

Body Dysmorphic Disorder

Amita Jassi (DClinPsy)*^a and Georgina Krebs (DClinPsy, PhD)^{a, b}

^a National & Specialist OCD, BDD, and Related Disorders Service, South London and Maudsley NHS Trust, London, UK.

^b University College London, Department of Clinical, Educational and Health Psychology, London, UK.

*Corresponding author: Amita Jassi, National & Specialist OCD, BDD, and Related Disorders Service, South London and Maudsley NHS Trust, UK, SE5 8AZ, UK. Email: amita.jassi@slam.nhs.uk. Telephone number: +44 (0)203 228 5222

Georgina Krebs, University College London, Department of Clinical, Educational and Health Psychology, 1-19 Torrington Place, London, WC1E 7HB, UK. Email: g.krebs@ucl.ac.uk. Telephone number: +44 (0) 20 7679 1785

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Synopsis

The paper gives a summary of current knowledge of body dysmorphic disorder (BDD) across the lifespan. An overview of the epidemiology and phenomenology of this condition is provided, as well as clinical perspectives on assessment and treatment. Barriers to accessing treatment are considered, along with recent developments to improve access. Future directions in research and clinical care for this population are summarised.

Keywords

Body dysmorphic disorder (BDD); cognitive behaviour therapy (CBT); selective serotonin re-uptake inhibitors (SSRIs); cosmetic procedures; risk assessment.

Key points/clinical care points

- BDD is a common and treatable condition, with evidence-based recommended treatments including cognitive behavior therapy (CBT) and serotonin reuptake inhibitor (SRI) medication.
- BDD is strikingly underdiagnosed, for a range of reasons including shame and embarrassment about disclosing appearance concerns, sufferers seeking cosmetic procedures instead of mental health support, and BDD being misdiagnosed as another conditions (e.g. social anxiety disorder or depression).
- A thorough and dynamic risk assessment is key, and it is important to assess whether they desire or have undertaken cosmetic procedures, including ‘DIY’ procedures.
- Barriers to accessing CBT are being tackled with the development of internet and app-based CBT, which show promising outcomes.

The nature of BDD

The cardinal feature of body dysmorphic disorder (BDD) is excessive and persistent preoccupation with perceived flaws in physical appearance^{1,2}. These perceived flaws are unobservable or appear very minimal to other people but are nevertheless a source of great distress for the BDD sufferer. The focus of preoccupation can vary greatly in BDD, but the most commonly reported appearance concerns relate to facial features, such as nose, eyes, teeth, skin, and hair^{3,4}. Most individuals with BDD have worries about multiple features, although some of these may be more prominent than others. On the other hand, some individuals with BDD cannot pinpoint their concerns to *specific* aspects of their appearance, but instead describe *general* appearance worries, and may say that they look ‘ugly’, ‘hideous’ or even ‘abnormal’.

In an attempt to cope with appearance concerns, BDD sufferers typically engage in a range of repetitive behaviours and mental acts, often aimed at checking, camouflaging or correcting their perceived defects^{1,2}. Checking behaviours may involve repeatedly looking in mirrors or other reflective surfaces, taking selfies or physically touching the perceived flaw.

Camouflaging can include concealing perceived flaws with excessive make up or clothing (e.g. covering hair with a hat) or using other body parts to hide perceived flaws (e.g. holding a hand in front of mouth when talking to cover teeth). Attempts to correct perceived flaws can involve lengthy and costly grooming routines (e.g. excessive use of skin and hair products), skin-picking and seeking cosmetic treatments. Additionally, avoidance is a common feature of BDD, which can range from subtle behaviours (e.g. avoiding looking in reflective surfaces) to extreme and pervasive avoidance (e.g. becoming housebound).

BDD typically develops during teenage years, with two-thirds of adults retrospectively reporting an onset during adolescence⁵. Without treatment, the disorder typically persists⁶ and is associated with marked functional impairment across multiple domains. Among adults, BDD is associated with poor quality of life, high rates of occupational impairment, unemployment, and social isolation³. Similarly, among young people, BDD results in reduced academic performance, dropping out of school and social withdrawal⁴. BDD often co-occurs with other psychiatric disorders, such as depression, social anxiety disorder, obsessive–compulsive disorder (OCD) and eating disorders^{4,7}. BDD is also associated with concerning high rates of suicidality; it is estimated that one in four individuals with BDD attempt suicide⁸.

A striking characteristic of BDD is that many, although not all, sufferers have poor insight^{3,4}. That is, they do not recognise that their appearance concerns are excessive and are convinced that there is a physical problem with their appearance. There has been some debate about whether this feature of BDD should be viewed as a delusionality or lack of insight⁹, with the latter conceptualisation being reflected in the current diagnostic symptoms, in which insight is a specifier for BDD^{1,2}. Importantly, an individual's level of BDD-insight is not static, and can vary greatly over short time intervals¹⁰ and improve with treatment¹¹.

