



# EVALUATION OF BODY DYSMORPHIC SYNDROME FREQUENCY IN PATIENTS UNDERGOING ABDOMINOPLASTY AND PATIENTS UNDERGOING OTHER COSMETIC SURGERY

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## ABSTRACT:

**BACKGROUND:** Body dysmorphic syndrome, often known as body dysmorphic disorder, is a mental condition in which a person feels unhappy with their typical look. Choosing the right aesthetic operation for these individuals and considering their postoperative effects begins with identifying these persons among the participants for cosmetic surgery.

**METHODS:** On 250 women who were referred to Capital Hospital, CDA, Islamabad, between 2021 and 2022, cross-sectional research was conducted. An abdominoplasty and other cosmetic procedures were separated into two groups of applicants. With the use of the Bill Brown Questionnaire's modified version, body dysmorphic disorder (BDD) was evaluated. Marital status, age, number of kids, level of education, and background of cosmetic surgeries were all details that were kept on participants.

**RESULTS:** The abdominoplasty group's average BDD score was  $93.6 \pm 23.5$  while the other group's average score was  $75.5 \pm 25.8$ . BDD scores for the two groups were significantly different ( $P < 0.001$ ) from one another. No significant correlation was identified between BDD score, age, or education level, despite there being a noticeable relationship between BDD score and marital status.

**CONCLUSION:** After examining the precise body dysmorphic disorder (BDD) criteria, we found that candidates for abdominoplasty were far more likely to have BDD. It was inaccurate and might be explained by failing to use the precise BDD diagnostic criteria.

**KEYWORDS:** Cosmetic Surgery, Body Dysmorphic Disorder, Abdominoplasty

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**INTRODUCTION:** The demand for cosmetic surgeries has significantly expanded in the modern era; of note, 5.8 million and 17.5 million cosmetic surgeries were related to reconstructive and cosmetic surgery, respectively. [1] Patients sometimes refer to experts with unrealistic demands, even though the majority of doctors recognize that the patient is not medically or even mentally prepared for the procedure. Since these individuals are thought of as perfectionists, any physical abnormalities exacerbate their worry and worries about how they look. Many of these patients have a degree of body image concern that the surgeons may find to be unwarranted. [2] Body dysmorphic disorder (BDD) is an imaginative (not delusional) idea that all or portion of the body seems to have a physical flaw. In psychiatry, this ailment is regarded as a severe illness while being reasonably common. Their natural look is made to feel unpleasant due to this disease. Many persons with BDD are unaware of their condition, if at all. However, some of them are certain that the perceived flaw in their look is true. Therefore, between 50 and 88 percent of individuals get cosmetic surgery. [3] This disease may interfere with everyday activities. It is expected that BDD patients would have negative psychological effects following surgery. Poor surgical outcomes are connected with the severe BDD stage. One of the most often operated-on areas in plastic surgery is the abdomen. [4] Improvements in independence, family life, and living standards may all be attributed to abdominal surgery. If surgery is performed on these patients, over 75% of them will be dissatisfied with the results, which might lead to a lot of doctor complaints or, in certain extreme cases, threats and violent actions against the surgeon. Additionally, it may raise the patients' postoperative stability and sense of self-worth. [5]

Some researchers have looked at the incidence of this illness in light of the rise in cosmetic

procedures, and the findings indicate that 5–15% of patients who are referred for cosmetic surgery have this problem.[6] Additionally, researchers have shown a strong correlation between BDD symptoms and a person's level of body image dissatisfaction as well as their unhappiness with how they looked before surgery. Avoidance actions, on the other hand, have been proven to stop it. Even though this illness is rather widespread, it is challenging to diagnose.

There are very few studies on how frequently patients who have had abdominal surgery experience this issue. BDD was present in 57% of the cases among the group of abdominoplasty candidates, a significant prevalence. The rhytidectomy group had the greatest number of patients with BDD, whereas the rhinoplasty group had the fewest patients with severe symptoms. [7,8,9] According to a survey of complaints submitted by candidates for cosmetic procedures, liposuction, rhinoplasty, abdominoplasty, and liposuction are among the most often accused procedures. Women are substantially more dissatisfied than males. [10] Preoperative concerns from women concerning their looks were prevalent. [11] Women were chosen as the research group in this work as a result. Additionally, women showed higher worries about how they looked, which emphasizes the need of looking into this group. [12]

The purpose of this research was to assess the prevalence of body dysmorphic disorder between female candidates for abdominoplasty and candidates for other cosmetic procedures.

