

## Impact of Aesthetic Treatments on Self-Esteem in Females with Body Dysmorphic Disorder: A Cross-Sectional Comparative Study

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### ABSTRACT

**Background:** Body Dysmorphic Disorder is a health issue where people, especially women worry a lot about how they look. They think they have flaws that're not really there. Many women with Body Dysmorphic Disorder try to fix these problems with procedures. We do not know if these procedures really help them feel better about themselves.

**Objective:** This study wants to find out how cosmetic treatments affect how women with Body Dysmorphic Disorder feel about themselves.

**Methods:** We did a study with two groups of women. Ninety-nine women were selected from dermatology and cosmetic surgery practices. Forty-nine of them did not have any procedures. 49 of them did not have any procedures. We used tests to observe their feelings towards themselves. We used the Rosenberg Self-Esteem Scale to measure self-esteem the Body Image Disturbance Questionnaire to see if they had body image problems and the Body Dysmorphic Disorder Questionnaire to diagnose Body Disorder. We followed the DSM-5 guidelines. We used a computer program to analyze the data.

**Results:** Women who had procedures said they felt a little better about themselves than women who did not have these procedures. Both groups still had a lot of problems with how they saw their bodies. We found out that when women do not like their bodies it affects how they feel about themselves. Cosmetic procedures can help a little, but not a lot. Women who had procedures actually felt worse about themselves than women who had just one procedure.

Cosmetic procedures can make women with Body Dysmorphic Disorder feel a little better about themselves. It does not last long. It does not fix the problems that cause Body Dysmorphic Disorder. Women, with Body Dysmorphic Disorder should get help from a therapist cognitive-behavioral therapy before or after they have cosmetic procedures.

Body Dysmorphic Disorder is an issue and we need to focus on the real problems, not just how women look.

### ARTICLE HISTORY

Received 30 April 2026

Revised 25 May 2026

Accepted 5 June 2026

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**Keywords:** Body Disorder, self-esteem, aesthetic treatments, body image dissatisfaction, cosmetic procedures, cognitive-behavioral therapy

### INTRODUCTION

Body image is a thing. It includes how people see themselves what they believe about their looks and how they feel about their appearance. This can greatly affect how they feel about themselves their sense of identity and how they interact with others. Women face a lot of pressure to look a way and this can be really tough on them.

The media and globalization have made it so that there's a narrow idea of what is considered beautiful. This can cause individuals to feel like they are not good enough, and may result in checking out their body constantly and being unhappy with their bodies. Photos have complicated things for determining what's true and what's fake. Body Dysmorphic Disorder (BDD) is an obsession with what they consider to be an unattractive feature in their body. May constantly check themselves in the mirror, overgroom themselves or seek out others for reassurance. These behaviors can provide relief but ultimately make the person feel worse about themselves. Research suggests that BDD is linked to brain activity in areas that process visual information and detect errors.

- 1-3% of people have BDD. It's more common among those seeking cosmetic or skin care.
- Many people with BDD try procedures hoping it will solve their emotional problems.

- However, this often doesn't work out as they expect. Instead, they might become unhappy with a part of their body.
- Self-esteem is closely tied to body image. For women with BDD negative thoughts about their appearance can spread to areas of their self-worth. This can be especially true in societies where appearance is closely tied to acceptance and opportunities.
- Despite the growing popularity of procedures there's a lack of research on their psychological effects especially in relation to BDD and self-esteem.

This study aims to fill that gap by comparing self-esteem and body image dissatisfaction, among women with BDD who have and have not undergone treatments

## LITERATURE REVIEW

The way people with Body Dysmorphic Disorder think is well understood. People with Body Dysmorphic Disorder pay attention to things that make them think they look bad. They believe these things are true. They also think about their appearance a lot which makes them feel anxious and depressed. When people with Body Dysmorphic Disorder cannot control their emotions, they do things like check themselves in the mirror a lot and ask for reassurance from others. These things make them feel better for a while but they also make their Body Dysmorphic Disorder worse.

Getting surgery or other beauty treatments does not help with these thoughts and feelings so it does not really help people with Body Dysmorphic Disorder.

What people around us think is very important. In some places people think you are worth more if you look good. The media shows us what they think is beautiful. This makes us compare ourselves to others. We see people on media who look perfect and this makes us feel bad about ourselves.

What happens to us when we are young is also important. If people make fun of us or are mean to us, we might start to think we are not good enough. When we think we are only worth something if we look good, we try to change how we look to feel better.