Prevalence

BDD has an estimated point prevalence of approximately 2% in population-based samples of adults and young people¹². Not surprisingly, BDD is substantially more common in certain settings, including psychiatric clinics and cosmetic surgery settings¹². For example, it has

been estimated that approximately one in five people who seek rhinoplasty meet diagnostic criteria for BDD¹², highlighting the importance of screening for BDD in such settings.

Among young people, BDD has been found to be more common in girls than boys, but the sex difference appears to reduce in adulthood, where there is only a slight female preponderance^{12,13}. This raises the possibility that BDD may emerge later in men than women. The features of BDD are broadly similar in males and females. However, males are more likely to experience concerns about muscularity than females (referred to as muscle dysmorphia)^{4,14}. It has also been reported that males are more likely to be preoccupied with their genitals and thinning hair, while females are more likely to be preoccupied with hips, breasts, legs and excessive body hair¹⁵.

Little is known about whether the prevalence and phenomenology of BDD varies across countries, ethnic and/or cultural groups. Most community-based prevalence studies have been conducted within Europe and North America, but BDD has been reported across the world, including in Africa, Asia and South America. Existing studies suggest that the prevalence and core features of BDD are similar across countries¹⁶, but also highlight some potential differences. For example, a survey study conducted in the United States among adults with probable BDD found that Asian participants were more likely to report concerns about straight hair and dark skin, whereas Caucasian participants were more likely to report body shape concerns (e.g. stomach, hips, buttocks)¹⁷. Thus, it has been suggested that individuals from ethnic minority groups who develop BDD may be more likely to be concerned about body parts that are characteristic of their ethnic background, and differentiate from the ethnic majority group¹⁷.

Assessment

BDD can often be overlooked or misdiagnosed in routine clinical practice¹⁸. This in part can be due to similarities with a range of other conditions. Table 1 summarises disorders where differential diagnosis challenges often arise, highlighting similarities and important differences with BDD.

Table 1 Common differential diagnoses in BDD

	Similarity to BDD	Key differentiating features
OCD	Repetitive behaviours e.g. grooming rituals, checking.	BDD rituals are driven by attempts to correct perceived flaw(s) in appearance. OCD rituals can be driven by a range of obsessions (e.g. contamination, 'just right' or need for symmetry).
Excoriation disorder	Repetitive skin picking	BDD skin picking is undertaken to fix a perceived appearance flaw in one's skin. Skin picking in excoriation disorder is typically described as being purely habitual or providing general tension-relief.
Trichotillomania	Repetitive hair pulling	In BDD sufferers may pluck or pull facial or body hair to improve appearance. Hair pulling in trichotillomania is typically described as being purely habitual or providing general tension-relief.
Eating disorders	Distressing preoccupation with body image	In eating disorders, the focus of appearance concern are shape and weight and sufferers engage in eating behaviours and exercise to lose weight.
Social anxiety disorder	Distress and avoidance of social situations	In BDD social avoidance is driven by fear of negative judgement about perceived appearance flaws. In social anxiety disorder this is driven by fear of doing or saying something embarrassing.

Depression	Can involve feelings of ugliness and low self esteem	In depression, appearance concerns are not the <i>primary</i> preoccupation and they are not typically accompanied by repetitive behaviours (e.g. grooming, mirror checking).
Gender Dysphoria	Preoccupation and distress associated with sex signifying aspects of appearance	In gender dysphoria, appearance distress is focussed specifically on sex signifiers (e.g. breasts, penis) as they represent the gender they do not identify with, accompanied by distress of possessing other sex signifiers e.g. tone of voice, and a feeling of not being the gender they wish to be. In BDD whilst appearance concerns can be focussed on a range of areas, including sex signifiers, the distress is focussed on their appearance rather than what they represent.
Visible difference in appearance	Preoccupation and distress associated with appearance	In BDD, the perceived 'flaw' in appearance is not noticeable, or appears as minor, to others. Whereas in those with visible difference, this is seen by others and there may not be a mismatch in perceived and actual appearance.

Adapted from Krebs, Fernandez del la Cruz & Mataix-Cols (2017)¹⁹; with permission.

Studies have indicated that BDD is rarely spontaneously disclosed in routine clinical assessments^{18,20-23}. However, if sufferers are explicitly asked about appearance concerns, they often disclose their symptoms²⁴. For example, a single screening item assessing worries about appearance, as used in the BDD section of the Development and Well-Being Assessment²⁵, was found to correctly identify 97% of young people with BDD²⁶. Beyond screening, the Body Dysmorphic Disorder Yale-Brown Obsessive-Compulsive Scale²⁷ is the gold-standard clinician administered measure of BDD severity. This measure has good psychometric properties in both the adult^{28,29} and adolescent versions³⁰. For young people, it is helpful to have other informants, such as parents, to help assess BDD, especially as young people have poorer insight into their BDD³.

