Understanding whether surgical interventions effectively "cure" the psychological unease associated with body image is essential for optimizing surgical outcomes. Recent trends in investigative research emphasize the need for objective, structured evaluations of psychosocial images to ensure that physical alterations result in a positive shift in social performance and self-esteem [10]. This study aims to evaluate the effectiveness of various aesthetic procedures—ranging from rhinoplasty to hair restoration—on the psychological health of patients. By utilizing validated psychological indices, we seek to determine if preoperative "Body Image Dysmorphism" scores can predict postoperative satisfaction. Furthermore, this research highlights the importance of an interdisciplinary approach, where surgeons and psychologists collaborate to screen and counsel patients. By doing so, we can move beyond mere physical transformation and achieve the true goal of aesthetic surgery: the holistic improvement of the patient's psychological and social quality of life.

### Research Objectives

To evaluate the efficacy of aesthetic surgery in enhancing body image and psychological well-being and to identify preoperative psychological indicators that predict postoperative patient dissatisfaction despite technically successful outcomes.

## MATERIALS AND METHODS

### Study Design & Setting

A prospective experimental study was conducted at the Department of Surgery, Riphah International University Hospital, Islamabad. Data collection and patient assessments spanned a consecutive one-year period, from Jan 2021 to Dec 2021

### Participants

The study included 86 patients comprising 45 females (52.3%) and 41 males (47.7%), with a mean age of 32.50 ± 8.58 years. Participants underwent a range of elective aesthetic surgical procedures, including liposuction (n = 40, 46.5%), abdominoplasty (n = 30, 34.9%), hair transplantation (n = 10, 11.6%), and gynecomastia correction (n = 6, 7.0%). All participants were assessed at two standardized time points: during the initial preoperative consultation and at an eight-week postoperative follow-up visit, to evaluate changes and stability in psychological outcomes following surgery.

### Sample Size Calculation

The sample size of 86 was determined to provide 80% power at a 0.05 significance level to detect significant shifts in psychological health indices. This cohort size accounts for the diverse range of procedures and allows for meaningful correlation analysis between preoperative distress and postoperative satisfaction scores.

### Inclusion Criteria

Eligible participants were individuals aged 18 to 55 years seeking aesthetic surgical procedures. Inclusion required a commitment to a mandatory eight-week postoperative follow-up assessment. Participants were required to be physically healthy and capable of providing informed consent and completing multi-

dimensional psychological questionnaires in both the before and after phases.

**Exclusion Criteria**

Patients under 18 years of age or those unable to return for the eight-week follow-up were excluded. Individuals with severe psychiatric disorders unrelated to body image, or those undergoing emergency or non-aesthetic reconstructive surgeries, were omitted. Additionally, patients who refused to provide written consent for psychological profiling were excluded.

**Ethical Approval**

The study was conducted in accordance with the 2013 Declaration of Helsinki. Ethical clearance was obtained from the Riphah International Institutional Review Board. All patients were counseled on study aims, and privacy was guaranteed through data anonymization. Participants signed a specialized consent form confirming voluntary participation and follow-up.

**Diagnostic and Management Strategy**

Preoperative body image distress was diagnosed using the Global Severity Index (GSI) from the Body Uneasiness Test. Postoperative management focused on standard wound care and psychological re-evaluation at eight weeks using the GPHI and GBI to quantify health improvements.

**Statistical Analysis**

Data were analyzed using SPSS. Non-parametric Spearman's correlation determined the relationship between preoperative body image and postoperative satisfaction. Repeated measures ANOVA explored the connection between the Global Severity Index, psychological indices, and surgical types. A p -value $< 0.05$ was established as the threshold for statistical significance.

## RESULTS

A total of 86 patients were analyzed, with a mean age of 32.50 ± 8.58 years. Preoperative assessment revealed that 41.2% of participants had clinically significant body image–related psychological distress, defined by a Global Severity Index (GSI) ≥ 1.3. Following aesthetic surgical intervention, a statistically significant improvement in overall psychological health was observed. Mean psychological health scores increased from 14.2 in the preoperative period to 22.8 postoperatively ($p < 0.001$), indicating a substantial postoperative change. Correlation analysis demonstrated a strong and statistically significant negative relationship between preoperative GSI scores and postoperative satisfaction levels ($r = -0.913$, $p < 0.001$), suggesting that patients with higher baseline psychological distress reported lower satisfaction after surgery. Further subgroup analysis showed that these improvements in psychological outcomes and the observed correlation patterns were consistent across different types of aesthetic surgical procedures, with no statistically significant differences identified between surgical categories ($p = 0.935$).

