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Cosmetic rhinoplasty in body dysmorphic disorder

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Summary Body dysmorphic disorder (BDD) occurs in about 5% of patients seeking cosmetic surgery. Such patients are often dissatisfied with surgery or their symptoms of BDD are the same or worse after surgery. We report on a study that was designed to determine the frequency of BDD in patients requesting cosmetic rhinoplasty in the UK and to compare them with BDD patients in a psychiatric clinic. In the first stage of the study, we used a screening questionnaire for BDD and found that 20.7% of patients requesting rhinoplasty had a possible diagnosis of BDD. However, we believe that we identified a group of patients with sub-clinical or very mild BDD who are satisfied by cosmetic rhinoplasty. In the second stage of the study, we compared (a) patients without BDD who had a good outcome after cosmetic rhinoplasty with (b) BDD patients seen in a psychiatric clinic (who crave cosmetic rhinoplasty but for a variety of reasons do not obtain it). We found that BDD patients seen in a psychiatric clinic who desire cosmetic rhinoplasty are a quite distinct population from those obtaining routine rhinoplasty without symptoms of BDD. BDD patients are significantly younger, more depressed and anxious than this group, and are more preoccupied by their nose and check their nose more frequently. They are more likely to conduct 'D.I.Y' surgery and have multiple concerns about their body. They are more likely to be significantly handicapped in their occupation, social life, and in intimate relationships and to avoid social situations because of their nose. They are therefore more likely to believe that dramatic changes would occur in their life after a rhinoplasty. This study provides some clues for surgeons who wish to identify patients with BDD who might have a poor prognosis in cosmetic rhinoplasty. Further research is required in the development of a screening questionnaire or interview for identifying patients with BDD seeking cosmetic surgery.

Body dysmorphic disorder (BDD) is defined as a preoccupation with an imagined defect in one's appearance. Alternatively, if a slight physical anomaly is present, the person's concern is markedly excessive. To fulfil the diagnostic criteria for DSM-IV, the preoccupation should last for at least an hour a day[1] and cause clinically significant distress or impairment in social, occupational or

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other important areas of functioning.[2] The term 'dysmorphophobia'[3] is now falling into disuse probably because ICD-10 has discarded it and subsumed it under that of hypochondriacal disorder.

BDD patients have a poor quality of life, worse than depressed patients.[4] They often spend many hours in time-consuming rituals such as mirror gazing.[5] They are often unemployed or disadvantaged at work, are socially isolated and are at high risk of committing suicide especially when they have lost all hope of altering their appearance.[6,7] BDD is a hidden disorder with many patients being too ashamed to seek help from their GP or a mental health practitioner. BDD is however seen fairly frequently in cosmetic surgery or dermatology clinics. In a survey of 100 women seeking cosmetic surgery in the USA, 5% were found at interview to have BDD.[8] Of these, three patients were requesting rhytidectomy, one rhinoplasty and one abdominoplasty (but none was operated on). In another survey of 268 patients in a dermatology clinic in the USA, Phillips et al.[9] found 12% had BDD (although dermatologists in the USA have a greater cosmetic practice). Rarely, dissatisfied patients with BDD may resort to violence.[10]

Any part of the body may be the focus of BDD and the preoccupation is frequently on several aspects of the face or body. Complaints typically involve perceived or slight flaws on the face or skin such as a feature being too small or too big or not straight, hair thinning, acne, wrinkles, scars, vascular markings, paleness or redness of the complexion, asymmetry or lack of proportion. Sometimes the complaint is extremely vague or amounts to no more than that the sufferer is generally ugly. However, the most common preoccupation in BDD is the nose.[6,11,12] Cosmetic rhinoplasty is therefore one of the most common surgical procedures requested in BDD and was consequently chosen as the focus of this study.

There are no prospective outcome studies of cosmetic rhinoplasty of BDD patients who were diagnosed before surgery. Retrospective surveys of BDD patients attending psychiatric clinics suggest a poor outcome in cosmetic surgery. Veale[13] reported on 25 BDD patients who had a total of 46 procedures. Rhinoplasty was associated with marked dissatisfaction and an increase in the degree of preoccupation and handicap. Most of the patients in the study had multiple concerns about their appearance and if these were satisfied, the preoccupation transferred to another area of their body. The worst outcome was found in those who had had repeated operations. Nine BDD patients, either in desperation at being turned down for cosmetic surgery or because they could not afford it, had performed their own 'D.I.Y' surgery in which they attempted by their own hand to alter their appearance dramatically. Phillips et al.[14] has also reported on the outcome of 58 BDD patients seeking cosmetic surgery. The large majority (82.6%), reported that symptoms of BDD were the same or worse after cosmetic surgery.