Risk is a common characteristic of BDD and often brings sufferers to the attention of mental services. It is therefore important to conduct a thorough and dynamic risk assessment, with regular reviews. An assessment of suicidality and self-harm is vital given that around 25% of sufferers attempt to end their lives⁸, 80% have suicidal ideation^{8,24} and 50% self-harm⁴. Additionally, given nearly half of sufferers report substance misuse¹⁸, this is also important to assess.

A unique feature of the BDD risk profile is seeking cosmetic procedures; it is estimated that up to 75% of individuals with BDD seek cosmetic procedures, including surgical interventions, in an attempt to 'fix' their perceived defects³¹. The available evidence indicates that BDD symptoms do not improve following cosmetic interventions, and such procedures result in dissatisfaction, disappointment and a deterioration in mental health³¹. Thus, cosmetic procedures are not recommended in individuals with BDD. In some instances, often when

individuals are unable to access the cosmetic procedures that they desire through services, they attempt at ‘DIY’ surgery, such as bleaching their own skin or injecting saline solution into their lips³², which is clearly associated with substantial physical, as well as psychological, risk. In addition, approximately a third of BDD sufferers pick their skin in an attempt to improve its appearance³³, and use instruments such as needles, razors and knives to correct their perceived flaw. These repetitive behaviours could cause physical health consequences such as infections and damage to appearance which could fuel distress. Therefore, it is important to consider the impact of repetitive behaviours in a risk assessment.

Treatment

The recommended evidence-based treatments for BDD are Cognitive Behaviour Therapy (CBT) and selective serotonin reuptake inhibitors (SSRIs) medication³⁴. CBT for BDD protocols typically involve 12-22 sessions³⁵⁻³⁷ and generally entail the components summarised in Table 2.

Table 2 Overview of CBT for BDD

Treatment component	Overview
Psychoeducation	Education on BDD, anxiety and other emotions related to BDD (e.g. shame, disgust).
Formulation and goal setting	Develop a shared psychological formulation considering how early experiences may have informed beliefs about appearance and how these feed into a cycle of thoughts, behaviours and feelings which maintain the problem. Processes such as selective attention, perceptual distortions and self-focussed attention are discussed in relation to how they contribute to BDD cycle. Patients are asked to consider this as an alternative formulation for their difficulties i.e. psychological vs. physical problem. Treatment goals that are specific, measurable, achievable, relevant and time-bound are discussed.
Exposure and response prevention (ERP)	This is a key element of therapy whereby patients are supported to be exposed to feared and avoided situations whilst resisting the urge to engage in repetitive or safety behaviours. This can be guided by a hierarchy and it is completed both in session and for homework to maximise the benefits. The goal of ERP is to learn to tolerate the distress and experience distress habituation.
Behavioural experiments	Similar to ERP, however the aim is to gather evidence for and against their beliefs about appearance.
Evaluating thoughts	Patients learn to identify, track and label maladaptive thoughts about appearance and are supported to look for patterns of cognitive errors e.g. mind-reading, all or nothing. Using Socratic questioning, therapists ask them to consider

	evidence for and against beliefs and consider a more balanced view. Behavioural experiments can be used to gather evidence as part of this process.
Mirror retraining	The goal of mirror retraining is two-fold; one is to look at the body as a whole rather than focus in on perceived flaws and second, for the patient to be able to objectively describe their body without judgement. Patients are asked to stand in front of a full length mirror to look at their entire body and are asked to describe it from head to toe in detail, using objective and non-judgemental language (e.g. 'I have two eyes, they are 6cm long and 4cm wide, they are brown and I have black eyelashes').
Attention retraining	Like mirror retraining, the aim is to shift perspective from a narrow view to the bigger picture. For example, when engaging in ERP or behavioural experiments, it is helpful for patients to learn to focus externally by processing the five senses (e.g. things they can see, hear, smell, taste and feel). This can reduce self-focussed attention which allows them to take in external information and for distress to habituate.
Habit reversal therapy (optional)	When patients engage in skin picking or hair pulling, habit reversal techniques may help to augment ERP, especially to manage strong urges.
Motivational interviewing (optional)	This technique may be used before you start treatment or can be used at various points of treatment when patients are struggling to engage in CBT, especially due to poor insight and often wanting cosmetic procedures instead. Miller and Rollnick (2012) ³⁸ motivational interviewing techniques can be helpful.

Treatment for adults and young people is broadly similar, however for young people CBT is developmentally tailored with an emphasis on behavioural components, and inclusion of a parent/carer as co-therapists ³⁹.

