The Experience of ‘Feeling Fat’ in Women With Anorexia Nervosa, Dieting and Non-Dieting Women: An Exploratory Study

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Objective: To provide a preliminary, systematic exploration of some features associated with the experience of ‘feeling fat’.

Method: Women with anorexia nervosa (N = 16), women who were dieting (N = 15) and non-dieting women (N = 17) took part in a semi-structured interview.

Results: Feeling fat was common in all three groups of women. It was associated with distress, negative emotions, internal and external body sensations, images in a range of modalities, negative self beliefs and a first memory of feeling fat. Differences specifically characteristic of those with anorexia nervosa were identified, including feeling fatter, greater associated distress, more negative emotions, greater ‘emotional’ belief in cognitions, a richer experience, an earlier first memory, greater strength of negative self beliefs and a link to restricting behaviour. Some qualitative data are reported.

Conclusions: The experience of feeling fat can be ‘unpacked’ in a way that may be useful in cognitive therapy for those with anorexia nervosa. Copyright © 2007 John Wiley & Sons, Ltd and Eating Disorders Association.

Keywords: feeling fat; cognition; eating disorders; anorexia nervosa; cognitive therapy
that feeling fat is more than thinking oneself to be overweight; a view that is shared by many clinicians. Andersen (2000), for example notes that it is often a metaphor for dysphoria and that once the negative cognitions associated with the experience are identified then cognitive therapy techniques may be used to modify the underlying distress. It is currently unclear how far feeling fat is independent of general negative affect or depression, particularly in a clinical sample, and how far it is specific to any eating disorder-related symptoms. The implication that ‘feeling fat’ can be unpacked into more than just a feeling, including into a range of affective and cognitive components, is important particularly in the context of cognitive therapy, where strategies to deal the patient’s expression and experience ‘I feel fat’ directly, are currently limited. Current treatments do not often address this experience, although Fairburn’s transdiagnostic treatment for eating disorders, which views feeling fat as one aspect of over evaluation of weight and shape, is a notable exception (Fairburn, Cooper, & Shafran, 2003).

The current study was conceived as an exploratory study, which sought to explore systematically, using a semi-structured format, some of the features that we (and others) have noted clinically to be associated with ‘feeling fat’. The study was conceptualised within a broadly cognitive understanding of the disorder, Constructs investigated included those identified in theoretical and empirical studies (see, e.g. a review of current cognitive approaches by Cooper, 2005). Given the prevalence of the experience in women, we compared women with AN with dieters and healthy controls who were not currently on a diet.

**METHOD**

**Participants**

There were three groups of participants. All were female and all were volunteers. Women were included in the AN group if they met DSM-IV-R (American Psychiatric Association, 1994) criteria for AN; potential participants in this group were also included if they no longer met the AN weight criteria as a result of re-feeding provided they still met all other criteria. Those in the dieting group met strict criteria for dieting (Cooper & Fairburn, 1992). All women had to have been making a serious attempt to lose weight for at least the previous four weeks in order to be included in this group. Potential participants were excluded if they had a psychiatric history or had ever vomited to lose weight or if they met DSM-IV-R criteria for an eating disorder. Control participants were included if they were not currently dieting, did not have a psychiatric history or history of vomiting to lose weight and did not meet DSM-IV-R criteria for an eating disorder.

**Measures**

**Demographic data**

Information was collected on age, ethnicity, current weight and height, and lowest ever adult weight, any psychiatric history, current dieting episode (if relevant) and existence of any lifetime episodes of vomiting to lose weight.