Cosmetic surgery is not therefore generally recommended for patients with BDD. The psychiatric studies will however have a selection bias of patients in favour of treatment failures of cosmetic surgery and ideally a prospective outcome study is required in which BDD patients are identified before cosmetic surgery and followed up. However, a randomised controlled study may raise ethical concerns and there is never likely to be a trial that compares cosmetic surgery against the best psychiatric treatments for BDD.

The aims of our study were therefore to determine:

(i) The frequency of BDD in patients requesting cosmetic rhinoplasty in the UK and the differences in outcome between possible BDD and non-BDD patients after surgery.
(ii) The differences between (a) non-BDD patients who have a good outcome after cosmetic rhinoplasty and (b) BDD patients seen in a psychiatric clinic, who crave cosmetic rhinoplasty but for a variety of reasons had not yet obtained it.

Methods

We conducted the study in two stages.

First stage

The first stage consisted of recruitment of patients seeking cosmetic rhinoplasty in the private sector. We approached a selection of cosmetic surgery clinics following a search through the Yellow Pages and a variety of popular magazines. We wrote to the entire membership of the British Association of Aesthetic Plastic Surgeons and the British Association of Cosmetic Surgeons to request collaboration in the study. There were 11 replies from individual surgeons and patients were recruited from only seven surgeons. Patients were included in the study if they were seeking rhinoplasty for the first time and were over the age of 18. They were excluded if the surgery was to correct defects resulting from trauma or medical pathology and those wanting

simultaneously to undergo more than one procedure. The participants consisted of 29 patients (22 females and 7 males) presenting to seven independent surgeons in central London. Participants were approached after their consultation with their surgeon with the following questionnaires:

(a) Body Dysmorphic Disorder Questionnaire (BDDQ).[15] This is a brief screening questionnaire for BDD, which was used to select patients with 'possible BDD'. It has been validated in a psychiatric population with a sensitivity of 100% and specificity of 89%.
(b) The Hospital Anxiety and Depression Scale (HADS).[16] This is a screening questionnaire for depression and anxiety that is widely used in a hospital setting. A score of nine or above on the depression or anxiety subscale is suggestive of a disorder.
(c) Modified Yale Brown Obsessive Compulsive Scale for BDD (YBOCS—BDD).[17] This is a measure of severity of BDD symptoms used in treatment outcome studies of BDD. A score above 20 is usually a minimum severity rating for entry into a clinical trial. A self-report version was used for this study.
(d) Rhinoplasty Questionnaire. This was designed for the study to test out the specific hypotheses and consists of items listed in Table 3.
(e) Nose imperfection was rated by the patient on an 8-point scale (1—perfect feature; 2—almost perfect; 3—minimal imperfection; 4—mild imperfection; 5—mild to moderate imperfection; 6—moderate imperfection; 7—moderate to marked imperfection; 8—very marked imperfection).
(f) Patient satisfaction questionnaires were repeated at 3 and 9 months following the rhinoplasty and included a patient satisfaction questionnaire. On the patient satisfaction questionnaire, patients use an 8-point scale (0—do not agree; 2—slightly agree; 4—definitely agree; 6—markedly agree; 8—totally agree) to rate the statement 'I am 100% satisfied with the outcome of my rhinoplasty operation'.

Second stage

In the second stage of the study, six patients with 'possible BDD' from the screening questionnaire (BDDQ)[15] were excluded from the analysis to leave a cohort of 23 participants without BDD and who after 9 months were satisfied with their rhinoplasty. The patients were classified retrospectively as their surgical outcome was not known at the outset of the study. They were compared against patients in a psychiatric clinic diagnosed with BDD according to DSM-IV.[2] They were outpatients under the care of the first named author at The Priory Hospital North London. They were selected if their main preoccupation was with their nose and they craved rhinoplasty. For various reasons, they had not yet obtained rhinoplasty or a revision rhinoplasty—for example, they could not afford it or had a fear of the operation failing. They completed the same questionnaires as the rhinoplasty patients in the first stage (but did not of course complete any satisfaction with rhinoplasty questionnaires).

