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Bulimia nervosa in adolescents: a new therapeutic frontier

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Enhanced cognitive behaviour therapy (CBT-E) is the first-line treatment for bulimia nervosa (BN) in adulthood. There is limited evidence for therapies for children and adolescents with BN; however family-based treatment (FBT) is being increasingly used. This case study contrasts the delivery of FBT with an augmented version (CBT-E) in two adolescents presenting with BN. In both cases, the adolescents achieved remission from BN symptoms, (cessation of bingeing and compensatory behaviour) at the end of treatment. The families reported that FBT provided a platform for them to work together and view BN as a family issue, rather than leaving the onus on the young person to recover independently. The addition of CBT-E strategies assisted with managing cognitions associated with bodyweight and shape concerns and appeared to be useful in a more complex presentation with comorbidities. Future research should examine the effectiveness of augmenting CBT-E strategies to FBT using larger samples and more rigorous research designs.

Practitioner points

- Involving families in the treatment of adolescent BN is both effective and acceptable to young people and their families.
- Two promising treatment approaches, FBT-BN and CBT-E, can effectively be combined to provide a therapy which has the strengths of both modalities alone.
- Adolescents with comorbidities or complex presentations may benefit most from combining the two modalities to develop additional skills and strategies.

Keywords: adolescent bulimia nervosa; enhanced cognitive behaviour therapy; family-based treatment; case study; family therapy; eating disorders.

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Bulimia nervosa (BN) is characterized by recurrent binge eating episodes (the consumption of abnormally large amounts of food in a relatively short period of time), followed by compensatory behaviour (purging or over-exercising) (American Psychiatric Association, 2013). An individual with BN can become entwined in the dangerous cycle of out-of-control eating and attempts to compensate. This behaviour can become compulsive and uncontrollable over time, and lead to feelings of shame, guilt and disgust.

BN is often difficult to identify and can proceed undetected for a long period with most patients maintaining average weight. That said, there are significant medical and physical complications to BN and it is often linked with comorbid issues such as depression, anxiety and deliberate self-harm (DSH). Prevalence rates are estimated between 1 and 2 per cent, with onset occurring mostly during adolescence or young adulthood (Herzog *et al*., 2000). A recent epidemiological study of a nationally representative sample of US adolescents aged 13–18 years identified prevalence rates of BN in adolescence as 0.9 per cent, which is three times higher than that found for anorexia nervosa (AN). Of the adolescents with BN, 88 per cent were also diagnosed with one or more comorbid psychiatric disorders. Further suicidal ideation, plans and attempts was rated higher in this subtype than in those with other eating disorders (ED) (Swanson *et al*., 2011).

Much attention has been given to the evaluation of BN treatment in adulthood, including pharmacological (Devlin and Walsh, 1995), nutritional (Salvy and McCargar, 2002) interpersonal psychotherapy (IPT) and cognitive behavioural therapy (CBT) (Fairburn *et al*., 1991). According to the National Institute for Clinical Excellence (2004) guidelines, cognitive behaviour therapy (CBT) is superior to other psychological and drug treatments in the adult population and should be the first line of treatment. Fairburn *et al.'s* (2009) transdiagnostic theory underpins the CBT approach for BN and suggests that EDs have more in common than differences, and that patients may move between ED diagnoses over time. It further suggests that all EDs share distinctive core psychopathology and interrelated maintaining mechanisms. The central cognitive disturbance is a 'dysfunctional schema for self evaluation' (Fairburn, 2008) characterized by over-evaluating and controlling shape and weight. There are four additional mechanisms that serve to maintain the ED; dietary restraint and restriction; a preoccupation with thoughts about food and eating, weight and shape; the repeated checking of body shape and weight or its avoidance; and engaging in extreme methods of

weight control (Fairburn, 2008). CBT for BN is designed to alter abnormal attitudes about body shape and weight, replace dysfunctional dieting with normal eating habits and develop coping skills for resisting binge eating and purging (Fairburn, *et al*., 2009).

