

Quality of life in body dysmorphic disorder

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Body dysmorphic disorder (BDD) has a significant impact on the patients' quality of life (QOL). This is an initial literature review of QOL in patients with BDD, examining the extent of QOL impairments, the impact of psychiatric comorbidity on QOL, and the effect of treatment on QOL in BDD. Studies were identified through PubMed, MEDLINE, and PsycINFO searches from 1960–2011 using the keywords: "quality of life," "body dysmorphic disorder," "dysmorphophobia," and "body image." Studies included in this review were selected using specific criteria by two authors reaching consensus. Most BDD research studies have used symptom severity measures mainly to study BDD and its treatments. BDD with or without comorbidities is significantly associated with poor QOL and functioning. Studies show that treatment of BDD, either by psychopharmacological treatments such as selective serotonin reuptake inhibitors (SSRIs) or cognitive behavior therapy, might have positive effects on QOL, although these results need to be replicated in larger studies. In conclusion, QOL could add significant value to the assessment of BDD if used as one of the primary measures in research and clinical work in BDD, by providing more information and clearer understanding on the impact of the illness on satisfaction with activities of daily life and overall sense of wellbeing before and after treatment.

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FOCUS POINTS

- QOL is poorly studied albeit gravely impaired in patients with BDD.
- Initial evidence show that therapy and medications improve QOL in BDD.
- Using QOL as one of the primary outcome measures of BDD could add significant value to treatment.

Introduction

Body dysmorphic disorder (BDD), previously known as dysmorphophobia, is a severe somatoform disorder typified by a distressing or impairing preoccupation with an imagined or slight defect in appearance, as defined by the *Diagnostic & Statistical Manual*

(DSM-IV).¹ According to DSM-IV, BDD is characterized by three major criteria:

- Criterion A: The patient is preoccupied with a defect in appearance; the defect is either imagined, or if a slight physical anomaly is present, the individual's concern is markedly excessive.
- Criterion B: There will be significant distress or impairment in social, occupational, or other important areas of functioning caused by the preoccupation.
- Criterion C: The preoccupation is not caused by another mental disorder (e.g., dissatisfaction with body shape and size in anorexia nervosa).

BDD affects nearly 1.7% of the population,^{2,3} with more prevalence and earlier in life symptom development in women.⁴ Males typically present with more severe pathology and comorbid substance use disorders.⁵ In a U.S. nationwide sample of individuals with and without BDD, Koran *et al.* found that the prevalence of BDD decreases after age 44, and those who meet BDD criteria are less likely to be married.⁶ Those suffering from BDD have decreased perceived general functioning, increased suicide attempts,⁷ decreased social interactions, increased depression,⁷ and decreased QOL compared to the rest of the general U.S. population.^{7–9} Individuals with BDD often engage in intense mirror gazing and frequent comparisons

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between themselves and others.¹⁰ Patients with BDD have high lifetime rates of psychiatric hospitalization (48%), suicidal ideation (45–82%), and suicide attempts (22–24%).¹¹ Rief *et al.* (2006) reported that patients with BDD have higher rates of suicidal ideation and suicide attempts than the general population (19% vs. 3% and 7% vs. 1%, respectively).² BDD patients also had higher somatization scores compared to individuals who did not meet BDD criteria in the general population.² Phillips reported that 80% of BDD patients have experienced lifetime suicidal ideation, and 24% to 28% have attempted suicide.¹² BDD patients tend to seek cosmetic rather than psychiatric treatment. Effective interventions include psychiatric medications and cognitive behavioral therapy (CBT). The most frequently prescribed medications are selective serotonin reuptake inhibitors (SSRIs). Outcome of interventions is usually measured using the Yale-Brown Obsessive Compulsive Scale, Modified for BDD (BDD-YBOCS).

Quality of life (QOL) describes an individual's subjective perception of his or her well-being in terms of physical, psychological, and social functioning. A relatively small number of studies has been performed to examine BDD and QOL, which is not surprising considering that BDD has been historically underdiagnosed. Although QOL has been studied extensively for the past 10 years, there is scarce research incorporating QOL as an outcome measure. QOL measurement utilizes a wide variety of instruments divided into main two classes of measures: general QOL measures and disease-specific QOL measures. The commonly referenced QOL measures in BDD are detailed in Table 1.