People often get surgery because they think it will make them happy. When it does not work, they are disappointed and still unhappy with how they look. This is especially true for people with Body Disorder because they think their flaws are much worse than they really are. Even if the surgery works people with Body Dysmorphic Disorder are often still unhappy.

On the hand therapy and learning to be kind to ourselves can really help. These things can help us stop thinking about our appearance much feel better and like ourselves more. When we combine these things with surgery people are happier with the results.

We should also think about what our bodies can do not how they look. This can help us like ourselves more.

All of this shows that doctors, psychologists and beauty professionals should work together to help people with Body Disorder. They should make sure people understand what is going to happen and what to expect. They should check to see if people are okay mentally, before doing any treatments.

## METHODOLOGY

### 1. Study Design and Setting

A comparison method of looking at things was used in the study. Data was collected from some dermatology clinics, beauty centers and psychiatric clinics in Lahore, Pakistan. All the data were collected in comfortable locations. We got the okay from the Ethics Committee at Superior University in Lahore. We also made sure to get written permission, from all the people who took part in the study.

### 2. Participants

The sample comprised 99 adult females ( $\geq 18$  years) seeking or having undergone aesthetic treatments, and diagnosed with BDD via the BDDQ or structured clinical interview using DSM-5 criteria. Participants were assigned to a treatment group ( $n = 50$ ; had received cosmetic procedures) or a control group ( $n = 49$ ; no such history). Non-probability consecutive sampling was used until the required sample size was reached.

The sample size was calculated using the formula  $n = z^2 \cdot P \cdot (1-P) / d^2$ , with  $z = 1.96$ ,  $P = 0.204$  (BDD prevalence in cosmetic settings from prior literature), and  $d = 0.08$ , yielding  $n = 99$ .

Exclusion criteria included significant psychiatric comorbidities likely to confound self-esteem measurement (e.g., schizophrenia, bipolar disorder), active BDD-focused treatment, and incomplete clinical records.

### 3. Instruments

Self-esteem was assessed with the Rosenberg Self-Esteem Scale (RSES), a widely validated 10-item instrument yielding low, moderate, or high self-esteem scores. Body image dissatisfaction was measured using the Body Image Disturbance Questionnaire (BIDQ). Demographic data, treatment history (type, number, and recency of procedures), and psychological data were collected via self-administered questionnaires, in-person interviews, and clinical record review.

### 4. Data Analysis

All analyses were conducted using SPSS v27.0. Continuous variables are reported as mean  $\pm$  SD; categorical variables as frequencies and percentages. An independent samples t-test compared RSES scores between groups. Pearson correlation and regression analysis examined relationships between body image dissatisfaction and self-esteem. Significance was set at  $p < 0.05$  with 95% confidence intervals.

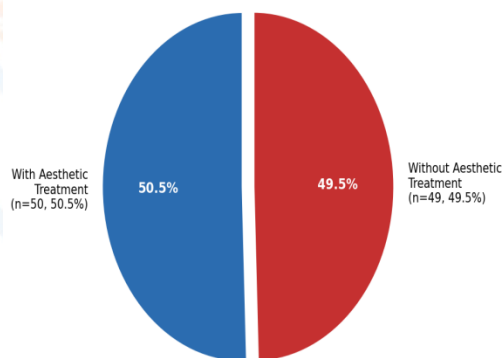
## RESULTS

### 1. Sample Distribution

Of 99 participants, 50 (50.5%) had undergone aesthetic treatments and 49 (49.5%) had not (Table 1), ensuring balanced comparison between groups.

**Table 1. Distribution of Participants by Aesthetic Treatment Status (N = 99)**

Group	n	%
With Aesthetic Treatment	50	50.5
Without Aesthetic Treatment	49	49.5



**Figure 1. Distribution of participants by aesthetic treatment status (N = 99).**

### 2. Self-Esteem Scores

A small difference was noted between the treatment group ( $M = 21.0$ ,  $SD = 4.2$ ) and the nonaesthetic treatment group ( $M = 19.0$ ,  $SD = 4.0$ ) in terms of self-esteem. The difference in the two groups was found to be statistically significant ( $t = 2.38$ ,  $p = 0.019$ ) on an independent samples t-test. This difference was statistically significant but it was not large enough to suggest that cosmetic surgery has a significant effect on psychological health in women suffering from BDD (Table 2).