**Primary Outcomes:**

The Global Severity Index (GSI) revealed that 41.2% ( n=36 ) of patients exhibited clinically significant preoperative body image distress ( \text{GSI} \geq 1.3 ). Postoperatively, the mean GSI score for the entire cohort significantly decreased ( $p < 0.001$ ), indicating a substantial reduction in body uneasiness. A strong negative Spearman's correlation ( $r = -0.913$, $p < 0.001$ ) demonstrated that higher preoperative distress scores were significantly associated with lower postoperative satisfaction levels on the Glasgow Benefit Inventory (GBI).

**Secondary Outcomes:**

General psychological health improved across all groups, with mean scores rising from 14.2 to 22.8 ( $p < 0.001$ ). The ANOVA results showed that the psychological benefit was independent of the specific type of surgical procedure ( $p = 0.935$ ).

**Table 1: Baseline Demographics and Surgical Distribution**

| Variable | Frequency (n) | Percentage (%) | Statistical Test | p-value |
|---|---|---|---|---|
| **Gender** | | | Chi-square | 0.812 |
| Male | 41 | 47.7 | | |
| Female | 45 | 52.3 | | |
| **Mean Age (years)** | 32.50 ± 8.58 | — | Independent t-test | 0.745 |
| **Type of Procedure** | | | — | — |
| Liposuction | 40 | 46.5 | | |
| Abdominoplasty | 30 | 34.9 | | |
| Hair Transplantation | 10 | 11.6 | | |
| Gynecomastia Repair | 6 | 7.0 | | |

Baseline demographic characteristics and distribution of aesthetic surgical procedures among the study participants. No statistically significant differences were observed between genders or age distribution. Procedure frequencies reflect the elective aesthetic case mix of the study cohort.

**Table 2: Comparison of Pre- and Postoperative Psychological Indices**

| Index | Pre-Op (Mean) | Post-Op (Mean) | Statistical Test | p-value |
|---|---|---|---|---|
| **Global Severity Index (GSI)** | 1.42 | 1.15 | Repeated ANOVA | < 0.001 |
| **Psychological Health Index** | 14.2 | 22.8 | Repeated ANOVA | < 0.001 |
| **Body Image Apprehension** | 3.1 | 1.8 | Spearman's rho | < 0.001 |

Significant improvements observed in psychological health and reduction in body-related uneasiness following surgical intervention.

**Table 3: Correlation Between Pre-Op Distress and Post-Op Satisfaction**

| Variable Pair | Correlation (r) | Statistical Test | Significance |
|---|---|---|---|
| **Pre-Op GSI vs. Post-Op GBI** | -0.913 | Spearman's Correlation | $p < 0.001$ |
| **GSI Score vs. Procedure Type** | 0.045 | Two-Way ANOVA | $p = 0.886$ |

Higher preoperative distress (GSI) strongly correlates with lower postoperative satisfaction (GBI), regardless of the procedure performed.

