

Evidence Based Research in CBT with Adolescent Eating Disorders

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Cognitive behaviour therapy (CBT) is increasingly becoming the treatment of choice for a number of adolescent mental health problems, including depression (Harrington et al., 1998) and obsessive compulsive disorder (OCD), (March, 1995). In considering the role of CBT in the treatment of adolescent eating disorders, it is helpful to review the phenomenology of anorexia and bulimia nervosa in this age group and to assess the theoretical relevance of a cognitive behavioural approach to their management. The evidence base has been reviewed in the recently published National Institute of Clinical Excellence (NICE) Guidelines on the treatment of eating disorders (NICE, 2004). To date, CBT approaches have not been widely tested in controlled trials in this age group. However, a randomised controlled treatment trial is under way in the North West of England (The TOuCAN Trial), in which CBT is an important component of one of the interventions being studied and this will be described.

Keywords: Cognitive behaviour therapy (CBT); adolescence; eating disorders; anorexia nervosa

The phenomenology of eating disorders

The eating disorders anorexia nervosa and bulimia nervosa comprise a range of physical, psychological and behavioural features. Usually they have an impact on social functioning and their effects pervade most areas of a young person's life. In anorexia nervosa, body weight is maintained at least 15% below that expected, with the consequence that pubertal development is stunted or reversed. This results in either a delay in the menarche or secondary amenorrhoea in those who have completed puberty. Weight loss (or failure to increase weight with age) is achieved by restriction of calorific foods, exercise, vomiting or purging. In bulimia nervosa, a persistent preoccupation with eating is present, with craving and consequent binges (often with a subjective feeling of loss of control). Weight is maintained within a normal range by compensatory vomiting or purging. In both conditions a distortion of body image is present, manifest as a dread of fatness (World Health Organisation, 1992). These eating disorders differ from the feeding disorders that are described in early childhood, particularly in terms of the core cognitions underlying them. In these latter conditions, fear of fatness is rarely present and difficulties can often be identified in the relationship between the child and mother (Bryant-Waugh & Kaminsky, 1993).

This paper is concerned with anorexia nervosa and bulimia nervosa, which tend to develop in mid to late adolescence or early adulthood. Younger subjects tend, more commonly, to suffer atypical forms of the eating disorders and because growth is incomplete before the end of puberty, assessing endocrine function and degree of underweight can be complicated. Nevertheless, these atypical forms tend to have much in common with anorexia and bulimia nervosa and, in general, man-

agement should proceed along the same lines as for the full disorders.

Although both syndromes comprise a range of physical features, maladaptive eating behaviours and abnormal cognitions, in anorexia nervosa, it is the emaciation that is generally the most compelling. A range of endocrine abnormalities result from calorie restriction and weight loss and affect most hormonal systems, though cessation of sex hormone production is usually the most evident. Gastrointestinal features often follow the maladaptive eating behaviours. Dieting can reduce gastric capacity whilst bingeing, purging and vomiting (more common in bulimia nervosa) can have an impact on the whole gastrointestinal system from mouth and teeth onwards.

In treatment, attention to physical abnormalities is very important and may on occasions be life saving. However, there appears to be little relationship between physical treatments, including weight restoration per se and long term outcome in anorexia nervosa (Gowers et al., 2000). It is a concern amongst clinicians and patients alike that after refeeding, all too commonly young people say that all that has changed is their weight, with little accompanying psychological change.

Those with eating disorders suffer a number of abnormal cognitions. Mood disturbance (Herzog et al., 1992), poor self esteem and feelings of ineffectiveness (Garner, Olmsted, & Polivy, 1983) are extremely common. However, the central, specific cognition that is characteristic of anorexia nervosa and bulimia nervosa is the tendency for sufferers to over-evaluate themselves in terms of their weight and shape (Fairburn & Harrison, 2003). All other personal qualities and attributes are relegated below the belief that one's self-worth is entirely dependent on either what the scales say or one's ability to restrict food intake in the face of hunger.