Evidence for CBT for BDD is primarily centred on adults, with ten randomised controlled trials (RCTs) conducted to date. Only one RCT of CBT for BDD has been conducted in young people ⁴⁰. Early trials compared CBT with a waitlist control ^{36,41-43} with more recent trials using credible psychological control treatments such as anxiety management ³⁵ and supportive psychotherapy ^{37,44}. Harrison et al. (2016) ¹¹ conducted a meta-analysis including RCTs up to 2015 ($k=7$; $N=299$) and found CBT to be superior to waitlist and control treatments in reducing BDD symptoms (Cohen's $d=1.22$). Additionally, significant improvement in depression and BDD-related insight was evident ¹¹.

To date, the most promising treatment outcomes come from the largest adult RCT ($N=120$) where patients were randomised 22 sessions of CBT or supportive psychotherapy ³⁷. The CBT response rate (defined by a reduction on BDD Y-BOCS $\leq 30\%$) at post-treatment was 83-85% across two treatment sites, which is higher than previous trials which included 8-16 sessions ^{36,41,42}. There was also a significant reduction in depression, and an improvement in BDD-related insight and functioning. In their trial, Wilhelm and colleagues ³⁷ found patients continued to make gains after session 12 and 16, which would have been the end of treatment point in other trials (e.g. ^{35,40}). Evidence suggests that even if there is minimal reduction in BDD symptoms within the first 4-12 sessions, patients can respond to a 24-session package of treatment ⁴⁵. Treatment for young people has improved with increasing number of sessions, with response rate of 40% to a 14-session package of CBT ⁴⁰ to 79% to an extended 20 session

package ³⁹. Taken together, these studies suggest that BDD patients may benefit from longer treatment protocols.

Durability of outcomes has been found with treatment gains being maintained in follow-up of between two to 12 months and some further improvements in BDD symptoms, depression and functioning ^{37,39,44,46}. Several studies have examined predictors and moderators of treatment outcomes. The most replicated finding is that baseline BDD symptom severity ^{6,39,47} is associated with less improvement in BDD symptoms. Some studies have also found higher motivation to change, greater treatment expectations, greater treatment credibility, expectation of improvement, better insight, shorter duration of BDD and lower levels of depression to predict better outcomes ^{6,47-49} although findings have been inconsistent.

There is no consensus yet on the active ingredients for effective CBT. Wilhelm et al (2019) ³⁷ found no significant differences in outcomes between supportive psychotherapy and CBT in one of their two treatment sites, potentially indicating that certain non-specific therapy factors are associated with improvements in BDD (e.g. feeling understood) ³⁷. A recent study examining mechanisms of improvement in CBT for BDD found that within-subject cognitive (e.g. negative beliefs about the importance of appearance) and behavioural (e.g. checking, grooming and avoidance) factors mediated treatment outcomes. This reinforces the importance of addressing beliefs about appearance (e.g. “If my appearance is defective, I am worthless”) and repetitive behaviours in CBT for BDD ⁵⁰.

In keeping with the current evidence-base, clinical guidelines recommend SSRIs for the treatment of BDD, particularly among individuals with more severe impairment and/or those who decline CBT. Ideally, SSRIs should be offered in combination with CBT ³⁴ but are

effective as a standalone intervention ⁵¹. A range of SSRIs have been used in the treatment of BDD, including fluoxetine ⁵² fluvoxamine ⁵³, citalopram ⁵⁴ and escitalopram ⁵⁵, as well as non-selective serotonin reuptake inhibitors (SRIs) such as clomipramine ⁵⁶. The bulk of the evidence for the efficacy of these pharmacological treatments for BDD comes from open trials, and only four RCTs have been conducted ^{52,55-57}. Encouragingly, these RCTs have found S/SRIs to be associated with response rates ranging from 53-70% among adults with BDD ^{52,56}, but they have also highlighted a need to remain on S/SRIs medication for relatively long periods to reduce the likelihood of relapse occurring ⁵⁵.

Formal dose-finding studies have yet to be conducted in BDD, but the available evidence and expert clinical opinion indicates that BDD typically requires relatively high doses of S/SRIs; higher than those required to treat depression ⁵⁸. At present, it is unclear whether certain SSRIs are more effective than others in the treatment of BDD, and further research is needed to compare efficacy. There is also a need to further evaluate pharmacological augmentation strategies for BDD patients who do not respond to initial trials of S/SRIs. Clinical guidelines suggest that S/SRI augmentation with an atypical antipsychotic can be beneficial ³⁴, but this is largely based on clinical experience as opposed to empirical evidence. Lastly, there have been no SSRI trials among young people with BDD, although clinical observational studies have highlighted the potential benefit of pharmacological treatments in this population ³⁹.

Barriers to access

BDD is strikingly under-diagnosed and under-treated. For example, previous survey studies conducted in Germany indicate that only 15 - 23% of adult BDD sufferers had received an accurate diagnosis ^{59,60}. Furthermore, a survey study conducted in the US found that only

17% of adults with BDD had received CBT, and 34% had been prescribed an SSRI medication⁶¹. These findings are concerning, not least because BDD typically has a chronic course if left untreated^{6,62}, and causes profound impairment for the individual as well as potentially high costs for healthcare systems.