**METHODS:** In this cross-sectional research, women who were being considered for abdominoplasty or other cosmetic procedures such as liposuction, rhinoplasty, blepharoplasty, autologous fat transfer, or breast augmentation were assessed for BDD. For this research, a total of 250 patients were included, 50 of whom had abdominoplasty, while the other patients

underwent various cosmetic procedures (200 patients).

Dissatisfaction with one's looks served as the major qualification for participation and served as the main driver for clinic attendance. Patients who had undergone bariatric surgery, had tumors, pathogenic illnesses, mental disorders, BDD history, heart disease, Mellitus, a surgery scar in the left, right, or bilateral quadrants of the abdomen, severe physical impairments brought on by obesity (BMI > 35), undergone bariatric surgery, had pathogenic disorders, had psychiatric disorders, had a history of BDD, or who had extenuating factors like patients receiving medication or psychotherapy were excluded from the study. Patients with a high susceptibility to surgery, those with unrealistic expectations about the outcomes of surgery, and those with a diagnosis of body dysmorphic disorder were also eliminated. The participants received enough study-related information from the researchers, and they signed an informed consent form.

Using a checklist, characteristics including marital status, age, the number of kids, level of education, and prior cosmetic surgery history were noted. Then, after some adaptation, the subjects were given the deformity questionnaire, which was based on the Peel Brown Questionnaire. This scale may be used for therapeutic and diagnostic situations. A Likert scale with a range of 1 to 5 points was used to grade the 31 items in the questionnaire. Between 31 and 155 points might be earned, depending on the situation. BDD scores between 31 and 62 are categorized as low, 62 and 93 as moderate, and higher than 93 as high. Participants' scores were used to split each

group of abdominoplasty candidates and those seeking additional cosmetic procedures into three subgroups with low BDD levels, medium BDD levels, and high BDD levels. The scores of individuals with severe levels were compared with physical examinations in both groups.

Statistical indices like mean and frequencies were used, along with descriptive statistics, to analyze the data. The normality of the data was initially established in the data analysis section using a one-sample Kolmogorov-Smirnov test with Lei-Frees adjustment. The Mann-Whitney test was used for data with an aberrant distribution, whereas the student t-test was used for data with a normal distribution. The examination of data on a nominal scale was done using the Chi-square test. To exclude confounders, the Mantel-Hansel test was used. A significance threshold of less than 0.05 was taken into account in all tests, which were conducted using SPSS version 26 software.

**RESULTS:** 20% of the participants underwent an abdominoplasty, and the remaining 80% underwent other cosmetic procedures. Figure 1 shows that the share of facial cosmetic surgery was 62% and the proportion of liposuction and breast cosmetic surgery was 38% in the group of other cosmetic surgeries.

Patients who underwent an abdominoplasty on average were  $38.2 \pm 7.1$  years old, while those in the other group were  $38 \pm 11.1$  years old. Age differences between the two groups were not statistically significant (P-value = 0.91). According to Table 1, there was no discernible difference between the two groups' educational attainment (P-value = 0.41). The marital status of the two groups, however, significantly differed (P-value = 0.037).

Table 1: Distribution of women's marital status and educational level seeking abdominoplasty and other cosmetic procedures

| Variables      |   | Marital status |         | Educational Level |          |                    |
|----------------|---|----------------|---------|-------------------|----------|--------------------|
| Groups         |   | Single         | Married | Masters and PhD   | Bachelor | Less than Bachelor |
| Abdominoplasty | N | 9              | 41      | 10                | 18       | 22                 |
|                | % | 18             | 82      | 20                | 36       | 44                 |
| Other cosmetic | N | 65             | 135     | 36                | 96       | 68                 |

|                |                |       |      |       |    |    |
|----------------|----------------|-------|------|-------|----|----|
| <b>surgery</b> | <b>%</b>       | 32.5  | 67.5 | 18    | 48 | 34 |
|                | <b>P-value</b> | 0.037 |      | 0.415 |    |    |

Every applicant for an abdominoplasty has at least one child, and demand for the treatment increases as the number of children increases to two and beyond. This trend was also noticeable in another group, although the abdominoplasty

group displayed it more clearly. There was a 10% higher demand for abdominoplasty in the subgroup of individuals who had three or more children than in the other group (Figure 2).

