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Nonpsychiatric Medical Treatment of Body Dysmorphic Disorder

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Abstract

Many individuals with body dysmorphic disorder seek nonpsychiatric medical and surgical treatment to improve perceived defects in their physical appearance. However, the types of treatments sought and received, as well as the treatment outcome, have received little investigation. This study describes the frequency, types, and outcomes of treatments sought and received by 200 individuals with body dysmorphic disorder. Treatment was sought by 71.0% and received by 64.0%. Dermatological treatment was most frequently sought and received (most often, topical acne agents), followed by surgery (most often, rhinoplasty). Twelve percent of the subjects received isotretinoin. Such treatment rarely improved body dysmorphic disorder. Thus, nonpsychiatric medical treatments do not appear effective in its treatment.

Body dysmorphic disorder (BDD), a distressing or impairing preoccupation with an imagined or slight defect in appearance, is associated with markedly impaired psychosocial functioning, suicidality, and notably poor quality of life.¹ Despite the morbidity that BDD causes, few studies have investigated the treatments that individuals who suffer from it seek and receive.

The plastic surgery and dermatology literatures contain anecdotal reports of patients with “minimal deformity” and “dermatological nondisease” who appear similar to patients with BDD.² Such reports typically noted poor outcomes and dissatisfaction with treatment. However, it was unclear whether they had DSM-defined BDD. Recent studies have suggested that DSM-IV BDD is relatively common in these settings. The rates of BDD among cosmetic surgery patients² range from 7% to 15%; in dermatological settings, rates of 9% to 12% have been reported.

Few studies have examined the converse—i.e., the rates of nonpsychiatric medical treatment received by individuals with BDD. In the largest study we know of,³ 76% of 250 adults sought and 66% received nonpsychiatric treatment for their perceived appearance “defect,” most commonly dermatological and surgical. A study of 50 patients with BDD⁴ found that 48% had sought surgical or dermatological treatment, and 26% had received at least one procedure. In a chart-review study of 50 patients, 40% had undergone plastic surgery.⁵ These findings are consistent with evidence that the skin (e.g., acne), hair (e.g., thinning), and nose (e.g., size or shape) are the most common areas of concern.¹ These results are also consistent with evidence that most patients have poor insight regarding their perceived defects, believing that they have actual physical deformities for which medical treatment or surgery is needed.

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Relatively little is known about the outcome of non-psychiatric treatment. In a previously noted study ($N = 250$),³ the most common outcome was no change in the overall severity of BDD. Two smaller studies^{4,6} reported that patients with BDD experienced high levels of dissatisfaction after nonpsychiatric treatment, and in some cases, postoperative symptom exacerbations were noted.⁶ In a survey of 265 cosmetic surgeons, 84% reported that they had operated on a patient with BDD, but only 1% of the cases resulted in complete symptom remission.⁷ Furthermore, 40% of the respondents said that a patient with BDD had threatened them legally and/or physically.⁷ These findings have led some to conclude that BDD is a contraindication for aesthetic treatments.^{2,8}

Further investigation of nonpsychiatric treatment received by individuals with BDD is warranted. First, the largest study we found³ consisted entirely of patients seeking or receiving psychiatric consultation or treatment. Such a group may be biased toward treatment failures because individuals whose symptoms do not improve with nonpsychiatric treatment may be more likely to remain symptomatic and to seek subsequent psychiatric care.³ Only one small previous study ($N = 25$)⁶ described the types of surgical procedures received by patients with BDD⁶; to our knowledge, no previous studies have comprehensively described the types of dermatological or other treatments sought and received. Finally, little is known about the clinical correlates of nonpsychiatric treatment.

Our primary aim in the present study was to examine the treatments sought and received, as well as outcomes, in a broader study group that included some individuals not currently seeking or receiving psychiatric care. We also examined a number of previously unasked questions, including the specific types of procedures sought and received, the number of visits to providers, the age at which such treatment was first sought, and the number of instances in which such treatment appeared to trigger the onset of BDD. Also, because of warnings that isotretinoin is linked with depression and suicidality,⁹ we examined receipt of this treatment and its relationship to lifetime suicidality. A secondary aim was to examine the clinical correlates of receipt of nonpsychiatric treatment. We examined whether treatment receivers had more severe BDD, poorer insight, and poorer quality of life and psychosocial functioning than nonreceivers.