Results

Stage one. Twenty-nine patients (7 males and 22 females) seeking rhinoplasty completed the questionnaires. The mean age was 38.0 yeasrs old (SD 12.77). Eight had had previous experience of cosmetic surgery. Pre-rhinoplasty, six of the 29 patients had 'possible BDD' on the BDDQ screening questionnaire. Three months following the rhinoplasty, two out of 29 patients continued to be of 'possible BDD'. At 9 months, none of 26 patients were rated as 'possible BDD'. (One of the patients who had scored as 'non-BDD' prior to their rhinoplasty became 'possible BDD' at 3 months but this patient's data was unobtainable at 9 months. Five other patients with 'possible BDD' became non-BDD at 3 and 9 months.)

A Mann–Whitney test was conducted to evaluate whether 'possible BDD' patients had higher levels of psychological morbidity when compared to 'non-BDD' at baseline (see Table 1). A non-parametric test was used because of the small numbers, as the data were not normally distributed.

'Possible BDD' patients had significantly higher scores on YBOCS-BDD than 'non-BDD' participants. However, the actual mean YBOCS-BDD scores are low suggesting only mild severity. There were no significant differences on the depression or anxiety scores or rating of nose imperfection, or items on the rhinoplasty questionnaire. Furthermore, 'possible BDD' patients were no less satisfied with the outcome of rhinoplasty at either 3 or 9 months (see Table 1). As a result of the low numbers participating in stage one of this study, we were unable to identify any factors that predicted satisfaction from rhinoplasty.

Stage two. We excluded the six patients with 'possible' BDD from the analysis making a cohort of 23 patients from the rhinoplasty sample. We

Table 1 Comparison of possible BDD with non-BDD patients before rhinoplasty in stage one of the study

	Possible BDD ($n = 6$) Mean (SD)	Non-BDD ($n = 23$) Mean (SD)	Statistic Mann–Whitney
YBOCS-BDD	15.2 (2.79)	9.9 (5.66)	$U = 29$, $z = -2.157$, $P < 0.031$
Depression (HAD)	2.3 (2.42)	2.7 (3.26)	$U = 64.50$, $z = -0.247$, $P < 0.805$
Anxiety (HAD)	7.8 (3.06)	6.5 (4.61)	$U = 48$, $z = -1.137$, $P < 0.255$
Nose imperfection (1 = 'Perfect feature' to 8 = 'Very marked imperfection')	7.0 (0.89)	6.1 (1.47)	$U = 48$, $z = -1.137$, $P < 0.255$
Nose satisfaction at 3 months	4.0 (2.53)	5.5 (2.13)	$U = 41.5$, $z = -1.397$, $P < 1.62$
Nose satisfaction at 9 months	4.3 (2.25)	5.7 (2.30)	$U = 28$, $z = -1.180$, $P < 0.238$

compared their scores with 16 BDD patients seen in a psychiatric clinic and the results are shown in Tables 2 and 3. The BDD group was significantly younger than the rhinoplasty patients but there was no significant difference in sex (10/16 female in the BDD patients compared to 19/23 in rhinoplasty group, chi-square = 3.65, df = 2, $P < 0.161$). A one-way ANOVA was used for all other items.

As expected, BDD patients had greater psychological morbidity compared to rhinoplasty patients. BDD patients had higher scores on YBOCS-BDD, anxiety and depression scales. The mean scores of the BDD patients are all in the clinical range, while the rhinoplasty patients were not. There was a trend towards BDD patients rating their nose to be more imperfect compared to the rhinoplasty group but it was not significant. On the rhinoplasty questionnaire (Table 3), BDD patients were more distressed and reported much greater interference in their social and occupational functioning and relationships because of their nose. They were more socially anxious and more likely to avoid situations because of their nose. They were more likely to check their nose in mirrors or to feel it with their fingers. BDD patients were more likely to believe that cosmetic surgery would significantly alter their life (for example, obtain a new partner or job).