Understanding barriers to diagnosis and treatment are crucial in order to improve healthcare provision for BDD. Such barriers are likely to be multifaceted, encompassing characteristics related to the BDD sufferer (e.g. shame, lack of insight), broader cultural and societal issues (e.g. stigma), and constraints within healthcare settings (e.g. lack of expertise and resources for accurate diagnostic assessment and treatment).

Undoubtedly one of the main barriers to accessing CBT for BDD is the lack of trained therapists, and costs associated with the treatment^{44,63}. In recent years, efforts have been made to address these obstacles by developing digitalised CBT for BDD programmes, which combine self-help components with therapist-support. For example, a therapist-assisted online CBT for BDD programme has been developed and evaluated in an RCT, and shown to be effective relative to supportive therapy⁴⁴. In this trial, therapists were clinical psychology students with no prior experience of BDD, and the average therapist time per patient per week was 13 minutes, highlighting the potential scalability of the programme. More recently, an app-based CBT for BDD programme has been developed and shown to be effective relative to waitlist control in an RCT⁶⁴. In this trial, patients were supported by a bachelor's-level coach, as opposed to a trained clinician, which again demonstrates the scalability of this approach.

Future directions

Research and understanding of BDD continues to develop but is still lagging compared other related conditions such as OCD, despite the similar prevalence and morbidity. Further research is needed to better understand the mechanism underpinning the development of BDD, which may inform early detection as well as prevention and/or early intervention strategies. Additionally, predictors of treatment response and mechanism of change is an important area for future research, since these remain poorly understood^{6,39,47-49,65,66}. This may lead to a move towards an understanding of what works for whom and the development of individualised and tailored multi-modal treatment packages. Research into low-intensity modes of delivery of CBT for BDD aims to increase access to effective treatments. Such low-intensity CBT-based programmes may be best utilised as part of a stepped-care approach, with more severe or complex presentations requiring higher intensity therapy. Nevertheless, the challenge to support sufferers to access mental health services remains, highlighting the importance of efforts to increase awareness of BDD in the wider community and in settings where BDD sufferers are likely to present, such as cosmetic clinics.

References

1. American Psychiatric Association. *The Diagnostic and Statistical Manual of Mental Disorders: DSM 5*. Author; 2013.
2. World Health Organization. *The ICD-11 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines*. Author; 2018.
3. Phillips KA, Didie ER, Menard W, et al. Clinical features of body dysmorphic disorder in adolescents and adults. *Psychiatry Research*. 2006;141(3):305-314. doi:10.1016/j.psychres.2005.09.014
4. Rautio D, Jassi A, Krebs G, et al. Clinical characteristics of 172 children and adolescents with body dysmorphic disorder. *European child & adolescent psychiatry*. 2020;1-12. doi:10.1007/s00787-020-01677-3
5. Bjornsson AS, Didie ER, Grant J, et al. Age at onset and clinical correlates in body dysmorphic disorder. *Comprehensive Psychiatry*. 2013;54(7):893-903. doi:10.1016/j.comppsy.2013.03.019
6. Phillips KA, Menard W, Quinn E, et al. A 4-year prospective observational follow-up study of course and predictors of course in body dysmorphic disorder. *Psychological medicine*. 2013;43(5):1109-1117. doi:10.1017/s0033291712001730
7. Gunstad J, Phillips KA. Axis I comorbidity in body dysmorphic disorder. *Comprehensive Psychiatry*. 2003;44(4):270-276. doi:10.1016/S0010-440X(03)00088-9
8. Angelakis I, Gooding PA, Panagioti M. Suicidality in body dysmorphic disorder (BDD): A systematic review with meta-analysis. *Clinical Psychology Review*. 2016;49:55-66. doi:10.1016/j.cpr.2016.08.002
9. Toh WL, Castle DJ, Mountjoy RL, et al. Insight in body dysmorphic disorder (BDD) relative to obsessive-compulsive disorder (OCD) and psychotic disorders: Revisiting this issue in light of DSM-5. *Comprehensive Psychiatry*. 2017;77:100-108. doi:10.1016/j.comppsy.2017.06.004
10. Schulte J, Dietel FA, Wilhelm S, et al. Temporal dynamics of insight in body dysmorphic disorder: An ecological momentary assessment study. *Journal of Abnormal Psychology*. 2021;130(4):365. doi:10.1037/abn0000673
11. Harrison A, Fernández de la Cruz L, Enander J, et al. Cognitive-behavioral therapy for body dysmorphic disorder: A systematic review and meta-analysis of randomized controlled trials. *Clinical Psychology Review*. 2016;48:43-51. doi:10.1016/j.cpr.2016.05.007
12. Veale D, Gledhill LJ, Christodoulou P, et al. Body dysmorphic disorder in different settings: A systematic review and estimated weighted prevalence. *Body Image*. 2016;18:168-186. doi:10.1016/j.bodyim.2016.07.003
13. Enander J, Ivanov VZ, Mataix-Cols D, et al. Prevalence and heritability of body dysmorphic symptoms in adolescents and young adults: a population-based nationwide twin study. *Psychological medicine*. 2018;48(16):2740-2747. doi:10.1017/S0033291718000375
14. Tod D, Edwards C, Cranswick I. Muscle dysmorphia: current insights. *Psychology research and behavior management*. 2016;9:179. doi:10.2147/PRBM.S97404
15. Phillips KA, Wilhelm S, Koran LM, et al. Body dysmorphic disorder: some key issues for DSM-V. *Depression and Anxiety*. 2010;27(6):573-591. doi:10.1002/da.20709
16. Bohne A, Keuthen NJ, Wilhelm S, et al. Prevalence of symptoms of body dysmorphic disorder and its correlates: a cross-cultural comparison. *Psychosomatics*. 2002;43(6):486-490. doi:10.1176/appi.psy.43.6.486