METHOD

Subjects

The study group consisted of 200 subjects (184 adults and 16 adolescents ages 17 and younger) in a naturalistic, prospective study of the course of BDD. Only data from the intake interview (including current and past nonpsychiatric treatment) were included in this report. The subjects met the following criteria: 1) had a diagnosis of DSMIV BDD or its delusional variant (delusional disorder, somatic type), 2) were age 12 or older, and 3) were available to be interviewed in person. Persons with organic mental disorders were ineligible for participation. The study was approved by the hospital's institutional review board. The adults provided written informed consent; assent was obtained from the adolescents, along with the consent of their legal guardians. The subjects were obtained from a variety of sources, including mental health professionals (46.0%), advertisements (38.6%), our program's web site and brochures (10.2%), the subjects' friends and relatives (3.4%), and nonpsychiatrist physicians (1.7%). The study group had a mean age of 32.6 years ($SD = 12.1$, range = 14–64). The majority (68.5%) were female, 13.6% were members of a minority racial group, and 7.4% were members of a minority ethnic group; 63.5% were single, 24.5% were married, 11.5% were divorced, and 0.5% were widowed. The mean age of onset of BDD was 16.4 years ($SD = 7.0$); the mean duration of BDD was 15.8 years ($SD = 12.3$); 134 (67%) were receiving mental health treatment at the time of the intake interview.

Assessments

The BDD Form (Phillips KA, unpublished), a clinician-administered, semistructured measure used in previous BDD studies (e.g., reference 3), assessed demographic and clinical characteristics and treatment history, including the frequency of nonpsychiatric treatment sought and received. Information was retrospectively obtained on the types and numbers of providers and procedures and the numbers of visits for each treatment. Categories similar to those used by the American Society of Plastic Surgeons (http://www.plasticsurgery.org/public_education/2003statistics.cfm) were used to classify types of procedures. The Clinical Global Impression scale¹⁰ determined responses to treatment for 1) the appearance of the treated body part, 2) concern/preoccupation with the treated body part, and 3) the severity of overall BDD. Ratings of “much” or “very much” improved indicated improvement; ratings of “much” or “very much” worse indicated worsening; and ratings of “minimally worse,” “minimally improved,” or “unchanged” represented no change.

The Medical Outcomes Study 36-Item Short-Form Health Survey¹¹ and the Quality of Life Enjoyment and Satisfaction Questionnaire,¹² both reliable and valid self-report measures, assessed current quality of life. The Social Adjustment Scale Self-Report,¹³ a reliable and valid self-report measure, evaluated current social functioning. (Data were available for 139 subjects for the Quality of Life Enjoyment and Satisfaction Questionnaire and for 142 subjects for the Social Adjustment Scale Self-Report because these measures were added later in the study). The severity of lifetime (past or current) BDD was determined with a question from the BDD Form that assessed the greatest social interference and the greatest academic, occupational, or role interference ever experienced because of BDD on a 9-point scale ranging from none to extreme (interference in functioning is a DSM-IV criterion for the diagnosis of BDD). Current severity of BDD was assessed with the reliable Yale-Brown Obsessive Compulsive Scale Modified for BDD,¹⁴ a semistructured measure. The Brown Assessment of Beliefs Scale,¹⁵ a reliable and valid semistructured measure, evaluated the current delusional quality of appearance-related beliefs (i.e., how convinced subjects were that they truly appeared abnormal). Whether BDD had ever been delusional was assessed with the Structured Clinical Interview for DSM-IV—Patient Version.¹⁶

Statistical Analyses

Frequencies, means, and standard deviations were calculated. Between-group differences for subjects who had received nonpsychiatric treatment and those who had not were examined by using chi-square analysis for categorical variables and t tests for continuous variables. An alpha level of $p < 0.05$ was used for all analyses. All tests were two-tailed.

RESULTS

As shown in Table 1, 142 subjects (71.0%) sought non-psychiatric treatment, and 128 (64.0%) received such treatment. Treatment was most commonly sought and received from dermatologists, followed by surgeons. Among those subjects who sought treatment, treatment was sought from a mean of 2.4 providers (SD = 3.9, range = 1–33) and had a mean number of 9.3 visits to providers (SD = 31.4, range = 1–550). Treatment was sought most commonly for skin, hair, and nose concerns. Four subjects (2.0%) reported that nonpsychiatric treatment triggered the onset of BDD. Nonpsychiatric treatment was first sought at a mean age of 21.7 years (SD = 7.1). Of the 16 adolescents, 10 (62.5%) sought nonpsychiatric treatment (most often, dermatological). Nine adolescents (56.3%) received such treatment. Adolescents first sought nonpsychiatric treatment at a mean age of 14.8 years (SD = 1.5, range = 13–17).