Fairburn *et al*. (1993) allocated seventy-five adult patients with diagnoses of BN to three treatments; CBT, a simplified behavioral treatment (BT) and IPT. There was a high attrition rate (48 per cent) and the lowest level improvement in symptoms in the BT group. There were similar improvements in the CBT and IPT groups in reducing disturbed attitudes towards weight and shape and abstaining from binging and purging. However, the IPT group took longer to achieve this effect and surpassed the CBT group at follow up as patients continued to improve. This result suggests that IPT may be a useful alternative to CBT in some circumstances. However, IPT takes 8 to 12 months longer than CBT to achieve a comparable effect.

Several studies that have assessed the combined effectiveness of antidepressant medication and CBT found that the combination was superior to either one used separately (Walsh *et al*., 1997). In a meta-analysis of BN treatment outcomes, nine medication trials (870 participants) and twenty-six randomized psychosocial studies (460 participants) were included (Whittal, 1999). CBT produced significantly larger effect sizes for all treatment outcomes (binge and purge frequency, depression and self-reported eating attitudes). These results add further evidence that CBT is the treatment of choice for BN.

Unfortunately, there have only been a handful of research studies that have empirically validated effective treatments for children and adolescents with BN (Le Grange *et al*., 2007; Lock, 2005; Schmidt *et al*., 2007). Adolescence is a period of rapid growth and development, thus EDs are particularly dangerous for this age group, as nutrition deficiency and malnutrition can interfere with crucial development. Young people with ED tend to regress developmentally and withdraw socially. Ambivalence and a denial of the illness is also a common feature among adolescents with ED and often a request for treatment is instigated by their parents.

CBT requires accountability and motivation from the individual to take full responsibility and management of their food and eating, but this may not be developmentally appropriate for children and adolescents (Dodge *et al*., 1995). Lock (2002) suggests that a future enhancement to CBT for BN would be to include families. Given the similarities between adolescent AN and BN, Le Grange *et al*. (2004) suggested that family-based treatment (FBT) be considered for

adolescents with BN, drawing on the success of research in the AN arena. A family therapy pilot study that included eight adolescents (aged 14–17 years) with BN found that including families and educating them about BN assisted the disruption of the binge–purge cycle, which is important for recovery and abstinence. Overall, there were significant reductions in bulimic behaviour and, in particular, laxative abuse and self-induced vomiting (Dodge *et al*., 1995).

The first BN randomized controlled trial (RCT) to evaluate a non-manualized form of family intervention with a guided self-help version of CBT found both treatments were equally effective for the young adult sample (average age 17.6 years) at the 6-month follow up (Schmidt *et al*., 2007). In this study, some adolescents refused to participate based on their allocation to the family therapy group; they were typically older, suffered more chronic symptoms and comorbid conditions and reported poorer relationships with their parents.

Perkins *et al*. (2005) specifically explored reasons why some adolescents with BN prefer not to have parental involvement in their treatment. The participants were divided into two groups: in one there was no parent involved (NPI = twenty-three) in the other a parent was involved (PI = sixty-two). Of the NPI group approximately 52 per cent resided with one or more parent and of the PI group 95 per cent lived with their parents. The NPI group was also significantly older ($t = 2.686$, $\mathrm{df} = 43.7$, $P = 0.01$) and had a longer illness duration ($t = 2.877$, $\mathrm{df} = 30.63$, $P = 0.007$).

The most common reason the NPI group did not involve their parents in treatment was the perception that their mothers held a blaming and negative attitude towards the illness. This belief may have also contributed to a reluctance to have parents involved in treatment so that the sufferers could avoid exposing their personal struggles and bulimic behaviour. The NPI group also said that they were responsible for their illness and it was not their parents' problem to resolve. Conversely the PI group wanted to involve their parents in the treatment because they viewed them as having an interest in understanding their illness and being supportive.

Another adolescent BN RCT (eighty patients aged 14–17 years) compared manualized FBT-BN to supportive psychotherapy (SPT) (Le Grange *et al*., 2007). FBT was superior at the end of treatment, with 39 per cent of patients achieving abstinence compared with 18 per cent in the SPT group, and at 6-months follow up again FBT achieved an abstinence rate of 30 per cent compared with that of 10 per cent achieved by SPT.