**Table 2. Mean Self-Esteem Scores (RSES) by Treatment Status**

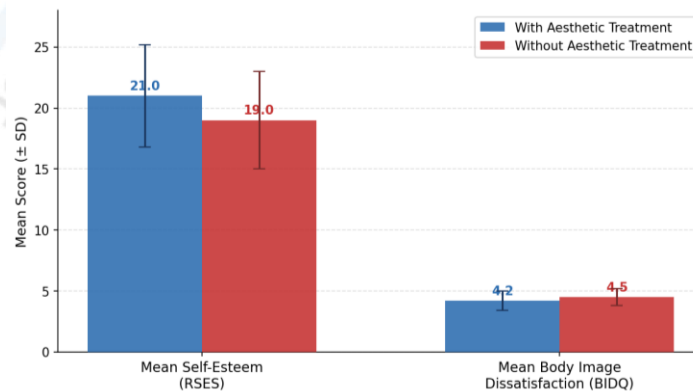
Group	n	Mean (RSES)	SD
With Aesthetic Treatment	50	21.0	4.2
Without Aesthetic Treatment	49	19.0	4.0

### 3. Body Image Dissatisfaction

Satisfaction with body image was not significantly different between the treatment group (BIDQ mean = 4.2 [SD = 0.8]) and untreated group (BIDQ mean = 4.5 [SD = 0.7]) (Table 3). The small intergroup difference indicates that the aesthetic procedures do not reduce body image concerns to any great degree, and that the core cognitive distortions of BDD remain unchanged.

**Table 3. Mean Body Image Dissatisfaction Scores (BIDQ) by Treatment Status**

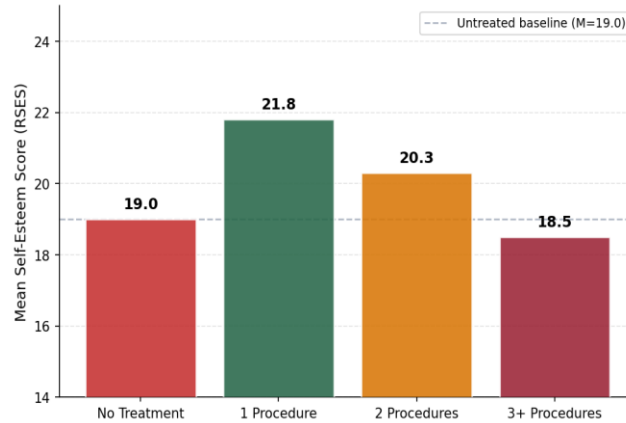
Group	n	Mean (BIDQ)	SD
With Aesthetic Treatment	50	4.2	0.8
Without Aesthetic Treatment	49	4.5	0.7



**Figure 2. Mean RSES and BIDQ scores with SD error bars, by treatment status. Blue = with treatment; Red = without treatment.**

### 4. Predictors of Self-Esteem

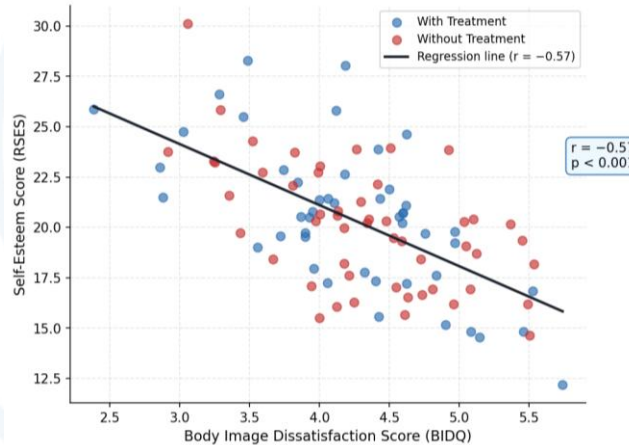
The body image dissatisfaction and self-esteem scores were moderately negatively correlated ( $r = -0.57$ ), with higher BIDQ scores associated with lower scores of self-esteems, regardless of treatment status. Body image dissatisfaction was confirmed to be the most significant predictor ( $\beta = -0.48$ ,  $p < 0.001$ ) and aesthetic treatment was found to have a lesser positive impact ( $\beta = 0.20$ ,  $p = 0.034$ ) in regression analysis. In particular, the inverse was found between procedure frequency and self-esteem, with the highest levels of self-esteem being reported for those who had one procedure and the lowest for those who had 3 or more. This is typical of the chronic dissatisfaction pattern that is associated with BDD: repeated attempts to 'correct' the cycle of psychological distress.