The relationship between this central cognition, eating behaviour and physical consequences is at first sight a straight forward one. The belief in the importance of weight leads to dieting behaviour. Dieting in turn leads to the physical consequences of weight loss. When abstinence cannot be sustained, bulimia nervosa may develop. Binge eating breaks through as a result of hunger and is compensated for by maladaptive behaviour such as exercise, vomiting and purging, which lead to their own physical consequences. Loss of control over eating, with consequent bingeing and purging, tends to reinforce the abnormal cognitions i.e. the fear of loss of control over eating and weight, but also the self-critical cognitions that undermine self-esteem and affect mood.

The physical effects of eating disorders also commonly contribute to the feedback cycle by reinforcing behaviour (starvation increases the likelihood of binge eating for example) and physical consequences also impact on cognition. Weight loss (for those who value it) results in a sense of achievement that is highly reinforcing for those with fragile self-esteem. At very low weights, starvation affects the ability to think clearly and damages concentration, so this may have an impact on the ability to engage in treatment (NICE, 2004).

Origins of weight and shape concern

The aetiology of eating disorders is thought to be multi-determined and the same is probably true of the beliefs in the importance of weight and shape that underlie these disorders. There is thought to be a genetic component to the aetiology of both eating disorders (Bulik et al., 2000). However, this may exert its effect in a number of ways from predisposing to physical vulnerability factors (a propensity to obesity or early puberty) or to certain personality traits that also act as vulnerability factors such as perfectionism or impulsivity. Gowers and Shore (2001) suggested that a range of family, physical and personality variables might then lead to an overvaluing of the importance of weight or restraint, both of which can result in dieting behaviour. Dieting is generally an early feature of both anorexia nervosa and bulimia nervosa, both of which conditions can be seen as lying on a continuum of preoccupation with control (See Figure 1). In classical restricting anorexia nervosa, the desire to exert control over eating and weight is often reflected in other aspects of the personality, the subject presenting as controlled, often

obsessional and inflexible. The archetype of bulimia nervosa meanwhile is characterised by alternate impulsive loss of control with attempts at regaining it, often on a daily basis. This is also often reflected in a more chaotic lifestyle, in which drug and alcohol use may be features (Russell, 1979).

Research in CBT for adolescent eating disorders

The NICE Guidelines on the treatment and management of anorexia nervosa, bulimia nervosa and related eating disorders (NICE, 2004) comprised a review of all published treatment trials and systematic reviews with recommendations based on the quality of evidence elicited. The guidelines reviewed all physical treatments, including drugs, service settings and psychological therapies.

In anorexia nervosa, although there are a large number of consensus recommendations about assessment and management based on clinical expertise (Category C recommendations) there are no Category A recommendations (across the age range) arising from randomised controlled trials concerned with any aspects of treatment of this condition. The sole Category B recommendation suggests that family interventions that directly address the eating disorder should be offered to children and adolescents with anorexia nervosa. Although a number of small treatment trials have explored the impact of psychotherapeutic interventions in anorexia nervosa, their small size and other limitations failed to satisfy the NICE systematic reviewers of the robustness of their findings. Most research has focused on family interventions. Together, quite a compelling case can be made for involving family members in treatment; however, the various studies tend to be small and methodologically different in design, which reduces the possibility of meta-analysis. For example, some have an entry point of low weight anorexia at first presentation, while others (notably Eisler et al., 1997) entered subjects into the study at the point of discharge from hospital after weight restoration. A number of subjects in some studies receive other concurrent treatments (often in-patient programmes), making it difficult to determine the specific impact of any one component.

A handful of small studies have examined the efficacy of CBT in anorexia nervosa in adults (Gowers & Bryant-Waugh, 2004). These suggest it may be moderately effective (but there is insufficient evidence to date to recommend it over other therapies). Some suggest CBT may be effective at the symptomatic level e.g. in improving self-esteem, but overall studies lack power.