General measures, such as the 36-item Medical Outcomes Study–Short Form (SF-36) and the Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q), facilitate comparing QOL impairments across disorders, whereas disease-specific measures, such as the Body Image Quality of Life Inventory (BIQLI), enable focusing on the unique aspects of QOL impairments in the illness being assessed. Although the BIQLI was specifically utilized to assess QOL in body image disorders, it might be helpful to develop a BDD-specific QOL measure, as the BIQLI contains items about weight and eating but none on preoccupation with appearance defects or body parts.

Symptomatology and morbidity of BDD have become better known in the past several years; however BDD's consequences on the QOL of patients have not been fully explored. The objective of this article is to present an initial literature review of QOL in patients with BDD. In this review, we plan to investigate (1) the impact of BDD on a patient's QOL, (2) the impact of psychiatric comorbidity on QOL in BDD, and (3) how treatment of BDD affects QOL.

Methods

Search strategy

Studies were identified through PubMed, MEDLINE, and PsycINFO computer-based literature searches from 1960 to 2011. The following keywords were used: "quality of life," "body dysmorphic disorder," "dysmorphophobia," and "body image."

Selection criteria

Studies of female and male adult and adolescent participants, age 12 and older, were chosen. Studies were required to be published in peer-reviewed journals and appeared in English, or with an available English translation. A third criterion was that the studies must include at least one QOL measure.

Data extraction and yield

Two authors reached consensus on which studies to include, using the above selection criteria. After identifying the studies, extracted data included age, gender, the results of the assessment tests employed by the authors, statistical significance of the studies cited, and the most relevant findings of these studies.

Results

There is a paucity of studies of QOL in BDD. Most BDD research studies have used symptom severity measures mainly to study BDD and its treatments. However, using search strategy, we identified eight studies for the review. One more study comparing several measures of body image including QOL in anorexia, bulimia, and BDD, and another pilot study on the novel use of an approved medication, were added to results. The findings from the studies are highlighted in Table 2.

Here we discuss the findings from the literature review as they relate to the research topics we posed in the Introduction to this article.

1. How does BDD affect QOL?

BDD patients frequently report low health-related QOL,⁸ including decreased general mental health, enjoyment, social adjustment, and social functioning.¹³ QOL factors affected by BDD include family life, well-being, and job security. Patients with BDD have lower income, less likelihood of living with a partner, and a higher unemployment rate than the general population.²

Studies have shown that patients with BDD have notably poor mental health status and mental health-related quality of life (mental health, role

Table 1. Quality of life measures in body dysmorphic disorder

Instrument/reference	Author(s)	Description	Administration	Scoring	Psychometrics	Translations
36-item Short-form Health Survey (SF-36) Ware JE, Sherbourne CD. The MOS36-item Short-Form Health Survey (SF-36): I. conceptual framework and item selection. <i>Med Care.</i> 1992; 30: 473–483.	Medical Outcomes Trust (MOT), Health Assessment Lab (HAL), Quality Metric, and RAND, since 1992	SF-36 is a general QOL measure that assesses eight health domains: (1) Physical functioning, (2) Role limitations due to physical health, (3) Bodily pain, (4) General health perceptions, (5) Vitality, (6) Social functioning, (7) Role limitations due to emotional problems, and (8) Mental health	36-item self-administered questionnaire, or given by a trained interviewer. Items are rated on a 3- to 6-point scales during the past 4 weeks. Briefer versions available: SF-12 and SF-8.	Best score = 100, and lowest score = 0. Population mean-score is 50 (SD = 10) on the physical composite score (PCS) and the mental composite score (MCS)	Internal consistency: Cronbach’s alpha for each of the 8 scales is equal or greater than 0.80. Test–retest reliability = 0.80	Available in 140-plus languages
Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q) Endicott J, Nee J, Harrison W, Blumenthal R. Quality of Life Enjoyment and Satisfaction Questionnaire: a new measure. <i>Psychopharmacol Bull.</i> 1993; 29(2): 321–326.	Jean Endicott, PhD <i>et al.</i> , in 1993	Q-LES-Q short form is a general QOL measure that assesses 16 items: The first 14 items, the patient rates his or her satisfaction with (1) Physical health, (2) Mood, (3) Work, (4) Household activities, (5) Social relationships, (6) Family relationships, (7) Leisure time activities, (8) Ability to function in daily life, (9) Sex drive/interest/performance, (10) Economic status, (11) Living/housing situation, (12) Ability to get around physically, (13) Vision, and (14) Overall sense of wellbeing. The last two items assess, (15) Satisfaction with medications and (16) Overall life satisfaction and contentment. Long form is 93 items	Short-form is a 16-item self-administered questionnaire each rated on a 5-point scale (1 = very poor, 2 = poor, 3 = fair, 4 = good, and 5 = very good) during the past week.	The sum of the first 14 items is converted to a percentage where best score = 100 and worst score = 0. Community norms value is 78.3 (SD = 11.3).	Internal consistency: Cronbach’s alpha = 0.90 Test–retest reliability = 0.86	Available in 20-plus languages