**Semi-structured interview**

Each participant completed a semi-structured interview which asked in detail about the characteristics of their last experience of feeling fat. The interview began with questions about whether or not the participant had ever felt fat, or had an impression that they were fat (i.e. do you ever ‘feel fat’). The last time this had occurred was identified and explored in detail (e.g. when was the last time you felt fat, how fat did you feel, how distressing was this feeling, what emotions did you have, what thoughts, body sensations, images etc. did you have). An early memory of feeling fat was identified, together with the events happening in the participant’s life at that time and the content was explored using questions similar to those used for the last experience of feeling fat. Similarity between characteristics of the early memory and more recent experience was assessed, together with any relationship between feeling fat in the memory and eating behaviour at that time, including bingeing and restricting. A mixture of open ended and closed questions were used, together with Likert rating scales, where responses were rated on a scale from 0 to 100 (less to more of the characteristic being rated). Where cognitions, including negative (core) beliefs about the self were rated, these were rated for rational belief (what the person knows rationally or logically to be true) as well as emotional belief (what the person feels to be true, despite what they know to be logically true), following the suggestion that these may respond rather differently to traditional cognitive therapy strategies (Padesky & Greenberger, 1996).
Procedure

Approval was obtained from the relevant NHS ethics committee. Patients with AN were recruited through their therapist, or following an initial assessment from a waiting list for treatment. Those who were dieting (D) and female controls (FC) were recruited from hospital, workplace and university personnel. Participants were interviewed individually. They were weighed and had their height measured and provided information relevant to demographic variables. All completed the SCID (Structured Clinical Interview for DSM-IV, Spitzer, Williams, & Gibbons, 1996), to confirm or exclude a diagnosis of an eating disorder. Dieting and non-dieting participants were screened using the ‘dieting’ questions previously used in other studies to confirm or exclude strict dieting (Cooper & Fairburn, 1992).

RESULTS

Data Analysis

Data were analysed using non-parametric statistics, due to the small numbers in the three groups, with the exception of use of partial correlations, for which there is no equivalent non-parametric analysis. In many instances, small numbers in relevant cells precluded statistical analysis.

Demographic Information

The three groups were similar in mean age, in years (AN = 29.6, SD = 11.4; D = 34.0, SD = 12.8; ND = 26.2, SD = 9.5). As expected they differed significantly in mean BMI (AN = 18.4, SD = 3.1; D = 24.2, SD = 4.1; ND = 21.0, SD = 1.7) (H = 19.15, p < 0.001), and reported mean lowest adult BMI (AN = 14.9, SD = 3.4; D = 19.8, SD = 2.3; ND = 20.0, SD = 5.8) (H = 21.33, p < 0.001), with the AN group having significantly lower scores than either of the other groups (all p values < 0.001), who did not differ significantly from each other. BMI ranged from 13.7 to 22.3 in the AN group, from 19.5 to 31.7 in the D group and from 18.4 to 24 in the FC group. Two participants in the D group had BMIs just above 30, and a further two had BMIs above 25, compared to none in the other two groups, thus four participants in the D group fell in the overweight range. All but four participants (one with AN and three who were in the dieting group) were of white Caucasian origin.

Feeling Fat

Prevalence

All participants, except three non-dieting participants, had felt fat. Participants with AN had felt fat more recently (measured in days since they had last felt fat) than dieters, who had felt fat more recently than non-dieting controls (AN: M = 15, SD = 31.4; D: M = 25, SD = 44.6; FC: M = 75.8, SD = 105.1) (H = 3.1, p = 0.058).

Associated distress

Overall, those with AN had felt fatter (AN: M = 72.5, SD = 15.8; D: M = 53.8, SD = 20.6; FC: M = 41.3, SD = 23.1) (H = 13.4, p = 0.001), and more distressed by feeling fat than those in the dieting group and those who had felt fat in the FC group (AN: M = 79.0, SD = 14.7; D: M = 51.7, SD = 28.3; FC: M = 38.9, SD = 28.2) (H = 14.9, p = 0.001, all relevant comparisons p < 0.05).

Negative emotions

Those with AN reported more associated negative emotions (AN: M = 3.4, SD = 1.0; D: M = 2.3, SD = 1.1; FC: M = 2.4, SD = 1.1) (H = 8.0, p = 0.02) than either of the other two groups (both p values < 0.05), and felt them more intensely (i.e. how strong was the feeling on a scale from 0 to 100, with 0 indicating ‘not at all’ and 100 indicating ‘extremely’) than the other two groups (AN: M = 74.9, SD = 18.6; D: M = 56.7, SD = 24.1; FC: M = 46.0, SD = 26.8; H = 9.3, p = 0.01, both comparisons p < 0.05). Typical examples of such emotions in the FC and D groups included ‘frustration with self’, ‘feeling upset and annoyed’, whereas in the AN group typical examples appeared to be more extreme in tone, and included ‘feeling depressed’, ‘disgust’, ‘guilt’ and ‘anger’.