It is proposed that FBT may be particularly helpful in a number of unique ways for adolescents with BN. Having parents participate in sessions improves their understanding of the illness and assists them to combat the secretive and ashamed actions of children with BN. This whole family approach may alleviate the perceived individual responsibility of management of the disease and recovery and disperse this to become a shared task. In comparison with AN, individuals with BN typically perceive their symptoms as egodystonic, and therefore are likely to be more willing to collaborate with parents to achieve symptom reduction.

The strengths and possible weaknesses of using FBT and CBT to treat BN in adolescents have identified; FBT targets the elimination of symptoms through behavioural mechanisms and parental supervision and support. However, the maladaptive cognitions associated with the illness are not specifically challenged in this treatment in the same way as they are in CBT. CBT, however, relies heavily on the individual for motivation and responsibility, which may not suit the presentation of the condition in adolescents. Nevertheless, CBT is traditionally an individual approach, which may be strengthened by involving parents.

The current research idea of comparing and contrasting FBT with a hybrid of the FBT and CBT model arose from the emerging evidence that having parents actively involved in treatment (where appropriate) is beneficial and improves efficacy. Therefore we explored whether the combination of FBT + CBT (with the inclusion of parents) yields better outcomes than FBT alone for an adolescent BN population. In this study, such an approach is described using illustrative examples of its effectiveness with two adolescent girls diagnosed with BN.

Method

Clients

The clients who agreed to participate in this study were two girls with a diagnosis of BN residing at home with their families, who presented to an outpatient tertiary mental health service (a child and youth mental health eating disorders programme).

Therapists

There were three therapists involved in delivering treatment in this study; two senior psychologists trained and experienced in FBT and

CBT and a student psychologist undergoing training in both FBT and CBT.

Design

The adolescents and their parents were invited to provide their informed signed consent to be eligible to partake in the case study. Both young people and their families consented to data being collected for the purposes of this study and were aware that their results were being compared with that of other clients and families and might eventually be published. It was explained that the information would be de-identified.

The design is a case study, collecting assessments of bodyweight, frequency of binge and purging, and ED psychopathology for each participant. Participant one received manualized FBT-BN, the other received a combination of FBT-BN and CBT. Details about each participant, treatment and results are reported below.

Measures

Eating disorder symptoms. The frequency of binge and purge episodes was recorded weekly by the participant and the therapist recorded the weekly totals on a log sheet in the family session. The participants' weight was also monitored until they had achieved stable weight.

The eating disorder examination (EDE) was delivered by the therapists following the final treatment session to assess psychopathology associated with the diagnosis of an ED. No pre-treatment measure was administered due to time constraints. The EDE is rated using four subscales (restraint, eating concern, shape concern, weight concern) and a global score. The questions concern the frequency with which the patient engages in behaviour indicative of an ED over the most recent 28-day period. In past research, the Cronbach's α for subscales of the EDE has ranged from .44 to .78 (Berg *et al*., 2012).

Treatment

Family-based treatment for bulimia nervosa (FBT-BN)

FBT-BN is a manualized treatment similar to FBT-AN in that it also proceeds through three distinct phases of treatment (Le Grange and Lock, 2007). The treatment duration for FBT-BN occurs over a

period of approximately 6 months, in contrast to approximately 12 months for AN.

Phase one. Re-establishing a regular pattern of eating (weekly sessions). The focus is on helping the adolescent and her parents unite in creating strategies to confront the ED and the hold it has on the adolescent and the family.

Phase two. Helping the adolescent eat independently (fortnightly to three-weekly sessions). This phase aims to return control of eating to the adolescent in a graduated and supported way (under parental supervision).

Phase three. Adolescent issues and termination (monthly sessions). Goals include increased autonomy for the adolescent and a return to normal family functioning and boundaries after the crisis of the ED has receded.

Cognitive behaviour therapy for bulimia nervosa (CBT)

CBT is a manualized treatment that proceeds through four distinct stages (Fairburn *et al*. 2003). It is suggested that sessions should be held over 20 weeks.

Stage one. Starting well (twice weekly sessions). The therapist focuses on providing psychoeducation on the physical, interpersonal and psychological dangers of BN, and engaging the client in treatment and the change process.