Table 1. Continued

Instrument/reference	Author(s)	Description	Administration	Scoring	Psychometrics	Translations
Body Image Quality of Life Inventory (BIQLI) Cash, TF, Fleming, EC. The impact of body-image experiences: development of the Body Image Quality of Life Inventory. <i>Int J Eat Disord.</i> 2002; 31, 455–460.	Thomas Cash, PhD, and Emily Fleming, PhD, in 2002	BIQLI is a body image-specific QOL measure that assesses 19 items: (1) Adequacy or self-worth, (2) Masculinity or femininity, (3) Interaction with same sex, (4) Interaction with opposite sex, (5) Meeting new people, (6) Work or school, (7) Relationships with friends, (8) Relationships with family, (9) Day-to-day emotions, (10) Satisfaction with life, (11) Acceptability as a sexual partner, (12) Enjoyment of sex life, (13) Control of what and how much to eat, (14) Control of weight, (15) Physical exercise, (16) Willingness to call attention to appearance, (17) Daily grooming, (18) Confidence in everyday life, and (19) Happiness in everyday life	19-item self-administered questionnaire, each rated on a 7-point scale ranging from very negative (-3) to very positive (+3) effects on body image	Average numeric score of the 19 items is calculated. Positive scores reflect positive body image and vice versa.	Internal consistency: Cronbach's alpha = 0.95 Test-retest reliability over 2–3 weeks was 0.79.	English and Spanish

limitations due to emotional problems, and social functioning). A study comparing BDD patients to anorexia nervosa (AN) patients, bulimia nervosa (BN) patients, and normal controls, revealed that BDD has a more negative impact on QOL than AN and BN, as measured using the BIQLI.¹⁴ Physical health-related quality of life (physical functioning, role limitations due to physical problems, and bodily pain) was also affected in patients with BDD, but this was not as significant as the effect on mental health-related quality of life.⁸ Evidence shows that the greater the severity of BDD symptoms, the higher the association with poorer mental health-related quality of life. In a cross-sectional study using multivariate regression analysis, Marques *et al.* found that more severe BDD symptoms, older age, female gender, no medical insurance, and more body parts of concern to be negative predictors of QOL, i.e., more significantly associated with QOL impairment.¹⁵

It is clear from the studies that BDD patients not only suffer from the impact of symptom severity and functioning impairments, but also BDD has a significant negative impact on QOL. Future investigations should examine if QOL improves as symptom intensity decreases in longitudinal studies (with or without treatment), and target the factors that contribute to QOL impairments in mild, moderate, and severe BDD over time.