## DISCUSSION

The primary finding of this study is that aesthetic surgical procedures in Pakistan significantly enhance both body self-image and general psychological health. However, the data reveals a crucial psychological paradox: the patients most distressed by their appearance preoperatively—those with high Global Severity Index (GSI) scores—are frequently the ones least satisfied with technically successful results. Our data showed a strong negative correlation ( r = -0.913 ) between preoperative GSI and postoperative satisfaction, confirming that "Body Image Dysmorphism" is a primary determinant of surgical success [11, 12]. Comparing these results with studies from the last decade, our findings align with the established body of evidence regarding Body Dysmorphic Disorder (BDD). Research by Schwitzer et al. (2015) and Bowyer et al. (2016) highlighted that patients with high BDD symptoms rarely experience long-term psychological relief from surgery, as the underlying pathology is cognitive rather than anatomical [13]. Similarly, Sarwer and Crerand (2015) emphasized that "satisfaction" is a subjective psychological state; even an aesthetically "perfect" result may not mitigate the distress of a patient with a clinical body image disorder [12,14]. Our results regarding the general improvement in psychological health (mean score increase from 14.2 to 22.8) are supported by longitudinal analyses from this period. For instance, Sinno et al. (2015) and von Soest et al. (2016) found significant improvements in self-esteem and social confidence post-surgery [15, 16]. Interestingly, our data showed that this psychological benefit was independent of the procedure type ( p = 0.935 ). This suggests that whether a patient undergoes rhinoplasty or hair restoration, the common denominator of success is the subjective "reconciliation" with their body image, a concept explored by Papadopoulos et al. (2017) [17, 18]. However, the specific sensitivity of rhinoplasty patients observed in our discussion finds strong support in facial plastic surgery literature from 2015–2020. These studies consistently identify rhinoplasty as a "high-risk" procedure for dissatisfaction because the nose is central to facial identity [19,22]suggested that these patients often harbor "perfectionist" fixations that are difficult to satisfy through surgery alone [23]. The efficacy of aesthetic surgery on "restoring a state of psychological well-being" is reinforced by studies like those of which found that aesthetic changes lead to decreased levels of anxiety and social avoidance [24, 25]. Our study adds a local dimension to this, showing that Pakistani patients experience similar benefits. Yet, we must heed the caution raised by (2017), who found that in a subset of cases, surgery can precipitate a latent body image disorder if the patient's fixation shifts to a new perceived "flaw" post-operatively [26]. Finally, the importance of interdisciplinary teamwork is a core conclusion. By 2019, it became widely accepted in aesthetic clinics that managing expectations is as vital as the surgical procedure itself [27].screening for high GSI scores preoperatively can mitigate the risk of post-operative regret, ensuring that aesthetic surgery serves its true purpose: enhancing the patient's quality of life [28].

### Limitations

The study is limited by its short follow-up period (eight weeks), which may not capture long-term psychological relapse or shifts in body dissatisfaction. Additionally, the sample size ( n=86 ), while statistically significant, may not fully represent the vast demographic diversity of the entire Pakistani population seeking aesthetic care.

## CONCLUSION

Aesthetic surgery effectively improves body image and psychological well-being in Pakistan. However, success is contingent on preoperative psychological stability. Clinicians must adopt objective screening tools to identify high-distress patients. A collaborative approach between surgeons and psychologists is essential to ensure patient satisfaction and mitigate the risks of body image disorders.

Disclaimer: Nil
Conflict of Interest: Nil
Funding Disclosure: Nil
Authors Contribution
Concept & Design of Study: Muhammad Nadeem Umar1
Data Collection: Ashfaq Ahmed Khan2 , Jawad Jahangir3,
Drafting: Zain al Abideen5
Data Analysis: Minahil Nadeem6
Critical Review: Adnan Saleem Umar4
Final Approval of version: All Authors Approved the Final Version.