Cognitive experience

Thirteen (all but three) of those with AN reported having the thought ‘I am fat’, compared with five in the D group and two in the FC group (chi square = 8.0, df = 2.48, p = 0.02). Those who reported this thought believed it to a similar extent rationally in all three groups (AN: M = 37.7, SD = 32.2; D: M = 49.0, SD = 25.1; FC: M = 15.0, SD = 8.6) but those with AN believed it more strongly emotionally than the FC group (AN: M = 78.1, SD = 22.7; D: M = 72.0, SD = 36.2; FC: M = 28.3, SD = 10.4) (H = 5.6, p = 0.06). Emotional belief ratings also appeared to be greater than rational belief ratings in the AN and Dieting groups than in the FC group.
Additional negative cognitions

Most participants had also experienced other negative thoughts when feeling fat (AN = 15, D = 15, FC = 13), with those in the three groups experiencing a similar number of associated negative cognitions (AN: M = 2.7, SD = 1.3; D: M = 2.1, SD = 1.1; FC: M = 2.2, SD = 0.9). However, those with AN found these more distressing than those in the other two groups (AN: M = 81.5, SD = 12.0; D: M = 56.9, SD = 20.4; FC: M = 43.2, SD = 31.8) (H = 14.6, p = 0.001, both comparisons, p < 0.05), and while all groups believed these thoughts to be true rationally to a similar extent, (AN: M = 56.3, SD = 20.5; D: M = 51.7, SD = 31.2; FC: M = 45.4, SD = 27.1), those with AN believed them to be more true emotionally than either of the other two groups (AN: M = 76.0, SD = 17.4; D: M = 64.0, SD = 21.6; FC: M = 53.4, SD = 25.0) (H = 6.4, p = 0.04, both p values < 0.05). Typical examples in the FC and D groups included ‘I am bloated’, ‘I am overweight’ and ‘I am not good enough’, while in the AN group typical examples included ‘I want control’, ‘I am useless’, ‘I am feeble for wasting money’ and ‘I should not want to eat’. Examples in the AN group appeared to tap more directly into negative self beliefs, whereas in the other two groups they appeared more likely (but not exclusively) to be concerned with weight and shape issues.

Body sensations

Most participants with AN experienced internal body sensations associated with feeling fat, as did a relatively high number of dieters and female controls (AN = 16; D = 10; FC = 11), with similar numbers of these sensations reported in each group (AN: M = 2.5, SD = 1.0; D: M = 2.0, SD = 0.8; FC: M = 2.5, SD = 1.0). Internal sensations were similar in vividness (i.e. how vivid is each sensation, with 0 indicating ‘not at all’ and 100 indicating ‘extremely’) (AN: M = 67.8, SD = 27.3; D: M = 51.0, SD = 27.3; FC: M = 60.0, SD = 22.6), but those with AN were more distressed by them than those in the other two groups (AN: M = 70.4, SD = 28.2; D: M = 39.7, SD = 37.2; FC: M = 46.0, SD = 36.2) (H = 4.6, p = 0.09). More participants with AN and dieters experienced internal body sensations associated with feeling fat than the female controls (AN = 13; D = 11; FC = 6), although number of external body sensations were similar (AN: M = 1.5, SD = 0.8; D: M = 1.0, SD = 0.4; FC: M = 1.3, SD = 0.5). External sensations were similar in vividness (AN: M = 78.8, SD = 18.4; D: M = 68.0, SD = 30.7; FC: M = 51.2, SD = 26.5), but those with AN and dieters were more distressed by them than those in the FC group (AN: M = 81.7, SD = 14.6; D: M = 75.5, SD = 24.5; FC: M = 48.3, SD = 18.6) (H = 8.6, p = 0.01, both comparisons, p < 0.05). Typical internal sensations reported in the three groups were similar in content (e.g. blood slowing down, feeling hot, palpitations, feeling heavy) as were external sensations (e.g. clothes feeling tight, feeling waistlines pressing on body).