17. Marques L, LeBlanc N, Weingarden H, et al. Body dysmorphic symptoms: Phenomenology and ethnicity. *Body Image*. 2011;8(2):163-167. doi:10.1016/j.bodyim.2010.12.006
18. Grant JE, Kim SW, Crow SJ. Prevalence and clinical features of body dysmorphic disorder in adolescent and adult psychiatric inpatients. *Journal of Clinical Psychiatry* 2001;62(7):517-522. doi:10.4088/jcp.v62n07a03
19. Krebs G, Fernández de la Cruz L, Mataix-Cols D. Recent advances in understanding and managing body dysmorphic disorder. *Evidence-Based Mental Health*. 2017;20(3):71-75. doi:10.1136/eb-2017-102702
20. Conroy M, Menard W, Fleming-Ives K, et al. Prevalence and clinical characteristics of body dysmorphic disorder in an adult inpatient setting. *General Hospital Psychiatry*. 2008;30(1):67-72. doi:10.1016/j.genhosppsy.2007.09.004
21. Dyl J, Kittler J, Phillips KA, et al. Body dysmorphic disorder and other clinically significant body image concerns in adolescent psychiatric inpatients: prevalence and clinical characteristics. *Child Psychiatry & Human Development*. 2006;36(4):369-382. doi:10.1007/s10578-006-0008-7
22. Veale D, Akyüz EU, Hodsoll J. Prevalence of body dysmorphic disorder on a psychiatric inpatient ward and the value of a screening question. *Psychiatry Research*. 2015;230(2):383-386. doi:10.1016/j.psychres.2015.09.023
23. Schneider SC, Storch EA. Improving the detection of body dysmorphic disorder in clinical practice. *Journal of Cognitive Psychotherapy*. 2017;31(4):230-241. doi:10.1891/0889-8391.31.4.230
24. Phillips KA. *The broken mirror: understanding and treating body dysmorphic disorder*. Oxford University Press 2005.
25. Goodman R, Ford T, Richards H, et al. The Development and Well-Being Assessment: description and initial validation of an integrated assessment of child and adolescent psychopathology. *Journal of Child Psychology and Psychiatry*. 2000;41(5):645-655. doi:10.1111/j.1469-7610.2000.tb02345.x
26. Buckley V, Krebs G, Bowyer L, et al. Innovations in Practice: Body dysmorphic disorder in youth - using the Development and Well-Being Assessment as a tool to improve detection in routine clinical practice. *Child and Adolescent Mental Health*. 2018;23(3):291-294. doi:10.1111/camh.12268
27. Phillips KA, Hollander E, Rasmussen SA, et al. A severity rating scale for body dysmorphic disorder: development, reliability, and validity of a modified version of the Yale-Brown Obsessive Compulsive Scale. *Psychopharmacology Bulletin*. 1997;33(1):17-22.
28. Phillips KA, Hart AS, Mendard W. Psychometric evaluation of the Yale-Brown obsessive-compulsive scale modified for body dysmorphic disorder (BDD-YBOCS). *The Journal of clinical psychiatry*. 2001;62(2):87. doi:10.4088/jcp.v62n0203
29. Phillips KA, Hart AS, Menard W. Psychometric evaluation of the Yale-Brown Obsessive-Compulsive Scale Modified for Body Dysmorphic Disorder (BDD-YBOCS). *Journal of Obsessive-Compulsive and Related Disorders*. 2014;3(3):205-208. doi:10.1016/j.jocrd.2014.04.004
30. Monzani B, Fallah D, Rautio D, et al. Psychometric Evaluation of the Yale-Brown Obsessive-Compulsive Scale Modified for Body Dysmorphic Disorder for Adolescents (BDD-YBOCS-A). *Child Psychiatry & Human Development*. 2022;doi:10.1007/s10578-022-01376-x