Both groups were just as likely to report that close friends and family disagreed with them about their concerns. Both groups were just as likely not to be encouraged by their family to seek surgery. However, BDD patients were significantly more likely to be discouraged by their family and friends from seeking surgery. Both groups believed that they could clearly describe what they disliked about their nose and how they wanted their nose to be altered. Despite this, BDD patients were more likely to feel misunderstood when they described what they disliked about their nose. Although BDD patients were more likely to be dissatisfied by other parts of their body, there was no significant difference in the frequency of previous cosmetic surgery (8/16 in BDD group and 7/24 in the rhinoplasty group, chi-square = 1.526, df = 1, $P < 0.217$). BDD patients were however more likely to have attempted 'D.I.Y' surgery in the past (9/16 in the BDD group compared to 2/23 in the rhinoplasty group, chi-square = 10.538, df = 1, $P < 0.01$). Examples of 'D.I.Y' surgery included using a pair of pliers in an attempt to make their nose thinner; sellotape to flatten the nose or placing tissue up one side of their nose to try and make it looked more curved. There were no significant differences between the groups in the frequency of 'safety' or camouflaging behaviours (14/16 in BDD group and 15/23 in the rhinoplasty group; chi-square = 2.457, df = 1, $P < 0.117$). Safety behaviours are designed to reduce or prevent danger.[18] Examples of safety behaviours in our

Table 2 Comparison of BDD patients who desire rhinoplasty and rhinoplasty patients without BDD

	BDD patients ($n = 16$) Mean (SD)	Rhinoplasty patients ($n = 23$) Mean (SD)	Statistic One-way ANOVA
Age	25.3 (8.22)	39.8 (12.00)	$F(1, 35) = 16.335$, $P < 0.0001$
Nose imperfection (1 = 'Perfect feature' to 8 = 'Very marked imperfection')	7.0 (1.32)	6.1 (1.47)	$F(1, 38) = 3.942$ $P < 0.055$
Anxiety (HADS)	13.7 (4.00)	6.5 (4.61)	$F(1, 38) = 25.659$ $P < 0.0001$
Depression (HADS)	11.1 (3.56)	2.7 (5.26)	$F(1, 38) = 57.880$ $P < 0.0001$
Y-BOCS for BDD	29.0 (5.42)	9.9 (5.66)	$F(1, 37) = 106.521$ $P < 0.0001$

Table 3 Rhinoplasty questionnaire—comparison of BDD patients who crave rhinoplasty and rhinoplasty patients without BDD

Questionnaire item	BDD patients ($n = 16$) Mean (SD)	Rhinoplasty patients ($n = 23$) Mean (SD)	Statistic One-way ANOVA
Distress from nose (0 = 'Not at all' to 8 = 'Very severely')	6.6 (1.99)	3.1 (1.90)	$F(1, 38) = 30.174$, $P < 0.0001$
Frequency of anxiety in social situations (0 = 'Never' to 8 = 'Always')	6.4 (1.21)	3.4 (2.15)	$F(1, 38) = 26.250$, $P < 0.0001$
Frequency of avoidance of social situations because of nose (0 = 'Never' to 8 = 'Always')	5.5 (2.34)	0.6 (0.98)	$F(1, 38) = 79.492$, $P < 0.0001$
Frequency of safety behaviours	5.5 (2.28)	4.7 (2.16)	$F(1, 27) = 8.75$, $P < 0.358$
Frequency of checking nose (0 = 'Not at all' to 8 = 'More than 8 times a day'	5.9 (2.24)	3.0 (1.99)	$F(1, 38) = 18.062$, $P < 0.0001$
Handicap on intimate relationship (0 = 'Not at all' to 8 = 'Very severe')	5.50 (2.58)	1.17 (1.50)	$F(1, 38) = 43.763$, $P < 0.0001$
Handicap on occupation (0 = 'Not at all' to 8 = 'Very severe')	5.6 (2.47)	0.4 (0.83)	$F(1, 38) = 90.894$, $P < 0.0001$
Handicap on relationship with family or friends you live with (0 = 'Not at all' to 8 = 'Very severe')	5.7 (2.22)	0.2 (0.63)	$F(1, 35) = 107.523$, $P < 0.0001$
Extent to which close friends and family agree with you about concerns about nose (0 = 'Do not agree' to 8 = 'Agree totally')	1.2 (1.33)	2.1 (1.96)	$F(1, 35) = 2.274$, $P < 0.141$
Discouragement from family or friends to seek surgery (0 = 'Not at all discouraged' to 8 = 'Totally discouraged')	5.0 (2.39)	2.1 (1.79)	$F(1, 35) = 17.898$, $P < 0.0001$
Encouragement from family or friends to seek surgery (0 = 'Not at all encouraged' to 8 = 'Totally encouraged')	1.1 (2.020	1.0 (1.91)	$F(1, 37) = 0.028$, $P < 0.868$
Degree to which rhinoplasty will change your life (e.g. new partner, new job etc.) (0 = 'Not at all' to 8 = 'Completely')	5.9 (2.70)	1.4 (1.62)	$F(1, 38) = 41.971$, $P < 0.0001$
'I am able to describe exactly what I dislike about my nose' (0 = 'Not at all' to 8 = 'Totally')	6.3 (2.52)	6.6 (1.93)	$F(1, 38) = 0.126$, $P < 0.725$
'I am able to describe exactly how I would like my appearance of my nose to change' (0 = 'Not at all' to 8 = 'Totally')	6.7 (2.08)	6.1 (1.93)	$F(1, 38) = 0.001$, $P < 0.970$
'Others can understand exactly what I mean when I describe what I dislike about my nose' (0 = 'Not at all' to 8 = 'Completely')	2.4 (1.67)	4.8 (2.66)	$F(1, 38) = 10.099$, $P < 0.003$
Extent of dissatisfaction with other areas of the body (0 = 'Only my nose' to 8 = 'Other areas totally')	4.1 (2.85)	2.2 (1.83)	$F(1, 38) = 6.493$, $P < 0.015$