Stage two. Review progress (one–two sessions weekly). Once regular eating has been established and the client is familiar with therapy, the therapist and family identify and address the barriers to treatment compliance.

Stage three. Address psychopathology (one session a week for a maximum of 8 weeks). This stage occupies the largest part of treatment and is driven by the individualized formulation identified with the client. Emphasis is placed on modifying the client's eating disorder behaviour and thought patterns and addressing the additional processes identified as relevant, identifying and challenging the patterns

identified via self-monitoring, behavioural experiments and specific skill building.

Stage four. Ending well (three fortnightly sessions) the final stage of therapy is future focused, and the therapists aim is to assist the family to generalize therapeutic gains and prepare for future difficulties in order to minimize the risk of relapse.

Results

Participant One (Ella): BN

Ella (pseudonyms are used) was a 15-year-old girl from an intact family and was referred to the service by her parents with concerns regarding her disordered eating that had emerged approximately 6 months before. The concerns began when Ella became focused on 'clean eating' (avoiding processed foods) and increased her exercise to 14 hours a week at the gym. Ella described feeling that she was obsessed and was unable to be flexible with her intake and exercise regime. Ella noted that on the rare occasion she allowed herself to break food rules this resulted in her feeling extremely guilty and in striving for a more restrictive intake. In the weeks leading up to Ella's referral, she had started to eat in secret, bingeing on large amounts of feared foods and then engaging in purging via excessive exercise in the days following to compensate. At assessment the bingeing behaviour had increased from once a week to every day and Ella reported feeling ashamed, distressed and out of control. Her parents reported feeling helpless and noted that their previously happy daughter was now moody, irritable and sad.

Manualized FBT-BN was offered and accepted by Ella and her parents. This entailed the family agreeing to attend all sessions together. Prior to each family session, physical observations (blood pressure, pulse and temperature) were taken by the medical officer, initially weekly, then reduced as Ella became more well. Following this the therapist would meet Ella for 5 minutes to explore particular issues she would like to address in the family session and for her to be weighed and the binge–purge episodes to be recorded. These served as a useful tool to accurately reflect progress and challenges of the week, as did regular weight checks. The therapist and Ella would then collect the parents from the waiting room and commence the family session.

Phase one. Re-establishing a regular pattern of eating. Goals included keeping treatment focused on the ED, helping the parents take charge of re-establishing healthy eating habits, guiding parents to employ strategies that curtailed bingeing and purging, and mobilizing siblings to support the patient (Le Grange and Lock, 2007).

Session one with Ella and her parents included collecting a history of how each family member had been affected by the ED, externalizing the illness from Ella and attempted to free her parents from feelings of guilt or blame that they were the cause of the ED. An essential part of the session focuses on the seriousness of the ED and the potential medical and psychological risks associated with it. The session also focused on identifying the BN behaviour, and the attempts Ella had tried on her own to conquer them. Medical and emotional problems associated with BN were highlighted at the same time as explaining that the family's role would be essential in assisting Ella to get well. The key to this success would be the unification of the parenting team. The parents were charged with the task of assisting Ella to engage in regular eating without bingeing and purging (via excessive exercise) and that their role was to help Ella (with collaboration) recover from this illness. Finally, the parents were asked to bring in a meal to the next session that would set Ella on the path of recovery.

Session two involved a family meal (as per the manual) and during this session a further assessment of the family structure and functioning in relation to the ED was conducted. This session also served to provide the parents with practical experience in re-establishing healthy eating and limiting ED behaviour. It aimed to provide the adolescent with an opportunity to discuss the inner conflicts she experienced when consuming forbidden foods.

Ella's parents selected two different kinds of sweet biscuits that she had been bingeing on for afternoon tea. The parents decided that one of each would be an appropriate amount for afternoon tea. Ella was able to do this, noting that she did not think a binge would be tempting in the therapy session as she often binged alone at night when others were not able to observe her. Strategies were discussed with the family on how to support Ella when she was feeling vulnerable at night, when her binge and purge episodes seemed more frequent.