As shown in Table 2, a total of 528 procedures or treatments were sought by the 142 subjects (mean = 3.7 procedures per individual who sought treatment, SD = 3.0, range = 1–20). Four

hundred nineteen of the sought procedures (79.4%) were received (mean = 3.3 procedures per individual who received treatment, SD = 2.8). The most frequently received treatments within each treatment category were topical acne agents, rhinoplasty, collagen injections, electrolysis, and tooth whitening. Twenty-eight (14.0%) of the group sought treatment with isotretinoin, and 24 (12.0%) received it. Seven of these subjects sought more than one course of isotretinoin; five persons received more than one course of isotretinoin. (As indicated in Table 2, a total of 30 courses of treatment were received.)

One hundred nine procedures that were sought were not received (20.6% of the sought procedures). The reasons for not receiving treatment were the following: provider refusal to perform the procedure (N = 40, 36.7%), cost (N = 21, 19.3%), miscellaneous reasons (N = 22, 20.2%), fear (N = 18, 16.5%), and being dissuaded by another person (N = 8, 7.3%).

As shown in Table 3, the most frequent treatment outcome was no change in overall symptoms of BDD (91.0%). Only 15 (3.6%) of all procedures improved overall BDD symptoms (i.e., decreased preoccupation, distress, and impairment related to all excessive body image concerns). Thirteen of the procedures that improved BDD were dermatological (only one was with isotretinoin), one was surgical (jowl lift), and one was dental (braces). As shown in Table 3, the subjects reported that a higher proportion of the treatments (26.7%) improved the actual appearance of the treated “defect”; however, concern and preoccupation with the treated body part diminished after only 17.7% of all treatments. Some subjects reported that even though the “defect” actually looked better after treatment, they did not worry less about it, or they worried that it would look worse again. In most cases in which the subjects thought the perceived “defect” actually looked better and worried less about it, they were still concerned about other body areas or developed new appearance concerns, such that overall severity of BDD diminished with only 3.6% of all treatments.

There were no significant differences between treatment receivers (N = 128) and nonreceivers (N = 72) with respect to demographic characteristics, current or lifetime delusionality, current or lifetime BDD severity, and psychosocial functioning/quality of life. Of note, 20 subjects (83.3%) who received isotretinoin reported a history of suicidal ideation, and six (25.0%) had attempted suicide. However, isotretinoin receivers were not more likely to report suicidal ideation (83.3% versus 77.3%; $\chi^2=0.45$, df=1, $p=0.50$) or to have attempted suicide (25.0% versus 27.8%; $\chi^2=0.09$, df=1, $p=0.77$) than the subjects who were never treated with isotretinoin.

We also examined receipt of nonpsychiatric treatment among subjects who were currently receiving mental health treatment at the time of the baseline interview and those who were not. There was a trend for more participants currently receiving mental health treatment to have received any type of nonpsychiatric treatment ($p=0.101$), dermatological treatment ($p=0.107$), or surgery ($p=0.065$), although none of these differences achieved statistical significance. Nine subjects reported no lifetime history of mental health treatment. Of these nine, two had sought surgery but did not receive it, and two had received a total of four dermatological treatments, none of which improved their overall symptoms of BDD.

DISCUSSION

The majority of subjects in this study sought and received nonpsychiatric treatment, primarily from dermatologists and surgeons. Topical agents were the most common dermatological treatment sought and received. Consistent with national plastic surgery trends,^{17,18} rhinoplasty, liposuction, and breast augmentation were among the most frequently sought surgical procedures. Minimally invasive, paraprofessional, and dental procedures were also frequently obtained.

Our findings are similar to those of previous studies, which found high rates of nonpsychiatric treatment (e.g., dermatological and surgical) among BDD patients.³⁻⁵ Consistent with the report of Veale,⁶ rhinoplasty was the most common surgical procedure. Also consistent with previous studies,^{3,6} we found that such treatment rarely improved the overall severity of BDD. Although in the subjects' view, a quarter of all treatments improved the appearance of the treated body part, their preoccupation and concern with the treated body part less often diminished, and only 3.6% of all treatments led to overall improvement in BDD symptoms.

A striking discrepancy between the proportion of treatments resulting in perceived improvements in appearance and the proportion resulting in overall BDD improvement occurred for surgery (35.1% versus 1.3%, respectively). Although patients with BDD may report improvements in appearance postoperatively, surgeons may be unaware that patients' BDD symptoms rarely improve. This finding, along with reports that some patients with BDD may become litigious or violent toward their treating surgeon,^{2,7} suggests that BDD may be a contraindication for plastic surgery, although this issue deserves further study.