sample included looking down or not allowing others to see their side profile; trying to hide their nose behind their hand or their hair; or wearing large jewellery to distract others from looking at their nose. Although the frequency of safety behaviours between the groups was not significant, some interesting patterns did emerge. BDD patients were more than twice as likely to hide their nose behind their hand, glasses, their hair or a baseball cap although this just failed to reach significance (9/16 in BDD, 6/23 in rhinoplasty patients, chi-square = 3.627, df = 1, $P = 0.057$).

Discussion

In the first stage of the study, we found that 20.7% of patients requesting rhinoplasty had a possible diagnosis of BDD on a screening questionnaire. We were unable to identify any factors that predicted satisfaction from rhinoplasty. The study was underpowered because of the difficulty in recruiting patients within the time frame of the study. It is possible that there was a selection bias in the recruitment of surgeons who may be more aware of the problems in BDD. There is also a possible selection bias in patients who chose not to participate, as unfortunately we do not have a record of the refusal rate. This version of the BDDQ screening questionnaire has not been validated by a clinical interview in a cosmetic surgery population. We believe we identified too many false positives because the mean YBOCS-BDD, anxiety and depression scores were all below the clinical range. A later version of the screening questionnaire has since been published that has been validated in a dermatological population that is less categorical and may be more suitable for a cosmetic surgery population.[9] Our interpretation is that we identified a group of patients with subclinical or very mild BDD who are satisfied by cosmetic rhinoplasty. Further research will be required to refine a screening questionnaire or interview for BDD and validate it in a much larger cosmetic surgery population for factors that are predictive for dissatisfaction.

In the second stage of the study, we found that BDD patients who desire cosmetic rhinoplasty are a quite different population from those patients who normally obtain cosmetic rhinoplasty. They are significantly younger, more depressed, more anxious, more preoccupied by their nose and have more compulsive behaviours (for example mirror checking and feeling the nose with their fingers and DIY surgery) (Table 2). They were more likely to be significantly handicapped in their occupation, social life, and in intimate relationships. BDD patients were especially more likely to have been discouraged from surgery by friends or relatives; more likely to believe that there will be dramatic changes in their life after surgery and have dissatisfaction from other areas of their body.

We think there are a number of clues from the second stage of the study to assist in the development of a short screening questionnaire or structured interview to assist cosmetic surgeons to identify individuals with BDD, who are unsuitable for cosmetic surgery. Future research to validate screening questionnaires for the diagnosis of BDD or factors that predict dissatisfaction require the co-operation of cosmetic surgeons to approach a much larger number of patients preoperatively and during follow-up.