2. What is the impact of psychiatric comorbidity on QOL in BDD?

There are a number of psychiatric disorders that are highly comorbid with BDD, such as depression, obsessive compulsive disorder (OCD), eating disorders, social phobia, and substance use,^{16,17} with one disease aggravating or fueling the other.^{2,5} When combined, OCD and BDD create higher impairment on QOL, which suggests that the two are additive or synergistic.¹⁸ Coles *et al.* in 2006 made a clear statement in favor of a direct relationship between social phobia and BDD with 39.3% (n = 178) of patients with lifetime comorbidity.¹⁹ Eating disorders have been studied and reported as comorbid factors in BDD.⁴ In this study, 32.5% of the patients had a comorbid lifetime eating disorder, with 9% having AN, 6.5% with BN, and 17.5% experiencing an eating disorder not otherwise specified (NOS). The need for more intensive mental health interventions (regular psychotherapy sessions and psychotropic medications) for patients with combined BDD and eating disorder is higher than for patients with BDD and no eating disorder.⁴ Grant *et al.* found that 68% of subjects with comorbid substance use disorders (SUD) blamed BDD for their substance use.²⁰ The reasons for the elevated

Table 2. Studies on Quality of Life in Body Dysmorphic Disorder

Reference	QOL Measure(s)	Other Measures	Number of patients	Mean Age	Gender	Scores	P value	Summary of Findings
Phillips KA, (2000) ⁸	SF-36	n/a	62	mean age is 33.5 SD = 11.4, range = 17 to 73	Female: 41 Males: 21	Worse scores than the rest of the US population	SF-36: p = .000	BDD patients have a poorer mental health related QOL
Philips KA, Rasmussen SA, (2004) ¹¹	SF-36	SOFAS, Life – Rift	60	Mean age = 32.2 years [SD = 10.5]	41 [68.3%] female patients	SF-36 mental health subscale: r = -0.33, df = 57, SF-36 social functioning subscale: r = -0.48, df = 57, SF-36 role limitations subscale: r = -0.44, df = 55, SOFAS: r = -0.39, df = 58, LIFE-RIFT total score: r = 0.73, df = 58,	SF-36 p < 0.001; SOFAS p = 0.002; LIFE-RIFT p < 0.001	The Yale Brown OCD scale modified for BDD showed a net improvement in QOL Subjects treated with Fluoxetine performed better the placebo group
Phillips KA <i>et al.</i> , (2005) ⁹	SF-36, QLESQ,	SAS	176	32.5 ± 12.1 years (range, 14–64)	65.9% (n = 116) were female.	SF-36: 1.8 SD poorer than US pop norms, QLESQ: 2.1 poorer than norms SASSR: 2.4 SD poorer than norms	P < .05	More severe BDD symptoms were associated with poorer QOL and functioning on all measures.
Grant <i>et al.</i> , (2005) ²⁰	SF-36, QLESQ,	BDD-YBOCS, BABS, RIF.	176	32.5 +/- 12.3 Years	Female 71%	48.9% of BDD subjects had a life time SUD, 35.8% had substance dependence, 29% of which was alcohol. 17% had current SU/AD.	P + 0.004 for higher rate of suicide attempts for subjects comorbid SUD	68% of subjects with life time SUD incriminated their BDD for this SUD
Philips K A <i>et al.</i> , (2006) ⁵	SF-36 Q-LES-Q	n/a	137	31.2 ± 12.3	Female	SF-36 Mental Health: 42.1 +/- 18.2 SF-36 Emotional well-being: 26.3 +/- 35.9 SF-36 Social functioning: 45.7 +/- 26.3 Q-LES-Q: 50.3 +/- 16.1	P values: 0.180–0.811 – 0.318–0.725	Age of BDD onset: 15.9 +/- 7.1, Females were more likely to have eating disorder. Comparable high proportions of men and women have experience lifetime suicidal ideation and had attempted suicide.