A review of the food logs revealed an overall decline in her ED behaviour, which Ella attributed to an increase in motivation following the first FBT session. An episode of bingeing was explored to highlight Ella's continuing struggle when unsupervised. Ella reported self-loathing over this episode and a belief at the time that as she had

lapsed that she 'may as well continue with bingeing'. After further assessment, the therapist assisted the parents to recognize that they had been lulled into a false sense of security and had not realized how much Ella was still struggling, and had withdrawn their support and supervision prematurely. The parents used this as a learning opportunity to generate strategies and minimize chances for the bingeing pattern to continue.

Once the above issues had been addressed with the family, there was a significant improvement in Ella's eating patterns. Over subsequent sessions there were times that Ella believed she had binged, but upon further exploration it became clear that these binges were subjective and Ella needed support from her parents to understand what a normal amount of food is. Role plays in session were also used to assist in improving the communication between Ella and her parents.

Phase two. Helping the adolescent eat independently. Transition to phase two occurs when the young person's eating patterns have normalized with the help of her parents (for example, no excessive exercise, bingeing or vomiting). The first goal of this phase of treatment is to help the young person achieve a sense of competence over her eating and weight-related behaviour. The second goal is to explore the relationship between adolescent development issues and BN.

Now that Ella, with the assistance of her parents, had re-established a regular pattern of eating with a cessation of bingeing and excessive exercise, it was time to transition her to manage eating more independently. Gradually, her parents reduced their supervision and mealtime management, which included prompting her around the variety and volume of food she ate. Ella's confidence grew as she was able to manage autonomously. There was a significant improvement in her mood during this phase, with her saying she felt happier, more energetic and more confident.

Phase three. Adolescent issues and termination. This phase occurs when all binge and purge symptoms have ceased, restricted eating has ceased and weight is stable. The establishment of a healthy adolescent relationship with the parents in which the illness does not constitute the basis of interaction is the final goal to be achieved.

Ella had transitioned back to managing her intake independently and had re-engaged in a moderate amount of exercise. Ella noted that the intrusive thoughts around body shape and weight that she had previously experienced had abated and this, in turn, had led to

further improvement in her mood and self-confidence. The family noted a return to prior functioning in their relationships and they felt they were once again parenting a 15-year-old girl rather than a younger child. The parents reported that communication in the family had improved and that they felt empowered to assist their daughter. The therapist encouraged the parents to think about their couple relationship prior to the onset of the BN and reflect on and nurture it, now that the crisis has been eradicated. The final session also included formulating relapse prevention strategies.

Participant two (Alice): BN + DSH and comorbid depression

Alice was a 15-year-old girl residing in an intact family with two younger sisters. She was referred to the service following an emergency department presentation for the intentional ingestion of bleach. On assessment, Alice reported a 5-month history at least of caloric restriction, rigid food rules, excessive exercise and purging in the form of vomiting. She reported restricting food intake, particularly at school, and eliminating food groups such as dairy, carbohydrates and 'junk food', with the intention of losing weight. According to Alice, eating would cause her intense feelings of disgust and self-loathing, which she would regulate through vomiting and excessive exercise. She reported a 10-month history of low mood and DSH, in the context of dissatisfaction with her weight and shape. Alice reported worrying excessively about the way her peers evaluated her and that the 'thin ideal' was held in high esteem by them, which perpetuated her restricting behaviour. In addition, she experienced disrupted concentration at school and as a result her academic performance declined.

CBT was delivered in conjunction with FBT-BN, based on the assumption that adolescents with comorbidities or complex presentations may benefit most from combing the two modalities to develop additional skills and strategies. The structure of each session involved all family members participating in approximately 30 minutes of FBT-BN and 30 minutes of CBT, with the exception of session two, when the family participated in the family meal. Alice was also monitored physically and participated in the 5-minute individual meeting with the therapist prior to the family sessions.

Phase one FBT and stages one and two of CBT. Phase one of FBT was delivered in accordance with the manual. The focus of the family sessions was on assisting the parents to work with Alice to take control of

food and eating, while decreasing bingeing and purging episodes. In FBT it is vital for the patient to align with siblings for support. Alice's younger sister had assumed a parenting stance through the development of her ED; however, therapy allowed the parents to take back this role and the sister to resume being supportive without the burden of supervising.