Images in different modalities

Those with AN had a similar number of visual images associated with feeling fat as those in the other two groups (AN = 11, D = 8, FC = 6) but had a greater number of images in the following modalities than the other two groups (auditory, AN = 8, D = 4, FC = 2; olfactory, AN = 4, D = 0, FC = 0; tactile, AN = 9, D = 6, FC = 3; movement, AN = 9, D = 6, FC = 3, all chi significance values p < 0.05, except olfactory, p = 0.67). Visual images were similar in the three groups (e.g. bending over and sucking my stomach in, self walking down the street and being bigger than other people, pictures of thin people, old flatmate who was obese). In the AN group auditory images included hearing people on TV saying this is how much fat you have in your body, people telling me to throw up food and be thinner, peaceful and strong, people whispering negative things about me, my sister telling me I am fat. Olfactory, tactile and movement images were similar in the three groups and included smells of food (e.g. cheese, pasta), the taste of fat, feeling one’s stomach and arms, pulling at lips and stomach and walking past a chip shop.

Negative self beliefs

Participants with AN who experienced body sensations had more associated negative self beliefs when asked about the meaning (to you) of having these sensations/experience of feeling fat than those in the D and FC control groups (AN = 16, D = 7, FC = 7). Those with AN had more negative self beliefs than those in either of the other two groups (AN: M = 3.2, SD = 1.4; D: M = 1.7, SD = 0.9; FC: M = 2.0, SD = 1.3) (H = 20.4, p = 0.001, both comparisons p < 0.05). Those with AN and those in the Dieting group appeared more distressed by these beliefs than the FC group (AN: M = 81.7, SD = 14.6; D: M = 75.5, SD = 24.5; FC: M = 48.3, SD = 18.6), but this difference was not significant. Rational and emotional belief was similar in the three groups (rational, AN: M = 60.1, SD = 23.0; D: M = 62.8, SD = 30.0; FC: M = 58.0, SD = 30.9; emotional, AN: M = 74.5, SD = 22.2; D: M = 66.2, SD = 34.0; FC: M = 74.4, SD = 24.5). Negative self beliefs reported
in the three groups included ‘I have failed’, ‘I am bad’, ‘I am contaminated’ and ‘I am not good enough’. Beliefs with more extreme negative content (e.g. ‘I am contaminated’) appeared to exist only in the AN group.

First memory of feeling fat

The AN group had first felt fat at an earlier age than those in either of the other two groups (AN: M = 11.7, SD = 4.3; D: M = 19.8, SD = 8.9; FC: M = 15.1, SD = 6.1) (H = 8.4, p = 0.015), with the difference between those with AN and D reaching significance (p < 0.05). Those with AN were more likely to have experienced negative bodily sensations in their first memory (AN = 12, D = 6, FC = 4). These sensations were vivid in all three groups (AN: M = 78.2, SD = 19.2; D: M = 70.4, SD = 31.7; FC: M = 68.7, SD = 33.8) and did not cause significantly greater distress in the AN than other two groups (AN: M = 68.3, SD = 30.6; D: M = 49.8, SD = 33.8; FC: M = 43.3, SD = 49.5). The bodily sensations reported included ‘heaviness’, ‘fullness’, ‘sick’, ‘butterflies’ and ‘bloating’, and did not appear to differ in content between the groups. Those with AN and FCs were more likely than the D to have interpreted the experience in their first memory as having a negative meaning about themselves (AN = 10, D = 4, FC = 8), but were not more distressed by these than the FC group (AN: M = 68.7, SD = 38.4; D: M = 45.3, SD = 30.7; FC: M = 62.1, SD = 34.0). In all three groups rational belief in their negative self beliefs was similar (AN: M = 55.8, SD = 35.8; D: M = 56.4, SD = 43.8; FC: M = 47.2, SD = 29.6), as was emotional belief (AN: M = 78.1, SD = 21.6; D: M = 68.0, SD = 44.3; FC: M = 69.2, SD = 30.9). Typical memories associated with first feeling fat included ‘mum trying to control what I ate’, ‘mum saying you cannot have that (what others were eating)’, ‘being bullied at school’, ‘mum and dad not getting on well’, ‘feeling excluded from other’s conversations and relationships at school’ and ‘feeling different from others’. Typical interpretations of the early memories included ‘I am bad’, ‘I am not cute and lovable’, ‘I am worthless’, ‘I am insignificant’ and ‘I want to disappear’. No clear trends indicative of potential differences between the three groups were observed in the qualitative data.