We recognise that it is difficult for a cosmetic surgeon to identify BDD patients. We understand that patients may be economical with the truth and even when a surgeon identifies possible symptoms of BDD, they may not agree to a referral to a mental health practitioner and merely refer themselves to another surgeon. Every effort however should be made to identify and engage BDD patients as there are now four randomised controlled trials that have been conducted which demonstrate modest efficacy for cognitive behaviour therapy[19,20] and serotonin reuptake inhibitor anti-depressants.[21,22] More research is required to determine the optimum strategies for identifying BDD patients and when, if ever, cosmetic surgery is indicated in BDD.

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References

1. Phillips K. *The Broken Mirror—understanding and treating body dysmorphic disorder*. New York: Oxford University Press; 1996.
2. American Psychiatric Association, *Diagnostic and statistical manual of mental disorders*. Washington, DC: APA; 1994.
3. Jerome L. Dysmorphophobia and taphephobia: two hitherto undescribed forms of insanity with fixed ideas. A new translation of Enrico Morselli's original article. *History of Psychiatry* 2001;**12**:103—14.
4. Phillips KA. Quality of life for patients with body dysmorphic disorder. *J Nerv Ment Dis* 2000;**188**:170—5.
5. Veale D, Riley S. Mirror mirror on the wall, who is the ugliest of them all? The psychopathology of mirror gazing in body dysmorphic disorder. *Behav Res Ther* 2001;**39**:1381—93.
6. Veale D, et al. Body dysmorphic disorder. A survey of fifty cases. *Br J Psychiatry* 1996;**169**:196—201.
7. Phillips KA, McElroy SL, Keck Jr. PE, Pope Jr. HG, Hudson JI. Body dysmorphic disorder: 30 cases of imagined ugliness. *Am J Psychiatry* 1993;**150**:302—8.
8. Sarwer DB, Wadden TA, Pertschuk MJ, Whitaker LA. Body image dissatisfaction and body dysmorphic disorder in 100 cosmetic surgery patients. *Plast Reconstr Surg* 1998;**101**:1644—9.
9. Phillips KA, Dufresne Jr. RG, Wilkel CS, et al. Rate of body dysmorphic disorder in dermatology patients. *J Am Acad Dermatol* 2000;**42**:436—44.
10. Lucas P. Body dysmorphic disorder and violence: case report and literature review. *J Forensic Psychiatry* 2002;**13**:145—56.
11. Phillips KA, McElroy SL, Keck Jr. PE, Pope Jr. HG, Hudson JI. Body dysmorphic disorder: 30 cases of imagined ugliness. *Am J Psychiatry* 1993;**150**:302—8.
12. Neziroglu F, Yaryura-Tobias JA. Body dysmorphic disorder: phenomenology and case descriptions. *Behav Psychother* 1993;**21**:27—36.
13. Veale D. Outcome of cosmetic surgery and 'D.I.Y' surgery in patients with body dysmorphic disorder. *Psychiatr Bull* 2000;**24**:218—21.
14. Phillips KA, Grant J, Siniscalchi J, Albertini RS. Surgical and nonpsychiatric medical treatment of patients with body dysmorphic disorder. *Psychosom* 2001;**42**:504—10.
15. Phillips KA, Atala KD, Pope HG. *Diagnostic instruments for body dysmorphic disorder. New research programs and abstracts. 57. American Psychiatric Association 148th Annual Meeting*, Miami, FL: American Psychiatric Association; 1995.
16. Zigmond A, Snaith RP. The hospital depression and anxiety scale. *Acta Psychiatr Scand* 1983;**67**:361—70.
17. Phillips KA, 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. *Psychopharmacol Bull* 1997;**33**:17—22.
18. Salkovskis PM. The importance of behaviour in the maintenance of anxiety and panic. *Behav Psychother* 1991;**19**:6—19.
19. Veale D, et al. Body dysmorphic disorder: a cognitive behavioural model and pilot randomised controlled trial. *Behav Res Ther* 1996;**34**:717—29.
20. Rosen JC, Reiter J, Orosan P. Cognitive-behavioral body image therapy for body dysmorphic disorder. *J Consult Clin Psychol* 1995;**63**:263—9.
21. Neziroglu F, Yaryura Tobias JA. Exposure, response prevention, and cognitive therapy in the treatment of body dysmorphic disorder. *Behav Ther* 1993;**24**:431—8.
22. Gomez Perez JC, Marks IM, Gutierrez Fisac JL. Dysmorphophobia: clinical features and outcome with behavior therapy. *Eur Psychiatry* 1994;**9**:229—35.