In the CBT section of the first session, psycho-education around the ineffectiveness of dietary restraint and purging as weight control methods was provided. Alice was able to explore the negative consequences of these actions with her family, as well as her readiness to change. An individualized formulation was created collaboratively with Alice and her family, with equal acknowledgement of both the positive and negative consequences of BN. This assisted Alice and her family to understand the complex maintaining mechanisms of her ED. Alice explained how the distress arising from her dissatisfaction with her shape and weight resulted in her attempts to rigidly control her food intake. Alice experienced intense self-loathing and guilt when these attempts failed, which lead to purging and excessive exercise as compensatory measures, adding to the self-perpetuating cycle.

The regular eating of meals and snacks was introduced as an important foundation for change. This was helpful in reducing the frequency of her binge and purging behaviour and was established as an early goal. Her self-monitoring of eating and compensatory behaviour was also introduced by keeping food records.

The family meal (session two of FBT-BN) was a particularly helpful intervention that uncovered numerous kinds of BN behaviour (such as arguments and negotiations around food), and the parents were coached in how to manage these and Alice's distress. The externalization of the eating disorder, which Alice named Ed, was also useful in assisting the family to recognize Alice as separate from the ED.

Through collaboration, Alice and her parents agreed to work together to establish regular eating, which included increased supervision post-meals when Alice was vulnerable to vomiting. Alice requested in session that her mother initially come to the school to support her during mealtimes, and this lead to a significant reduction in her purging behaviour. As her compensatory behaviour decreased, Alice experienced increased guilt and self-loathing and engaged in discrete DSH. The parents noticed that Alice's depressive symptoms intensified and chose the family session to address them. This allowed Alice to again seek support from her parents to manage this, while being supported to challenge her thoughts and utilize improved

metacognitive awareness. An antidepressant (selective serotonin reuptake inhibitor) was prescribed to assist with low mood.

Phase two FBT and stage three CBT. Phase two and stage three of the intervention occurred concurrently. Alice was supported by her parents to begin resuming a more age-appropriate level of responsibility over her food and eating in the FBT-BN focused section of the session.

In the CBT section the formulation was revisited to determine whether additional maintaining mechanisms (low self-esteem, perfectionism, interpersonal problems and mood intolerance) also needed to be addressed in therapy. Low self-esteem and mood intolerance were highlighted as important maintaining elements of Ed, as was upward social comparison, in the form of comparing her body unfavourably to that of her peers (a form of body checking). With the goal of extending Alice's self-worth outside her weight and shape concerns, she identified areas she would like to focus on as school, friends and family. The role that Alice most wanted to achieve was that of a better older sister.

During this phase Alice came to recognize her parents were supportive and understanding and their relationship became more open and honest. The safety and containment of the family therapy sessions allowed Alice to disclose an incident of alleged sexual assault which precipitated her presenting ED concerns. Parents were able to employ the same supportive stance as in earlier sessions and Alice's BN symptoms reduced to nil within weeks as a result. A referral was made for a specialist sexual assault service, with the intention of continuing current therapy for management of BN.

Phase three FBT and stage four CBT. The major focus of phase three and stage four involves maintaining regular eating without compensatory behaviour and a return to normal family functioning. This typically involves challenging the rigid or distorted thoughts that maintain the eating disorder. For Alice, this was supported by her recognizing that during periods of distress, her BN symptoms returned and resulted in weight gain, whereas regular eating resulted in a steady return to normal weight. This coincided with improved affect, relationships and enjoyment of food and exercise on her part. Although Alice experienced a resurgence of BN symptoms following the commencement of external specialized therapy addressing the alleged sexual assault, her parents were able to utilize the skills they had learned to manage and

TABLE 1 *Eating disorder symptoms of the participants*

Participant	Binge or purge episodes (average/week)		Eating disorder examination Global score, post
	Baseline	End of treatment	
1 (Ella)	12	0	0.64 (full remission)
2 (Alice)	10	0	1.52 (full remission)

Note: EDE global mean score: 0.932 (SD: 0.805).

reduce this behaviour. The remainder of the therapy focused on highlighting these improvements, assisting Alice to build acceptance of her natural body shape and prevent a relapse. A final session provided a reflective opportunity for the family, when Alice's sisters described her as an inspiring role model. The family agreed they were now more cohesive as a result of the treatment, and the parents were more confident in handling distress and conflict.