Of note, 12.0% of the study group received isotretinoin, 83.3% of whom reported a history of suicidal ideation and 25.0% of whom had attempted suicide. Although these rates are high, they were nearly identical to rates in subjects who had never received isotretinoin. Although the isotretinoin package insert warns that it may cause depression and, rarely, suicidal ideation, suicide attempts, and suicide, our data suggest that suicidal thinking and behavior are characteristic of individuals with BDD more generally and are not unique to the subgroup treated with this medication. However, because our study was retrospective, we cannot determine when isotretinoin treatment occurred in relation to suicidality, nor can we rule out the possibility that suicidality was triggered or exacerbated by isotretinoin. In our clinical experience, when BDD patients treated with isotretinoin become suicidal, this often appears related to despair over its failure to cure their perceived acne. Indeed, in our study, the subjects reported that isotretinoin improved BDD symptoms in only one (3%) of 30 treatments. This finding contrasts with a previous study in which 14 of 16 patients¹⁹ with dysmorphophobia (a previous term for BDD) reportedly benefited from isotretinoin. However, it is unclear whether the patients in that study met DSM-IV criteria for BDD, especially because the study was done before the DSM-IV BDD criteria were developed. In addition, most patients in that study later "relapsed" and sought additional treatment. Further studies are needed to examine important questions about the relationship between isotretinoin, BDD, and suicidality.

Four recent studies reported that the risk of suicide is two to three times higher in women with silicone breast implants than in women in the general population.²⁰ Another recent study found an increased prevalence²¹ of prior psychiatric hospitalization among women who underwent breast augmentation. Although the cause of these associations is unknown, it is possible that some suicides and hospitalizations may have occurred in women with BDD, given that a high proportion of persons with BDD report suicidality and a history of psychiatric hospitalization¹ and also receive cosmetic surgery. These important issues, too, deserve further investigation.

Of note, 56.3% of the adolescents received nonpsychiatric treatment. According to the American Society of Aesthetic Plastic Surgeons, 223,594 procedures were performed in adolescents in 2003.¹⁸ This represents a nearly fourfold increase in the number of procedures performed in adolescents since 1997.¹⁸ This increase, combined with BDD's typical onset in adolescence and our finding that individuals with BDD usually first seek nonpsychiatric treatment in their early 20s, suggests that surgeons and other providers should screen young patients for BDD.

We found no differences among nonpsychiatric treatment receivers and nonreceivers in terms of clinical or demographic characteristics. These findings are similar to those from a previous study that found no significant relationship between the number of treatments sought or received and current BDD severity or delusionality.³ However, a limitation of our study is that several measures assessed current—rather than past—characteristics, which may have attenuated relationships among these variables. BDD severity and delusionality can change over time, and it is possible that nonpsychiatric treatments were received when BDD was more severe or insight was poorer. Prospective studies are needed to further investigate these relationships.

This study has several limitations. Data on nonpsychiatric treatment were obtained retrospectively, and the psychometric properties of the instrument used to assess nonpsychiatric treatment history have yet to be evaluated. Future studies should verify procedures sought and received (e.g., through medical records). Our study group was broader than in previous studies in that it did not consist solely of individuals seeking or receiving psychiatric care. However, two-thirds of the subjects were receiving psychiatric treatment at the time of the study assessment, and nearly all had received such treatment in the past. It is possible that individuals who do not improve with nonpsychiatric treatment may be more likely to subsequently seek or be referred for psychiatric treatment, thus potentially biasing the group toward nonpsychiatric treatment failures. Prospective studies of treatment outcome among individuals with BDD who have not sought psychiatric care are needed. Doing such a study in a dermatological or surgical setting, however, could be ethically challenging, given that individuals with BDD appear to rarely benefit from such treatments. Our study also had a number of strengths, including a more diverse group than in most previous studies, which may have increased the generalizability of the findings. In addition, we investigated numerous aspects of nonpsychiatric treatment of BDD that have not previously been examined.

In summary, a majority of persons with BDD seek and receive nonpsychiatric treatment, although such treatment rarely improves overall BDD symptoms. Providers should be aware of BDD, its clinical presentation, and efficacious treatments (serotonin reuptake inhibitors and cognitive behavior therapy).¹ Brief self-report measures²² can be used to screen prospective patients for BDD. Because individuals with BDD often seek nonpsychiatric treatment, providers of such treatments are in an ideal position to identify and refer them for appropriate BDD treatment.