It is striking therefore that the evidence for the effectiveness of treatment in anorexia nervosa is based almost entirely on clinical expertise and experience, and little on good quality treatment trials. This led NICE to conclude 'The treatment plan for a patient with anorexia nervosa needs to consider the appropriate service setting and the psychological and physical management but, unfortunately, the research evidence base to guide decision making is very limited.'

In bulimia nervosa, by contrast, there is a much more substantial evidence base and the NICE Guidelines reach a number of Category A and B recommendations.

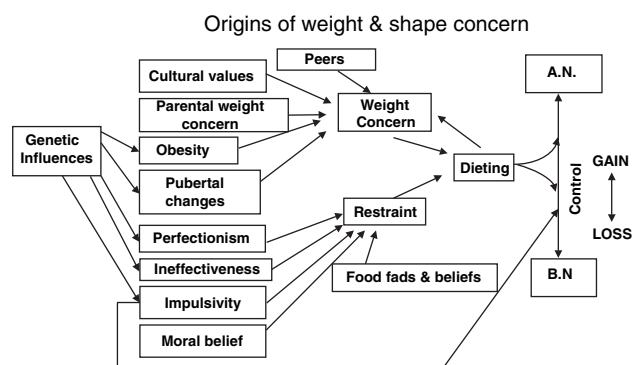


Figure 1. Origins of weight and shape concern

Most importantly, CBT for bulimia nervosa is identified as the gold standard treatment (following a number of systematic reviews) and the guidelines suggest that this should be offered to adults with bulimia nervosa in a programme comprising 16 to 20 sessions over 4 to 5 months. As well as having an effect on bulimia, CBT also leads to a significant reduction in depression scores. The NICE Guidelines highlight the fact that there are no randomised trials of this therapeutic approach in adolescents to date, but in view of the apparent applicability of CBT to those in the adolescent age range (with other disorders), it suggests that CBT-BN might be modified for use in young people. These might comprise developmentally appropriate changes to activity planning, including education and involvement of family members.

Binge eating disorder

This is primarily a disorder of overweight, middle aged people. It does, however, have quite a high level of treatment evidence and the NICE Guidelines make similar recommendations to those for bulimia nervosa i.e. that CBT-BED, self-help approaches and Fluoxetine as an initial first step are all recommended. It is of note, however, that these therapies exert their effects on binge eating and have a limited effect on body weight.

Current and future research directions

Current research interest has focused on the choice of treatment setting, particularly in view of the cost implications of inpatient treatment, the role of the family in treatment and the nature of psychotherapeutic components of treatment. NICE (2004) identified the following priority research areas: interventions to improve motivation and engagement with treatment, studies on the merits of different treatment settings, and psychological therapies focused on core abnormal cognitions.

A cohort study from Manchester published a few years ago revealed poor outcomes for those who had been treated in a range of inpatient facilities at 4–7 year outcome (Gowers et al., 2000). Whilst 60% of those who were never admitted to hospital had a good outcome using a standardised outcome measure (the Morgan and Russell Average Outcome Scale), only 14% of those who had been treated as inpatients had recovered at this long term follow-up. In this study, patients had not been randomised to treatment and so, not surprisingly, those admitted to hospital had comprised some of the more severe cases. Nevertheless, the poor outcomes did not provide a good advertisement for long-term inpatient treatment, which in many cases appeared to have failed to address core cognitions.