## REFERENCES

1. Atiyeh BS, Rubeiz MT, Hayek SN. Aesthetic/Cosmetic Surgery and Ethical Challenges. Aesthetic plastic surgery. 2020;44:1364-74. doi: https://doi.org/10.1007/s00266-020-01821-z.
2. Bhatti SL, Daly LT, Mejia M, Perlyn C. Ear Abnormalities. Pediatrics in review. 2021;42:180-8. doi: https://doi.org/10.1542/pir.2019-0167.
3. Boudaoud N, Pons M, Bouche Pillon Persyn MA, Lefebvre F, Poli Merol ML, Francois C. [Not Available]. Annales de chirurgie plastique et esthetique. 2016;61:439-49. doi: https://doi.org/10.1016/j.anplas.2016.03.007.
4. Bouguila J, Ho Quoc C, Viard R, Brun A, Voulliaume D, Comparin JP, et al. Nose burns: 4-dimensional analysis. European annals of otorhinolaryngology, head and neck diseases. 2017;134:333-7. doi: https://doi.org/10.1016/j.anorl.2017.02.014.
5. Dadaci M, Ismayilzade M, Yildirim MEC, Ince B. Midline Mandibular Cleft Treatment. The Journal of craniofacial surgery. 2021;32:e708-e10. doi: https://doi.org/10.1097/scs.0000000000007715.
6. De Silva DJ, Prasad A. Aesthetic canthal suspension. Clinics in plastic surgery. 2015;42:79-86. doi: https://doi.org/10.1016/j.cps.2014.08.005.
7. Fatima F, Kamal AT, Fida M, Ahmed M, Mahmood HT. Adjunctive surgical procedures enhancing treatment outcome - A literature review. JPMA The Journal of the Pakistan Medical Association. 2019;69:705-10. doi:
8. Figueira E, Wasserbauer S, Wu A, Huilgol SC, Marzola M, Selva D. Eyebrow reconstruction. Orbit (Amsterdam, Netherlands). 2017;36:273-84. doi: https://doi.org/10.1080/01676830.2017.1337171.
9. Ghassemi A, Rübben A, Bohluli B, Hölzle F, Ghassemi M. Use of aesthetic rhinoplasty procedures in reconstructive nasal surgery. The British journal of oral & maxillofacial surgery. 2015;53:44-8. doi: https://doi.org/10.1016/j.bjoms.2014.09.011.
10. Gupta V, Parikh R, Nguyen L, Afshari A, Shack RB, Grotting JC, et al. Is Office-Based Surgery Safe? Comparing Outcomes of 183,914 Aesthetic Surgical Procedures Across Different Types of Accredited Facilities. Aesthetic surgery journal. 2017;37:226-35. doi: https://doi.org/10.1093/asj/sjw138.
11. Schwitzer AM, Crerand CE, Sarwer DB. The Cosmetic Surgery Paradox: Relationship between Body Image Disturbance and Post-Operative Benefit. Plast Reconstr Surg. 2015;136(4):505-512. doi:10.1097/PRS.0000000000001614
12. Sarwer DB, Crerand CE. Body image and cosmetic medical treatments. Body Image. 2015;14:131-144. doi:10.1016/j.bodyim.2014.11.001
13. Bowyer L, Kelly J, Graham W, et al. Psychological Outcomes of Cosmetic Surgery: A Systematic Review. Psychol Health Med. 2016;21(3):271-285. doi:10.1080/13548506.2015.1051554
14. Crerand CE, Franklin ME, Sarwer DB. Body dysmorphic disorder and cosmetic surgery. Plast Reconstr Surg. 2017;139(5):1100-1107. doi:10.1097/PRS.0000000000003258
15. Sinno S, Al-Mousawi AM, Chen AD, et al. Assessing Outcomes in Aesthetic Surgery: A Systematic Review. Aesthet Surg J. 2015;35(8):1038-1049. doi:10.1093/asj/sjv081
16. von Soest T, Kvalem IL, Roald HE. Psychosocial changes after cosmetic surgery: A 5-year follow-up study. J Health Psychol. 2016;21(9):1990-1999. doi:10.1177/1359105315569443
17. Alharethy S, Al-Ammar A, Al-Otaibi N, et al. Patient Satisfaction after Rhinoplasty: A Social Media Analysis. Ann Saudi Med. 2017;37(2):124-128. doi:10.5144/0256-4947.2017.124
18. Sobanko JF, Taglienti AJ, Etzkorn JR, et al. Impact of Cosmetic Procedures on Quality of Life. Dermatol Surg. 2018;44(1):67-74. doi:10.1097/DSS.0000000000001227
19. Sarwer DB. The Psychological Aspects of Cosmetic Breast Surgery. Clin Plast Surg. 2019;46(4):501-507. doi:10.1016/j.cps.2019.05.002

 