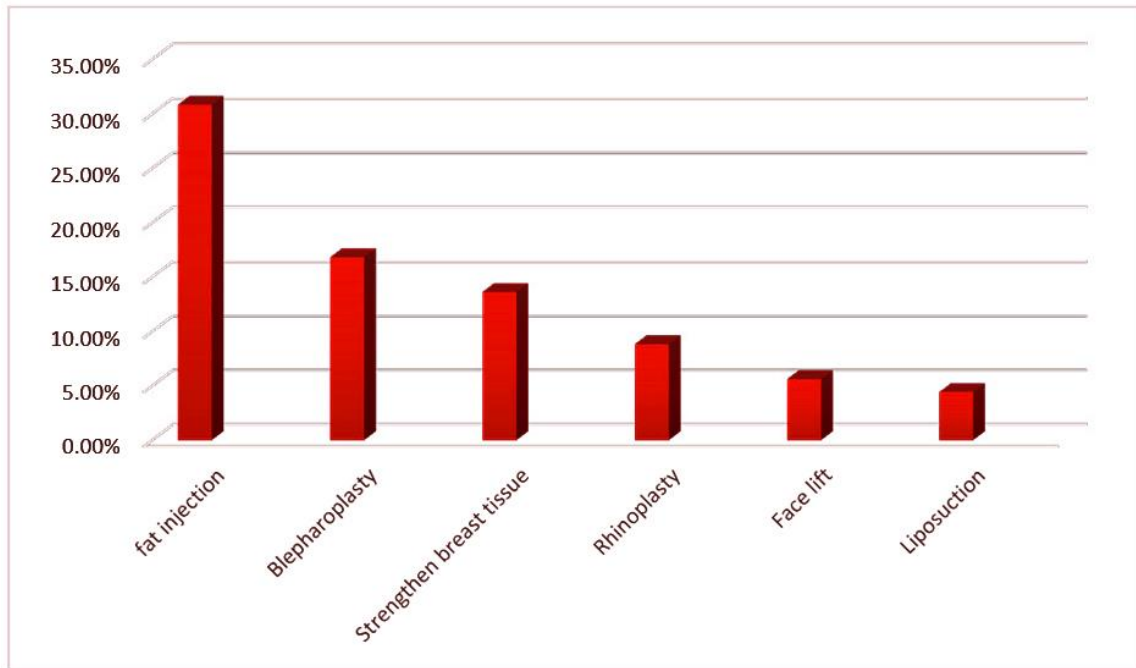


Figure 1: Frequency distribution of other cosmetic surgeries requested in women applying for abdominoplasty and other cosmetic surgeries

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The average BDD score was  $93.6 \pm 23.5$  for abdominoplasty patients and  $75.5 \pm 25.8$  for patients who underwent other plastic surgery.

The abdominoplasty group's deformity score was substantially larger (P-value < 0.001) than the control group's (Figure 3).