In 1999, the NHS Executive issued a call for bids to research the question of the potential benefits of inpatient over outpatient management of adolescent anorexia nervosa and specialist over generalist services. The subsequent treatment trial is under way in the North West of England (The TOuCAN Trial), the study design involving 35 child and adolescent mental health services covering a population of approximately 7 million. Details of the trial are shown in Figure 2. The study has finished recruitment (215 subjects) and these are

- **Community CAMHS** (treatment as usual)
- **Specialist Outpatient** - (manualised)
 - Motivational assessment interview
 - 12 individual CBT sessions
 - 4 sessions of parental counselling (with patient)
 - 3 dietary therapy sessions
 - 4 multi-rater monitoring sessions + feedback
- **Specialist Inpatient**
 - Initially 6 weeks, extended as clinically indicated
 - Outpatient follow-up
- **All treatments 6 months duration minimum**

Gowers S. and Smyth B. (2004). *European Eating Disorders Review* 12, 87-93

Figure 2. TOuCAN trial for adolescent anorexia nervosa: three randomised treatments

currently being followed-up at one and two years. As well as evaluating clinical outcomes, patient and user satisfaction and cost effectiveness are also being explored. The trial involves three randomised treatment arms of which one, the specialist outpatient programme, is based on CBT. An outline of this specialist outpatient programme and the motivational assessment interview that precedes it have been recently described (Gowers & Smyth, 2004). In essence, the individual manualised CBT programme uses a structured diary/log book to record and review eating behaviour, associated cognitions and feelings in relation to three areas: my self, education/career, and relationships (family and social). The aim is to identify the ways in which thoughts about eating weight and shape have become unhelpfully tangled up with thoughts in these other three areas of the patient's life. The behavioural side of the CBT approach addresses motivation and empowers the young person to make changes and experiment, thus testing out beliefs about links between eating behaviour and wider consequences. Supported by parental counselling and dietary therapy, the CBT approach incorporates 6-weekly therapist and patient ratings of eating and mood related cognitions as well as general functioning (HoNOSCA) (Gowers et al., 1998) and (HoNOSCA-SR) (Gowers et al., 2002). Encouraged to eat and gain weight from the outset, the 6-week feedback of self-report change scores and clinician assessment are used to provide further motivation for the next 6 weeks of the programme. Where weight gain is accompanied by improvements in cognitions (generally contrary to the patient's expectation), this provides the motivation for further eating and weight gain. Table 1 shows the relationship between weight progress and cognitive change for one illustrative subject over the course of treatment. Her scores on the self report Eating Disorders Inventory and the Recent Mood and Feelings Questionnaire reduced with weight gain, thus encouraging further progress. There was also a marked convergence over time between the patient and clinician scores of general functioning (HoNOSCA).

In this programme, involvement of the family comprises six-weekly parental counselling sessions (with the patient) involving the same therapist. The focus here is opening up communication, providing feedback and agreeing joint meal plans where required. The aim

Table 1. Specialist outpatient programme—case example

	Assessment	6 weeks	12 weeks	18 weeks	24 weeks
Weight-kg	38.6	39.8	42.6	46.7	48.3
BMI	15.1	15.8	16.6	18.2	18.9
EDI-DT	18	16	10	4	5
EDI-BD	24	23	18	9	9
EDI total	102	98	76	38	41
HoNOSCA	24	19	14	11	11
HoNOSCA-SR	19	21	15	11	11
MFQ	34	24	7	4	5

is to empower the young person to set the agenda for these meetings, using the therapist to help in communication with parents. At all times, confidentiality is maintained, unless high levels of risk demand otherwise. Some flexibility in this approach is required to take account of the patient's age and progress. An accompanying parent may well be seen briefly with the patient at the end of each session in younger cases (under 15 years).

Conclusion

The evidence base for the treatment of adolescent eating disorders is limited. In anorexia nervosa, little attention to date has been paid to trials of psychological therapies. It can be argued that eating disorders provide a classic example of mental health problems in which abnormal thoughts and behaviours combine to result in physical and social disability. Cognitive behavioural approaches should therefore in theory be effective. Although they have not as yet been adequately tested in this age group, results from the treatment of adolescent depression and anxiety disorders suggest that age appropriate modifications to adult CBT treatment programmes for eating disorders may well be effective. The TOuCAN Trial, to be published in 2006, should add usefully to the evidence base.

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