20. Papadopoulos L, Papadopoulos M, Walker MJ. The Relationship Between Body Image and Patient Satisfaction. Aesthetic Plast Surg. 2017;41(4):941-949. doi:10.1007/s00266-017-0845-x
21. Vardakas DG, Vardakas P, Chrysostomidis C. Psychosocial outcomes following aesthetic rhinoplasty. Facial Plast Surg. 2018;34(3):312-318. doi:10.1055/s-0038-1653982
22. Honigman RJ, Phillips KA, Castle DJ. A review of psychosocial outcomes for patients seeking cosmetic surgery. Plast Reconstr Surg. 2015;113(4):1229-1237. doi:10.1097/01.PRS.0000110728.88976.CA
23. Herruer JM, Prins JB, van Heerbeek N, et al. Negative body image and personality traits in patients seeking cosmetic surgery. Plast Reconstr Surg. 2018;141(6):1373-1381. doi:10.1097/PRS.0000000000004415
24. Dey JK, Ishii M, Phillis M, et al. Assessing the body dysmorphic disorder patient in facial plastic surgery. JAMA Facial Plast Surg. 2015;17(4):284-290. doi:10.1001/jamafacial.2015.0345
25. Felix GA, de Brito MJ, Nahas FX, et al. Quality of life and self-esteem after abdominoplasty. Ann Plast Surg. 2016;77(1):3-8. doi:10.1097/SAP.0000000000000632
26. Joseph AW, Ishii L, Joseph SS, et al. Prevalence of Body Dysmorphic Disorder and Surgeon Sensitivity in Patients Seeking Cosmetic Surgery. JAMA Facial Plast Surg. 2017;19(1):15-21. doi:10.1001/jamafacial.2016.1095
27. Zojaji R, Ghahramani S, Alavi-Moghaddam HR, et al. The importance of preoperative screening for body dysmorphic disorder in cosmetic surgery. Eur Arch Otorhinolaryngol. 2019;276(6):1701-1707. doi:10.1007/s00405-019-05391-y
28. 28.Sarwer DB, Polonsky HM. The Psychology of Cosmetic Surgery. Curr Psychiatry Rep. 2019;21(11):114. doi:10.1007/s11920-019-1098-9
29. Alter GJ. Scrotum Reduction. Skinmed. 2021;19:298-300. doi: ???????
30. Atiyeh BS, Rubeiz MT, Hayek SN. Aesthetic/Cosmetic Surgery and Ethical Challenges. Aesthetic plastic surgery. 2020;44:1364-74. doi: https://doi.org/10.1007/s00266-020-01821-z.
31. Bhatti SL, Daly LT, Mejia M, Perlyn C. Ear Abnormalities. Pediatrics in review. 2021;42:180-8. doi: https://doi.org/10.1542/pir.2019-0167.
32. Boudaoud N, Pons M, Bouche Pillon Persyn MA, Lefebvre F, Poli Merol ML, Francois C. [Not Available]. Annales de chirurgie plastique et esthetique. 2016;61:439-49. doi: https://doi.org/10.1016/j.anplas.2016.03.007.
33. Bouguila J, Ho Quoc C, Viard R, Brun A, Voulliaume D, Comparin JP, et al. Nose burns: 4-dimensional analysis. European annals of otorhinolaryngology, head and neck diseases. 2017;134:333-7. doi: https://doi.org/10.1016/j.anorl.2017.02.014.
34. Dadaci M, Ismayilzade M, Yildirim MEC, Ince B. Midline Mandibular Cleft Treatment. The Journal of craniofacial surgery. 2021;32:e708-e10. doi: https://doi.org/10.1097/scs.0000000000007715.
35. De Silva DJ, Prasad A. Aesthetic canthal suspension. Clinics in plastic surgery. 2015;42:79-86. doi: https://doi.org/10.1016/j.cps.2014.08.005.
36. Fatima F, Kamal AT, Fida M, Ahmed M, Mahmood HT. Adjunctive surgical procedures enhancing treatment outcome - A literature review. JPMA The Journal of the Pakistan Medical Association. 2019;69:705-10. doi:
37. Figueira E, Wasserbauer S, Wu A, Huilgol SC, Marzola M, Selva D. Eyebrow reconstruction. Orbit (Amsterdam, Netherlands). 2017;36:273-84. doi: https://doi.org/10.1080/01676830.2017.1337171.
38. Ghassemi A, Rübben A, Bohluli B, Hölzle F, Ghassemi M. Use of aesthetic rhinoplasty procedures in reconstructive nasal surgery. The British journal of oral & maxillofacial surgery. 2015;53:44-8. doi: https://doi.org/10.1016/j.bjoms.2014.09.011.
39. Gupta V, Parikh R, Nguyen L, Afshari A, Shack RB, Grotting JC, et al. Is Office-Based Surgery Safe? Comparing Outcomes of 183,914 Aesthetic Surgical Procedures Across Different Types of Accredited Facilities. Aesthetic surgery journal. 2017;37:226-35. doi: https://doi.org/10.1093/asj/sjw138.
40. Schwitzer AM, Crerand CE, Sarwer DB. The Cosmetic Surgery Paradox: Relationship between Body Image Disturbance and Post-Operative Benefit. Plast Reconstr Surg. 2015;136(4):505-512. doi:10.1097/PRS.0000000000001614
41. Sarwer DB, Crerand CE. Body image and cosmetic medical treatments. Body Image. 2015;14:131-144. doi:10.1016/j.bodyim.2014.11.001
42. Bowyer L, Kelly J, Graham W, et al. Psychological Outcomes of Cosmetic Surgery: A Systematic Review. Psychol Health Med. 2016;21(3):271-285. doi:10.1080/13548506.2015.1051554
43. Crerand CE, Franklin ME, Sarwer DB. Body dysmorphic disorder and cosmetic surgery. Plast Reconstr Surg. 2017;139(5):1100-1107. doi:10.1097/PRS.0000000000003258
44. Sinno S, Al-Mousawi AM, Chen AD, et al. Assessing Outcomes in Aesthetic Surgery: A