31. Bowyer L, Krebs G, Mataix-Cols D, et al. A critical review of cosmetic treatment outcomes in body dysmorphic disorder. *Body Image*. 2016;19:1-8. doi:10.1016/j.bodyim.2016.07.001
32. Veale D. Outcome of cosmetic surgery and 'DIY' surgery in patients with body dysmorphic disorder. *Psychiatric Bulletin*. 2000;24:218-220. doi:10.1192/pb.24.6.218
33. Grant JE, Menard W, Phillips KA. Pathological skin picking in individuals with body dysmorphic disorder. *General Hospital Psychiatry*. 2006;28(6):487-493. doi:10.1016/j.genhosppsych.2006.08.009
34. National Institute for Health and Clinical Excellence. *Obsessive-compulsive disorder: Core interventions in the treatment of obsessive-compulsive disorder and body dysmorphic disorder*. Author; 2005.
35. Veale D, Anson M, Miles S, et al. Efficacy of cognitive behaviour therapy versus anxiety management for body dysmorphic disorder: a randomised controlled trial. *Psychotherapy and Psychosomatics*. 2014;83(6):341-353. doi:10.1159/000360740
36. Wilhelm S, Phillips KA, Didie E, et al. Modular cognitive-behavioral therapy for body dysmorphic disorder: a randomized controlled trial. *Behavior Therapy*. 2014;45(3):314-327. doi:10.1016/j.beth.2013.12.007
37. Wilhelm S, Phillips KA, Greenberg JL, et al. Efficacy and Posttreatment Effects of Therapist-Delivered Cognitive Behavioral Therapy vs Supportive Psychotherapy for Adults With Body Dysmorphic Disorder: A Randomized Clinical Trial. *JAMA Psychiatry*. Apr 1 2019;76(4):363-373. doi:10.1001/jamapsychiatry.2018.4156
38. Miller WR, Rollnick S. *Motivational interviewing: Helping people change*. Guildford press; 2012.
39. Rautio D, Gumpert M, Jassi A, et al. Effectiveness of multimodal treatment for young people with body dysmorphic disorder in two specialist clinics. *Behavior Therapy*. 2022;doi:10.1016/j.beth.2022.04.010
40. Mataix-Cols D, Fernández de la Cruz L, Isomura K, et al. A Pilot Randomized Controlled Trial of Cognitive-Behavioral Therapy for Adolescents With Body Dysmorphic Disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2015;54(11):895-904. doi:10.1016/j.jaac.2015.08.011
41. Rosen JC, Reiter J, Orosan P. Cognitive-behavioral body image therapy for body dysmorphic disorder. *Journal of Consulting and Clinical Psychology*. 1995;63(2):263-269. doi:10.1037//0022-006x.63.2.263
42. Veale D, Gournay K, Dryden W, et al. Body dysmorphic disorder: a cognitive behavioural model and pilot randomised controlled trial. *Behaviour Research and Therapy*. 1996;34(9):717-729. doi:10.1016/0005-7967(96)00025-3
43. Rabiei M, Mulkens S, Kalantari M, et al. Metacognitive therapy for body dysmorphic disorder patients in Iran: acceptability and proof of concept. *Journal of Behavior Therapy and Experimental Psychiatry*. 2012;43(2):724-729. doi:10.1016/j.jbtep.2011.09.013
44. Enander J, Andersson E, Mataix-Cols D, et al. Therapist guided internet based cognitive behavioural therapy for body dysmorphic disorder: single blind randomised controlled trial. *British Medical Journal*. 2016;352:i241. doi:10.1136/bmj.i241
45. Greenberg JL, Jacobson NC, Hoepfner SS, et al. Early response to cognitive behavioral therapy for body dysmorphic disorder as a predictor of outcomes. *Journal of Psychiatric Research*. 2022;152:7-13. doi:10.1016/j.jpsychires.2022.06.001