Table 2. Continued

Reference	QOL Measure(s)	Other Measures	Number of patients	Mean Age	Gender	Scores	P value	Summary of Findings
Philips K A <i>et al.</i> , (2006) (as above)	SF-36 Q-LES-Q	n/a	63	35.7 ± 11.2	Male	SF-36 Mental Health: 37.7 +/– 20.7 SF-36 Emotional well-being: 24.8 +/– 36.4 SF-36 Social functioning: 41.2 +/– 24.9 Q-LES-Q: 49.2 +/– 17.2	P values: 0.180-0.811 – 0.318-0.725	Age of BDD onset: 17.5 +/– 6.9 Men has poorer quality of life than women in that sample. Males were more likely to have substance use disorder, more likely single and living alone. The areas of concern were different from the women.
Didie ER <i>et al.</i> , (2007) ²³	SF-36 Q-LES-Q	n/a	45 BDD Only	36.5 ± 12.7	Female: 30	SF-36: 44.4 +/– 17.9 Q-LES-Q: 51.1 +/– 13.1	P Value: 0.001–0.032	Patients with BDD and OCD have greater impairment in function and QOL
Didie ER <i>et al.</i> , (2007) (as above)	SF-36 Q-LES-Q	n/a	40 BDD + OCD	36.5 ± 11.7	Female: 18	SF-36: 37.1 +/– 22.4 Q-LES-Q: 45.7 +/– 17.7	P Value: 0.001–0.032	All subjects have both BDD and OCD Comorbidity: Their quality of life is very poor compared to one of the patients with BDD alone.
Jorje RT <i>et al.</i> , (2010) ²²	SF-36	BDDE, RSE, HAQ	82 patients, (43 RA, 39 control)	Between 18 and 70 year of age.	85.4% Females	SF-36 Mental Health: 61.4 RA group versus 85.6 Control group. BDDE: 51.8 RA group versus 22.6 control group. Rosenberg: 9.4 RA group versus 5.2 Control group. HAQ: 1.1 RA group versus 0.02 Control group.	P < 0.001	Individuals with RA had a worse body image than individuals without this condition. Body image had a direct correlation with self-esteem, function, and QOL.
Marques L <i>et al.</i> , (2011) ¹⁵	QLESQ	BDD-YBOCS, SDS	256	≥18 years Mean age is 31.08	Male: 62 Female: 194	Internet survey checking demographics, BDD Phenomenology, treatment and Impairment.	QLESQ, BDD-YBOCSP value = 0.001 SDS < 0.001	BDD Symptoms were inversely associated with QOL and directly associated with disability in all domains.

Table 2. Continued

Reference	QOL Measure(s)	Other Measures	Number of patients	Mean Age	Gender	Scores	P value	Summary of Findings
Hrabosky J <i>et al.</i> , (2009) ¹⁴	Body Image Quality-of-Life Inventory (BIQLI)	MBSRQ-AS, ASI-R	Anorexia nervosa (AN = 35), bulimia nervosa (BN = 26), BDD = 56)	18–63 years (Mean age = 30.7, SD = 11.1).	AN and BN groups women only. BDD group women (n = 39, 70%) and men (n = 17, 30%).	Mean BIQLI in BDD = -1.81 (SD = 0.68)	p < .05	BDD patients reported worse impact of body image on quality of life (BIQLI) compared to AN and BN.
Phillips <i>et al.</i> , (2009) ²⁸	Q-LES-Q	BBD-YBOCS, BDD-CGI, BABS, HAM-D, GAF, SOFAS	17 BDD with 11 completed treatment with levetiracetam	23–56 years, Mean age = 36.8 (SD = 10.2)	64.7% female	Q-LES-Q improved from 49.5 (SD = 10.3) to 57.4 (SD = 14.8).	p = .034	Levetiracetam open label trial showed significant improvement seen on clinical measures for all subjects. On the Q-LES-Q, scores significantly improved only among study completers.

Abbreviations

- ASI-R: Appearance Schemas Inventory-Revised
- BABS: Brown Assessment of Beliefs Scale
- BDD: Body Dysmorphic Disorder.
- BDDE: Body Dysmorphic Disorder Examination.
- HAQ: Health Assessment Questionnaire.
- IAT: Implicit Attractive Important.
- MBSRQ-AS : Multidimensional Body-Self Relations Questionnaire-Appearance Scales
- OCD: Obsessive Compulsive Disorder.
- P: Power.
- Q-LES-Q: Quality of Life, Enjoyment and Satisfaction Questionnaire.
- QoL: Quality of Life.
- RA: Rheumatoid arthritis.
- RSE: Rosenberg Self-esteem Scale.
- SD: Standard Deviation.
- SDS: Sheehan Disability Scale .
- SOFAS: Social and Occupational Functioning Scale.
- SUD: Substance Use Disorder.
- YBOCS: Yale Brown Obsessive Compulsive Scale.