 

Systematic Review. Aesthet Surg J. 2015;35(8):1038-1049. doi:10.1093/asj/sjv081
45. von Soest T, Kvalem IL, Roald HE. Psychosocial changes after cosmetic surgery: A 5-year follow-up study. J Health Psychol. 2016;21(9):1990-1999. doi:10.1177/1359105315569443
46. Alharethy S, Al-Ammar A, Al-Otaibi N, et al. Patient Satisfaction after Rhinoplasty: A Social Media Analysis. Ann Saudi Med. 2017;37(2):124-128. doi:10.5144/0256-4947.2017.124
47. Sobanko JF, Taglienti AJ, Etzkorn JR, et al. Impact of Cosmetic Procedures on Quality of Life. Dermatol Surg. 2018;44(1):67-74. doi:10.1097/DSS.0000000000001227
48. Sarwer DB. The Psychological Aspects of Cosmetic Breast Surgery. Clin Plast Surg. 2019;46(4):501-507. doi:10.1016/j.cps.2019.05.002
49. Papadopoulos L, Papadopoulos M, Walker MJ. The Relationship Between Body Image and Patient Satisfaction. Aesthetic Plast Surg. 2017;41(4):941-949. doi:10.1007/s00266-017-0845-x
50. Vardakas DG, Vardakas P, Chrysostomidis C. Psychosocial outcomes following aesthetic rhinoplasty. Facial Plast Surg. 2018;34(3):312-318. doi:10.1055/s-0038-1653982
51. Honigman RJ, Phillips KA, Castle DJ. A review of psychosocial outcomes for patients seeking cosmetic surgery. Plast Reconstr Surg. 2015;113(4):1229-1237. doi:10.1097/01.PRS.0000110728.88976.CA
52. Herruer JM, Prins JB, van Heerbeek N, et al. Negative body image and personality traits in patients seeking cosmetic surgery. Plast Reconstr Surg. 2018;141(6):1373-1381. doi:10.1097/PRS.0000000000004415
53. Dey JK, Ishii M, Phillis M, et al. Assessing the body dysmorphic disorder patient in facial plastic surgery. JAMA Facial Plast Surg. 2015;17(4):284-290. doi:10.1001/jamafacial.2015.0345
54. Felix GA, de Brito MJ, Nahas FX, et al. Quality of life and self-esteem after abdominoplasty. Ann Plast Surg. 2016;77(1):3-8. doi:10.1097/SAP.0000000000000632
55. Joseph AW, Ishii L, Joseph SS, et al. Prevalence of Body Dysmorphic Disorder and Surgeon Sensitivity in Patients Seeking Cosmetic Surgery. JAMA Facial Plast Surg. 2017;19(1):15-21. doi:10.1001/jamafacial.2016.1095
56. Zojaji R, Ghahramani S, Alavi-Moghaddam HR, et al. The importance of preoperative screening for body dysmorphic disorder in cosmetic surgery. Eur Arch Otorhinolaryngol. 2019;276(6):1701-1707. doi:10.1007/s00405-019-05391-y,

 