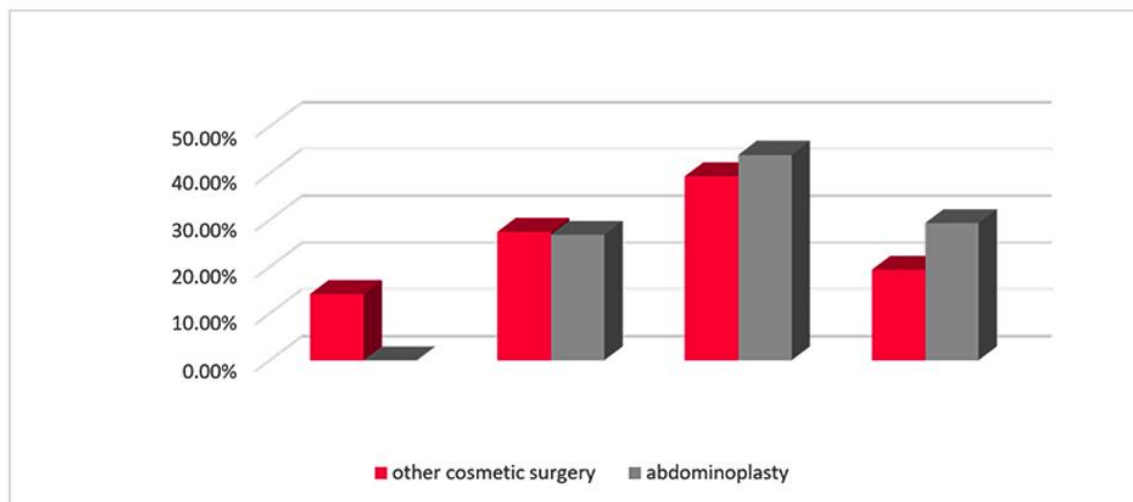


Figure 2: Frequency distribution of children in married women in women applying for abdominoplasty and other cosmetic surgeries

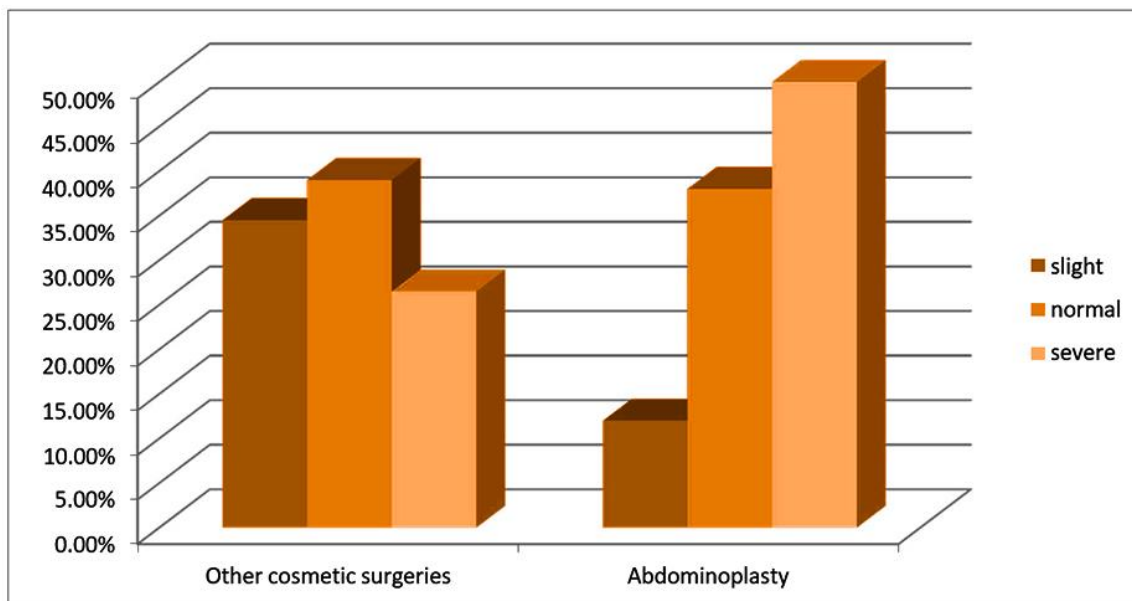


Figure 3: Frequency distribution of deformity disorder score in women applying for abdominoplasty and other cosmetic surgeries

Physical assessment of participants in the abdominoplasty group with an intense stage of BDD and consideration of the abdomen aesthetic criteria in aspects of appearance and symmetry revealed that 22 (88%) patients in the abdominoplasty group endure an extreme condition of BDD (P-value < 0.001, Figure 3). (Grade 4 and above). In addition to being in classes 4 and above, 13 (52%) patients also had cosmetic issues with their breasts and other sections of the chest. 3