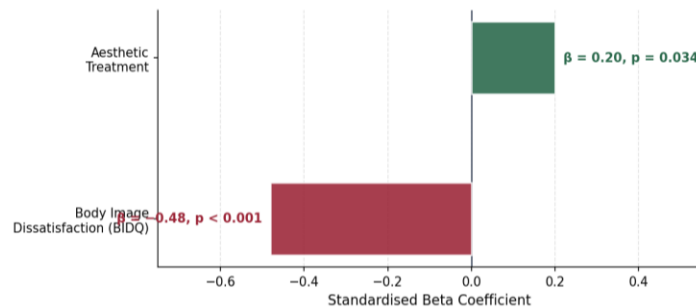
**Figure 3. Mean self-esteem score (RSES) by number of aesthetic procedures. The dashed line represents the untreated group baseline (M = 19.0).**

#### 4.5 Correlation and Regression Analysis

The moderate negative correlation between BIDQ and self-esteem ( $r = -0.57, p < 0.001$ ) showed that more negative scores on BIDQ were associated with lower self-esteem, regardless of treatment status. Body image dissatisfaction was the most predominant predictor ( $\beta = -0.48, p < 0.001$ ), and aesthetic treatment had a less significant positive effect ( $\beta = 0.20, p = 0.034$ ) on the regression model.



**Figure 4. Scatter plot showing the negative correlation between BIDQ and RSES scores ( $r = -0.57, p < 0.001$ ). Blue dots = treatment group; Red dots = control group. Regression line fitted across the full sample.**



**Figure 5. Standardized beta coefficients from regression analysis. Body image dissatisfaction ( $\beta = -0.48$ ) exerts a significantly stronger influence on self-esteem than aesthetic treatment ( $\beta = 0.20$ ).**

## DISCUSSION

The study's main result, that aesthetic interventions give a statistically significant but “modest” effect on self-esteem, is consistent with a large literature suggesting that physical changes do not affect the core of BDD [33,34]. The continued high body image dissatisfaction scores for both groups support the notion that the disorder is maintained by core maladaptive body related thoughts and feelings, and not by physical characteristics [36,37]. The correlation between body image dissatisfaction and self-esteem ( $r = -0.57$ ) was highly negative, indicating that psychological, rather than aesthetic, factors, were most important in dictating self-esteem in this population. Participants who had undergone procedures who scored high on the BIDQ, also had low self-esteem, which helped to support the cognitive-behavioral model of BDD [9]. What is particularly striking about this inverse association between procedure frequency and self-esteem is that repeated procedures do not seem to build up benefit, rather they seem to reinforce dissatisfaction, which corresponds to symptom migration observed in longitudinal studies [38]. The findings have obvious clinical significance. Cosmetic surgeons should conduct psychological screening before cosmetic procedures are performed on patients who exhibit BDD symptoms, such as the BDDQ [33]. CBT should be offered as the main intervention and aesthetic treatments, if indicated, offered as complementary treatments, not a replacement for CBT [39]. In addition, the sociocultural factors, such as social media use and beauty ideals reinforced by media, should be acknowledged as other factors that may contribute to the ongoing dissatisfaction and decreased likelihood of a sustained benefit from cosmetic procedures [35,36]. The results are also of great importance in the context of Pakistan, where awareness of BDD is still low and cosmetic industry is rapidly growing [13]. The psychological consequences of not living up to cosmetics expectations are especially high in collectivist contexts where appearance is tightly coupled with social and marital acceptance [7]. It is then not just best practice, but an ethical obligation, for mental health professionals and aesthetic practitioners to work interdisciplinary together [30,43]

## LIMITATIONS

Because of the cross-sectional design of the study, the direction of relationships between aesthetic treatments and self-esteem cannot be inferred [36,42]. All measures are self-report scales, and therefore subject to social desirability bias [1,40]. The setting (clinical in Lahore) restricts the generalizability to women of varying socioeconomic status and cultural contexts. Future studies should use longitudinal designs, incorporate larger, more diverse sample populations and investigate the role of the social media exposure, cultural expectations, and concurrent therapeutic engagement as moderators [35,37,39].

## CONCLUSION

Females with Body Dysmorphic Disorder have limited and temporary gains in self-esteem as a result of aesthetic treatments. Although there was a small but statistically significant difference between the treated and the untreated groups, overall body image dissatisfaction scores were still significantly higher in both groups, and repeated procedures were correlated with decreased or increased self-esteem. These findings are supporting the statement that the BDD is a psychological disorder and should be treated psychologically. Such aesthetic interventions (where considered) should be preceded by adequate screening, followed by evidence-based therapy, and within an interdisciplinary care plan that covers cognitive, emotional, and socio-cultural issues that are important to body image and self-worth

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