rate of lifetime SUD among BDD subjects are unclear, although one possibility is the unusually high levels of distress reported by patients with BDD.²⁰ Recognizing the relationship between BDD and SUD is important, as identifying and treating SUD may significantly improve the prognosis of BDD.^{21,22}

A few studies were performed on the impact of comorbidity on QOL in BDD. A study on 210 OCD subjects compared the QOL and the functioning of the patients. Forty-five subjects were affected with BDD only, and 40 presented with both disorders. The study showed that patients with BDD have lower QOL than controls, and those with both OCD and BDD had even poorer QOL than either of the former groups.²³ Studies of comorbid BDD and major depressive disorder (MDD) showed significant associations, with improvement in major depression predicting BDD remission, and vice versa.²⁴

The results suggest that psychiatric comorbidity adds further to QOL impairments in BDD. There seems to be a tremendous need for further investigation of QOL in conditions that are commonly comorbid with BDD, such as depression, which has its own independent significant impact on QOL.

3. How does treatment of BDD affect QOL?

Despite the fact that BDD patients tend to seek cosmetic rather than psychiatric treatment, empirical support has been shown for psychopharmacological interventions and CBT for BDD,^{25–28} but not for cosmetic or dermatological interventions.¹⁷

Psychopharmacological interventions

Body dysmorphic disorder-related distress, depressive symptoms, anxiety, anger/hostility, functioning, and suicidality often significantly improve with SSRIs.²⁷ However, studies of the impact of psychiatric medications on QOL in BDD are scarce. In a study conducted by Phillips and Rasmussen in 2004,¹¹ the investigators found that patient QOL and psychological functioning improved more with fluoxetine compared to placebo after 12 weeks of treatment as measured by the SF-36, Social and Occupational Functioning Assessment Scale (SOFAS), and Longitudinal Interval Follow-up Evaluation–Range of Impaired Functioning Tool (LIFE-RIFT). Improvements were highly correlated with improvement in body dysmorphic disorder symptoms on SOFAS and LIFE-RIFT scales and were less noticed on the SF-36 scale. However, fluoxetine responders improved more significantly on the SF-36 mental component scale and on the SF-36 social functioning subscale compared to fluoxetine non-responders. For all 60 subjects, a decrease in severity of BDD was significantly correlated with

improvement on all measures of QOL.¹¹ A pilot study of 17 subjects exploring the efficacy and safety of the antiepileptic medication levetiracetam revealed statistically significant improvement of BDD symptoms. QOL improvement, as measured by the Q-LES-Q, reached statistical significance only for study completers ($n = 11$, $p < 0.034$).²⁸

CBT

Although a meta-analysis of BDD randomized clinical trials conducted by Williams *et al.* in 2006²⁶ suggested that CBT may be the most useful treatment, the impact of CBT on QOL in BDD was not formally studied in the research studies.

Improvements in quality of life and functioning have the potential to improve patients' treatment adherence, reduce the economic impact of BDD, and enhance long-term treatment outcomes of BDD.¹⁵ The impact of treatment of BDD on QOL requires more investigation with large-sample longitudinal clinical studies testing the impact of medications, psychotherapy, and their combination on QOL.

Conclusions

Despite the fact that QOL in BDD is poorly studied, this initial review shows that QOL is gravely impaired in patients with BDD. BDD affects a broad range of domains for QOL. Awareness of psychiatric comorbidity is important in order to better assess and treat individuals with BDD as these individuals do experience much poorer functioning and QOL. Initial evidence shows positive impact of pharmacological and psychotherapeutic interventions on QOL in BDD. As BDD has been traditionally under-diagnosed, it is important to examine and understand the effects of BDD on all domains of mental and physical health. Using QOL as one of the primary measures of the negative effects of BDD could add significant value to the assessment of BDD, e.g., by providing more information and clearer understanding on the impact of the illness. This includes satisfaction with activities of daily life and overall sense of wellbeing before and after treatment. Future studies should give more attention to investigating the factors that might potentially affect the interaction between BDD symptom severity, functioning, and QOL.

Disclosures

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