Similarity of memory and current experience

The feelings and emotions and also the body sensations, were similar in the memory as in the current experience of feeling fat (e.g. how similar were the feelings/emotions in the early memory to those in the recent feeling of feeling fat, with 0 indicating ‘not at all similar’ and 100 indicating ‘the same’) in all three groups (feelings/emotions, AN: M = 66.6, SD = 32.6; D = 44.9, SD = 33.5; FC: M = 50.4, SD = 39.4; sensations, AN: M = 62.1, SD = 32.7; D = 56.9, SD = 39.7; FC: M = 61.1, SD = 36.9).

Circumstances of onset

There were no differences between the three groups in whether or not negative events were happening in their lives when they first felt fat, but those with AN were much more likely to have felt negative about their self (AN = 13, D = 4, FC = 5, chi square = 12.1, df = 1.4, p = 0.03), and most participants recalled being worried about their weight and shape at that time (AN = 14, D = 10, FC = 9).

Avoidance of eating

Those with AN tended to have avoided eating in the situation they described feeling fat, compared to those in the other two groups (AN = 9, D = 3, FC = 3).

Depression

Given that it has been suggested that feeling fat may be a metaphor for general dysphoria, the extent to which feeling fat and its associated distress was related to scores on the BDI and EAT was examined using Spearman correlations in the whole sample. Both depression and eating disorder symptoms were significantly correlated with how fat participants felt and the distress associated with this experience (depression and how fat, rho = 0.49, p = 0.001, depression and distress, rho = 0.58, p < 0.001; eating disorder symptoms and how fat, rho = 0.61, p < 0.001; eating disorder symptoms and distress, rho = 0.64, p < 0.001). When level of depression was controlled, EAT scores remained significantly correlated with how fat participants felt (r = 0.42, p = 0.005) and distress (0.64, p < 0.001), but when EAT score was partialled out of the association between feeling fat and depression, the significant relationships with depression were no longer significant (how fat, r = −0.02; distress, r = 0.13).

Body Mass Index

Since BMI differed significantly between the clinical and non-clinical groups, and the D group included some women who were overweight, the extent to which BMI was related to feeling fat and its
associated distress was assessed using Spearman correlations in the whole sample. The correlation between BMI and how fat participants felt was not significant ($\rho = -0.16$) while that with associated distress indicated a significant negative relationship ($\rho = -0.39$, $p = 0.01$), with lower BMI scores related to greater distress.

**DISCUSSION**

This study has attempted to characterise some of the dimensions of feeling fat, particularly as they apply to those with AN, and not also to those who are dieting or healthy controls who are not currently dieting and who do not have an eating disorder. The interview was designed to capture some of our clinical observations in a more systematic way and one that is relevant to the practice of cognitive therapy.

As expected (e.g. Striegel-Moore et al., 1986), feeling fat is very common in all women, irrespective of whether or not they have AN, or are currently dieting or not dieting and do not have an eating disorder. In all groups, feeling fat was associated with a range of features, including distress, negative emotions, internal and external body sensations, images in a range of modalities, negative self beliefs and a first memory that was similar in emotional and cognitive content to the current experience of feeling fat. However, those with AN had felt fat more recently, had felt fatter, were more distressed by the experience, had more negative emotions associated with feeling fat and believed the thought more ‘emotionally’ although not rationally to be true, than those in the other two groups. The experience might also be considered ‘richer’, in that it was also associated with experiences in a number of different modalities in those with AN. Those with AN had first felt fat at an earlier age and this was associated with greater negative self beliefs at that time. Feeling fat currently tended to be linked to restricting in this group more frequently than in the other two groups. Some potential qualitative differences in the experiences reported were identified, particularly between the clinical and non-clinical groups.