46. Krebs G, Fernández de la Cruz L, Monzani B, et al. Long-Term Outcomes of Cognitive-Behavioral Therapy for Adolescent Body Dysmorphic Disorder. *Behavior Therapy* 2017;48(4):462-473. doi:10.1016/j.beth.2017.01.001
47. Flygare O, Enander J, Andersson E, et al. Predictors of remission from body dysmorphic disorder after internet-delivered cognitive behavior therapy: a machine learning approach. *BMC Psychiatry*. May 19 2020;20(1):247. doi:10.1186/s12888-020-02655-4
48. Phillips KA, Greenberg JL, Hoepfner SS, et al. Predictors and moderators of symptom change during cognitive-behavioral therapy or supportive psychotherapy for body dysmorphic disorder. *Journal of Affective Disorders*. 2021;287:34-40. doi:10.1016/j.jad.2021.03.011
49. Greenberg JL, Phillips KA, Steketee G, et al. Predictors of Response to Cognitive-Behavioral Therapy for Body Dysmorphic Disorder. *Behavior Therapy*. 2019;50(4):839-849. doi:10.1016/j.beth.2018.12.008
50. Fang A, Steketee G, Keshaviah A, et al. Mechanisms of Change in Cognitive Behavioral Therapy for Body Dysmorphic Disorder. *Cognitive Therapy and Research*. 2020;44. doi:10.1007/s10608-020-10080-w
51. Phillips KA, Didie ER, Menard W, Pagano ME, Fay C, Weisberg RB. Clinical features of body dysmorphic disorder in adolescents and adults. *Psychiatry Res*. Mar 30 2006;141(3):305-14. doi:10.1016/j.psychres.2005.09.014
52. Phillips KA, Albertini RS, Rasmussen SA. A randomized placebo-controlled trial of fluoxetine in body dysmorphic disorder. *Archives of General Psychiatry*. 2002;59(4):381-388. doi:10.1001/archpsyc.59.4.381
53. Phillips KA, Dwight MM, McElroy SL. Efficacy and safety of fluvoxamine in body dysmorphic disorder. *Journal of Clinical Psychiatry*. 1998;59(4):165-171. doi:10.4088/jcp.v59n0404
54. Phillips KA, Najjar F. An open-label study of citalopram in body dysmorphic disorder. *Journal of Clinical Psychiatry*. 2003;64(6):715-720. doi:10.4088/jcp.v64n0615
55. Phillips KA, Keshaviah A, Dougherty DD, et al. Pharmacotherapy Relapse Prevention in Body Dysmorphic Disorder: A Double-Blind, Placebo-Controlled Trial. *The American journal of psychiatry*. 2016;173(9):887-895. doi:10.1176/appi.ajp.2016.15091243
56. Hollander E, Allen A, Kwon J, et al. Clomipramine vs desipramine crossover trial in body dysmorphic disorder: selective efficacy of a serotonin reuptake inhibitor in imagined ugliness. *Archives of General Psychiatry*. 1999;56(11):1033-1039. doi:10.1001/archpsyc.56.11.1033
57. Phillips KA. Placebo-Controlled Study of Pimozide Augmentation of Fluoxetine in Body Dysmorphic Disorder. *The American journal of psychiatry*. 2005;162(2):377-379. doi:10.1176/appi.ajp.162.2.377
58. Phillips KA. Handbook on obsessive compulsive and related disorders. American Psychiatric Association; 2015.
59. Buhlmann U. Treatment barriers for individuals with body dysmorphic disorder: an internet survey. *The Journal of nervous and mental disease*. 2011;199(4):268-271. doi:10.1097/NMD.0b013e31821245ce
60. Schulte J, Schulz C, Wilhelm S, et al. Treatment utilization and treatment barriers in individuals with body dysmorphic disorder. *BMC Psychiatry*. 2020;20(1):1-11. doi:10.1186/s12888-020-02489-0

61. Marques L, Weingarden HM, LeBlanc NJ, et al. Treatment utilization and barriers to treatment engagement among people with body dysmorphic symptoms. *Journal of Psychosomatic Research*. 2011;70(3):286-293. doi:10.1016/j.jpsychores.2010.10.002
62. Phillips KA, Menard W, Pagano ME, et al. Delusional versus nondelusional body dysmorphic disorder: Clinical features and course of illness. *Journal of Psychiatric Research*. 2006;40(2):95-104. doi:10.1016/j.jpsychires.2005.08.005
63. Marques L, LeBlanc NJ, Weingarden HM, et al. Barriers to treatment and service utilization in an internet sample of individuals with obsessive-compulsive symptoms. *Depression and Anxiety*. 2010;27(5):470-475. doi:10.1002/da.20694
64. Wilhelm S, Weingarden H, Greenberg JL, et al. Efficacy of App-Based Cognitive Behavioral Therapy for Body Dysmorphic Disorder with Coach Support: Initial Randomized Controlled Clinical Trial. *Psychotherapy and Psychosomatics*. 2022;91(4):267-275. doi:10.1159/000524628
65. Fang A, Porth R, Phillips KA, et al. Personality as a Predictor of Treatment Response to Escitalopram in Adults With Body Dysmorphic Disorder. *Journal of Psychiatric Practice*. 2019;25(5):347-357. doi:10.1097/prs.0000000000000415
66. Curtiss JE, Bernstein EE, Wilhelm S, et al. Predictors of pharmacotherapy outcomes for body dysmorphic disorder: a machine learning approach. *Psychological Medicine*. 2022;1-11. doi:10.1017/s0033291721005390