(12%) of them underwent physical examinations in classes three and lower, but because of their severe BDD, the surgeon did not agree with the patient's primary complaint—an abdominal deformity—based solely on the results of the physical examination. Following that, 88% of them were advised to have an abdominoplasty, and only 12% of them—who were not in the upper classes in regards to appearance based on a physical examination—were not advised to

have surgery. 26.5% of patients who underwent other cosmetic procedures fell into the BDD high-level class. After the assessment, cosmetic surgery was advised for 45% of them in total. The overall number of cosmetic procedures for the face, including fat injection, rhytidectomy, blepharoplasty, and rhinoplasty was 39 (5.73%) in the extreme BDD level subgroup. The total number of breast augmentation and liposuction procedures was 14 (5.26%).

**DISCUSSIONS:** The two groups were considerably different from one another in terms of their body dysmorphic disorder scores. In comparison to another group, the group that had abdominal surgery scored highest in the severe type of BDD. This result is consistent with previous research that found BDD to be more prevalent among abdominoplasty candidates. [13] Both groups had comparable characteristics in the mild BDD subgroup whereas the group that underwent further cosmetic surgery had the greatest proportion in the moderate BDD subgroup. Research has only focused on the clinical indications of BDD, impaired functioning, and negative quality of life, despite the intensity level and physical assessment findings of people with this illness not being included. [14] In contrast to other research, ours contrasted the high BDD ratings of patients in the group who had an abdominoplasty with the results of the surgeon's physical assessment of the abdomen in respect of cosmetic surgery standards and the surgeon's assessment of the irregularity in the look. According to the updated criteria of BDD, patients' physical examinations were conducted in the present research. The surgeon verified a significant degree of appearance deformity in the abdominoplasty group for all patients with severe BDD scores (grade 4 and above, and sometimes with additional aesthetic issues in the trunk).

Regarding age, there was no discernible difference between the two groups. The average age of the abdominoplasty group's patients is the same as that of the study

subjects in other studies. [15,16] It may assist to explain why the condition was only recently detected because the eldest patient in the groups who had abdominoplasty and other cosmetic surgeries was 65 and 56 years old, respectively. Due to the extended unhappiness with one's physique, BDD may occur at a later age even though it often does so in adolescence. [17] Because of this, the identification of BDD as a mental condition at this age, as proven in several previous research, is likely a result of the demographic group's lack of screening at an early age, which leads to the disorder's appearance at an old age.

However, there was no discernible difference between the two groups' general education levels. A low level of education was noted as an encouraging factor for all kinds of surgery in another research. [18,19] In our research, the groups receiving abdominoplasty and other operations, respectively, contained 44% and 34% of patients with a high school graduation or less. This is consistent with research findings on the link between poor educational attainment and cosmetic surgery. [20] However, both groups had a higher education level than the general population.

Between the two groups, there was a considerable variation in marital status. According to certain prior research, 67.5% of patients in the other group and 82% of patients in the abdominoplasty group were married. [21, 22] When there were more than two children in a household, both groups saw a rise in demand for cosmetic surgery. This may be explained in the group that had abdominoplasty by the direct link between numerous pregnancies and the abdominal deformity, which might be seen as the primary reason for the procedure.

According to both groups' significant rates of bodily deformity disorders, particularly in the group that had abdominoplasty. Despite having a high BDD score, the physical assessment of this group of patients also revealed a serious flaw in their looks. It was feasible that these patients' physical problems might be lessened by surgery if they saw a psychiatrist and had an

additional assessment by one since the physical problem for which they sought a cosmetic surgeon was a valid and significant flaw. It is intended that adequate identification, referral, and care of these patients would improve their quality of life while reducing the number of complaints made to plastic surgeons, the number of unsuccessful surgeries, and the negative effects surgery has on society.

The inability to conduct a long-term postoperative examination lasting a year or more and the unavailability of a questionnaire to assess psychological personality were the study's shortcomings.

**CONCLUSIONS:** It is advised that longer follow-up periods be used in future research to evaluate patients' standard of living, interpersonal connections, and performance both before and after the procedure and if they were directed to a psychiatrist for psychotherapy or medication. It is crucial to look at studies conducted in our nation with a bigger sample size of males who are younger or who are teenagers.

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