Assessment pre- and post-treatment

Participant one (Ella) had experienced a duration of illness of 6 months at baseline, and the rate of binge eating and purging ranged from six to fourteen episodes per week, with a mean of twelve episodes per week. At end of treatment, her abstinence rate was 100 per cent and the mean number of episodes had been reduced to 0 episodes per week. Ella also met the criteria for full remission at the end of treatment, with an eating disorders global score within one *SD* of the norm (Table 1).

Participant two (Alice) whose illness had been complicated by depression and DSH at baseline, with the rate of binge eating and purging ranging from seven to fourteen episodes per week and a mean of ten episodes per week. At end of treatment, her abstinence rate was 100 per cent and the mean number of episodes had been reduced to zero per week. Alice also achieved full remission with her eating disorder scores within one *SD* of the norm at the end of treatment (see Table 1).

Discussion

In the literature on adults, CBT is regarded as the first-line psychological treatment for BN (National Institute for Clinical Excellence, 2004). CBT requires significant motivation and responsibility from

the disordered individual, yet many adolescents with ED are ambivalent towards their illness and often initially avoid treatment (Dodge, *et al*., 1995). The inclusion of families in adolescent BN treatment is gaining momentum (Le Grange and Lock, 2007) and yielding positive outcomes. FBT for ED posits that the adolescent has regressed in terms of managing food and eating and that they are not able to recover without significant support from their family.

This novel case study was aimed to further assess the suggestion by Lock (2005) that CBT for BN would be enhanced by the inclusion of families. The first participant and her family recived the manualized version of FBT-BN and the second had a combination of FBT-BN and CBT-E.

Our results support the idea that families possess significant skills, commitment and the unique knowledge of their children to assist their offspring to recover. Remission of BN symptoms was achieved by both families, with a cessation of bingeing and compensatory behaviour at the end of treatment.

Specific feedback from the families involved in the case study was obtained by the therapists following the end of treatment in a feedback session. Both sets of parents said that being involved in treatment with their adolescent not only improved their understanding of the illness but prevented the ongoing, secretive, shameful nature of the illness by collaboratively tackling the issues as a united force. As a result, both families reported increased family cohesion and improved communication, and the parents also reported they felt more confident about managing future difficulties.

The parents also identified various specific strengths of FBT, which included having them temporarily taking charge of their child's food and eating until their child could manage – this was reported as a relief by the young person. The family meal session was also identified as a valuable practical skill-building intervention that provided the parents with specific skills to manage the BN behaviour. Externalization was reported to be effective in that it allowed the parents to identify ED behaviour without targeting their child and it increased the adolescent's insight into their illness.

The family that received the additional CBT intervention acknowledged the usefulness of the formulation session as a key in dismantling and disrupting the maintaining mechanisms of the illness. Both the parents and the adolescent felt they had been armed with cognitive skills to evaluate and challenge the BN belief system, which were used to cease the binge eating, purging, self-harm and critical self-

talk. The family also supported their child to manage bodyweight and shape concerns through the use of behavioural experiments.

In the case of Alice, the experience of being supported effectively by her family allowed her to trust her parents to the extent of disclosing the significant trauma that precipitated her BN. It is unclear whether individual treatment, utilizing CBT only, would have had as significant an effect in such a short amount of time. The parents' presence in therapy did ensure that information was brought into the therapy room, which at times Alice did not share with them at home (such as DSH). Our results suggest that combining CBT-E and FBT-BN may be particularly beneficial for complex or severe cases, such as adolescents with additional comorbid or complex presentations.

While the current case study contributes to a body of research that is growing over time in the field of adolescent BN, there are two major limitations. The first is that the participants were derived from a clinical sample after presenting to our adolescent tertiary ED treatment centre. The second limitation to the current case study is the small sample size. Further research on a larger scale is needed to assess whether these results can be replicated and generalized.

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