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TABLE 1

Individuals With Body Dysmorphic Disorder (N=200) Who Sought and Received Nonpsychiatric Medical Treatment

Provider	Individuals Who Sought Treatment		Individuals Who Received Treatment		Number of Providers		Number of Visits to Providers	
	N	%	N	%	Mean	SD	Mean	SD
Any provider	142	71.0	128	64.0	2.4	3.9	9.3	31.4
Dermatologist	99	49.5	95	47.5	1.9	1.7	7.4	15.3
Surgeon	63	31.5	39	19.5	2.3	3.8	3.1	4.3
Paraprofessional	32	16.0	30	15.0	1.8	1.8	37.0	90.3
Dentist	24	12.0	19	9.5	2.0	3.5	12.5	20.5
Other physician	23	11.5	19	9.5	1.4	0.8	3.3	2.5

TABLE 2

Types and Frequency of Nonpsychiatric Medical Treatment Sought and Received by 200 Individuals With Body Dysmorphic Disorder

Treatment	Treatment Sought	Treatment Received
Any type of treatment (total)	528	419
Dermatological (total)	303	263
Topical acne agents	118	116
Oral acne agents	76	71
Isotretinoin	38	30
Hair treatments ^a	21	13
Other (e.g., tattoo removal)	17	11
Mole/cyst removal	16	12
Dermabrasion	10	5
Injections for blemishes (antibiotics)	6	5
Depigmentation	1	0
Surgical (total)	118	61
Rhinoplasty	33	23
Liposuction	12	3
Jaw surgery	10	4
Breast augmentation/lift	9	5
Scar revision	7	2
Genital surgery	6	1
Unspecified	5	4
Eye/eyelid surgery	5	1
Abdominoplasty	5	1
Jowl lift	4	2
Vein removal	4	1
Cheek implant	3	2
Chin surgery/implant	3	2
Breast reduction	3	3
Facelift	2	2
Pectoral implants	2	2
Otoplasty	1	0
Cheek implant removal	1	1
Lip grafting	1	1
Realignment of vertebrae	1	1
Bowleg fixing	1	0
Minimally invasive procedures (total) ^b	30	26
Collagen injections	14	13
Microdermabrasion	5	5
Laser treatment	4	3
Chemical peel	2	2
Vein injections (sclerotherapy)	3	2
Botulinum toxin type A injections	1	1
Enzyme peel	1	0
Paraprofessional (total)	43	42
Electrolysis	31	30
Skin care/facials/heat wrap	7	7
Eyebrow dye/tattoo	3	3
Depiltron	1	1
Massage therapy for cellulite	1	1
Dental (total)	31	26
Whitening	11	7
Braces	7	6
Oral surgery	3	3
Teeth filing	2	2
Implants	2	2
Crown	2	2
Gum shaving	1	1
Bridge	1	1
Bonding	1	1
Tooth removal	1	1
Other (total)	3	1
Diet pills	3	1

^aIncluded finasteride tablets, topical minoxidil, cortical crown treatments, and hair transplants.

^bTotal dermatological procedures=273 received, total surgical procedures=77.

TABLE 3
Outcome of Medical Treatments Received by 200 Individuals With Body Dysmorphic Disorder

Variable and Outcome	Any treatment ^a (N=419)		Dermatological ^a (N=273)		Surgical ^b (N=77)		Paraprofessional ^b (N=42)		Dental (N=26)		Other (N=1)	
	N	%	N	%	N	%	N	%	N	%	N	%
Overall symptoms of body dysmorphic disorder												
Improved	15	3.6	13	4.9	1	1.3	0	0.0	1	3.8	0	0.0
No change	374	91.0	242	91.3	69	89.6	39	92.9	23	88.5	1	100
Worse	22	5.4	10	3.7	7	9.1	3	7.1	2	7.7	0	0.0
Concern about treated body part												
Improved	73	17.7	34	12.8	21	27.3	6	14.3	12	46.2	0	0.0
No change	311	75.5	216	81.2	49	63.6	33	78.6	12	46.2	1	100
Worse	28	6.8	16	6.0	7	9.1	3	7.1	2	7.7	0	0.0
Appearance of treated body part												
Improved	110	26.7	62	23.3	27	35.1	6	14.3	14	53.8	1	100
No change	281	68.2	192	72.2	44	57.1	33	78.6	12	46.2	0	0.0
Worse	21	5.1	12	4.5	6	7.8	3	7.1	0	0.0	0	0.0

^aThe total number for these categories is slightly larger than the sum of the individual Ns owing to occasional missing data.

^bThe minimally invasive procedures given in Table 2 were coded for this table as dermatological (microdermabrasion and sclerotherapy) or surgical (collagen injections, laser surgery, and botulinum toxin type A injections).