The study is small scale and exploratory, with several limitations, including a small sample size, and use of a semi-structured interview with no established psychometric properties, including inter-rater and test retest reliability. The patient group also included those with AN who lacked one of the criteria for a DSM-IV diagnosis, typically current low BMI, thus it is possible that relatively normal weight may have been responsible for the differences observed between the patients and other groups, and that use of a group currently at low weight would produce different findings. This seems unlikely given that in the whole sample, there was a negative correlation between BMI, feeling fat and the distress associated with feeling fat. This suggests that it is low weight rather than the experience of weight gain that best accounts for the findings. One important potential limitation is the extent to which participant’s current experience of feeling fat, or being primed to think about this issue with its’ associated distress in the present, may have led to a bias in recall of the retrospective material collected (e.g. first memory of feeling fat and any distress, feelings/emotions and bodily sensations linked to this and their similarity to the current experience of feeling fat). It is possible, for example that current experience, such as high levels of feeling fat and high levels of associated distress related to this, may have led to an overestimation of past levels of feeling fat and distressed when asked about early memories of these experiences. Nevertheless, the study findings provide some relatively systematic support for the suggestion that the experience of feeling fat can be ‘unpacked’ in a way that makes traditional cognitive therapy strategies feasible, for example as suggested by Andersen (2000), to challenge associated negative cognitions in those with AN. At the same time the finding that there is still a significant relationship between eating disorder-related symptoms and how fat and how distressed participants were by this when general level of depression was controlled suggests that general negative affect may not provide a full explanation of the phenomenon, and that the experience is at least partially specific to eating disorder symptoms. As Andersen implies, the experience is broader in nature than simple expression of dysphoria and may need to be ‘unpacked’ along a variety of dimensions. This suggests that focussing only on any associated negative affect and not also the eating disorder specific experience, may not be an adequate treatment strategy. Three other findings deserve preliminary comment. It is interesting that feeling fat in those with AN is associated with negative self beliefs which are strongly held ‘emotionally’. This may help to explain the disorder’s resistance to change and suggests that more experiential strategies may be needed to be incorporated into traditional cognitive therapy for AN to tackle both the beliefs and the associated experience of feeling.
fat. The longstanding nature of the experience also suggests that it is likely to be difficult to shift without the use of more schema focused strategies. Work with experiential techniques such as imagery-based interventions, may be useful here (e.g. Waller, Kennerley, & Ohanian, 2005). Finally, feeling fat appears to develop at a later age in those who are currently dieting compared to those with AN or those who are not dieting. This raises the interesting possibility that while both those with AN and non-dieters develop early awareness of feeling fat, those without AN either develop good coping strategies, or fail to develop the features associated with the experience of feeling fat identified here that occur in those with AN. This is consistent with the suggestion that a different mechanism might operate in relation to feeling fat in those who have AN, compared to those who are dieting. One possibility is that AN needs both negative self beliefs and associated weight and shape features to develop, while dieting requires only the latter (Cooper, Todd, & Wells, 1998). The only current treatment to offer a systematic approach to feeling fat (Fairburn et al., 2003) treats feeling fat as a mislabelling of other states, including affective and physical, or as an experience which is triggered by particular cognitions. Patients learn to question their experience and consider what has happened to trigger feeling fat. Treatment then aims to help patients to deal appropriately with the trigger. Like the current analysis and findings, the transdiagnostic analysis of feeling fat would appear to suggest that it is a complex experience which may consist of experiences in several dimensions, and that any treatment needs to take a multidimensional understanding of it into account. The findings reported here provide some detail on the nature of this complexity, including its affective and cognitive components and links. In conclusion, the current findings are preliminary, but suggest that the experience of feeling fat in those with AN is worthy of further research, and may have implications for treatment of those with the disorder.

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