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Cognitive Behaviour Therapy for Bulimia Nervosa and Eating Disorders Not Otherwise Specified: Translation from Randomized Controlled Trial to a Clinical Setting

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Background: Enhanced Cognitive Behaviour Therapy (CBT-E) (Fairburn, Cooper and Shafran, 2003) was developed as a treatment approach for eating disorders focusing on both core psychopathology and additional maintenance mechanisms. **Aims:** To evaluate treatment outcomes associated with CBT-E in a NHS Eating Disorders Service for adults with bulimia and atypical eating disorders and to make comparisons with a previously published randomized controlled trial (Fairburn et al., 2009) and "real world" evaluation (Byrne, Fursland, Allen and Watson, 2011). **Method:** Participants were referred to the eating disorder service between 2002 and 2011. They were aged between 18–65 years, registered with a General Practitioner within the catchment area, and had experienced symptoms fulfilling criteria for BN or EDNOS for a minimum of 6 months. **Results:** CBT-E was commenced by 272 patients, with 135 completing treatment. Overall, treatment was associated with significant improvements in eating disorder and associated psychopathology, for both treatment completers and the intention to treat sample. **Conclusions:** Findings support dissemination of CBT-E in this context, with significant improvements in eating disorder psychopathology. Improvements to global EDE-Q scores were higher for treatment completers and lower for the intention to treat sample, compared to previous studies (Fairburn et al., 2009; Byrne et al., 2011). Level of attrition was found at 40.8% and non-completion of treatment was associated with higher levels of anxiety. Potential explanations for these findings are discussed.

Keywords: Adults, bulimia nervosa, cognitive behaviour therapy, cognitive behavioural intervention, eating disorders, EDNOS, cognitive behavioural therapy

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Introduction

Manual-based cognitive behavioural therapy (CBT; Fairburn, Marcus and Wilson, 1993) is the most extensively studied psychological intervention in the treatment of bulimia nervosa (BN) (Chakraborty and Basu, 2010). Cognitive behavioural treatment of BN (CBT-BN, Fairburn et al., 1993) has been shown to be more effective than other psychological treatments to which it has been compared, and to the use of pharmacological treatments (Wilfley and Cohen, 1997). In 2004, evidence-based guidelines proposed by the National Institute for Clinical Excellence (NICE, 2004) recommended CBT-BN as the treatment of choice for adults with BN and concluded that it should be routine practice in the National Health Service (NHS).

Previous research has shown that CBT-BN is associated with 40–50% of clients ceasing binge-purge behaviour (Wilson, Fairburn, Agras, Walsh and Kraemer, 2002). With around half of clients not responding to CBT-BN, this led to the development of the transdiagnostic theory of eating disorders, extending its predecessor by proposing that although eating, shape and weight over-evaluation remain the "core psychopathology", individuals may also experience additional maintaining processes.

In response, Fairburn, Cooper and Shafran (2003) derived an enhanced, transdiagnostic CBT (CBT-E); suitable for all clinical eating disorders including core psychopathology and additional maintenance mechanisms. The use of CBT-E for eating disorder psychopathology generally (regardless of DSM-IV diagnosis) rather than solely a treatment for BN is of clinical value as EDNOS is the most common category of eating disorder encountered in clinical settings (Fairburn and Bohn, 2005). Two versions of CBT-E exist; a "focused" version (CBT-Ef) exclusively addressing processes acting to directly maintain eating disorder psychopathology; and a "broad" version (CBT-Eb), also addressing one or more of the following additional maintaining processes; clinical perfectionism, core low self-esteem and interpersonal difficulties. The mechanism of mood intolerance was initially part of CBT-Eb; however, it was later moved to CBT-Ef (Fairburn, 2008).

In an attempt to demonstrate the utility of CBT-E as a valid and appropriate treatment for BN and EDNOS, Fairburn et al. (2009) conducted a randomized controlled trial (RCT) assessing the efficacy of CBT-Ef and CBT-Eb in outpatients with any form of eating disorder. The eligibility criteria stated that clients must have a BMI of 17.5 or above, be aged between 18–65 years, and have an eating disorder requiring treatment. One hundred and forty-nine patients were entered into the trial, receiving either CBT-Ef or CBT-Eb. Results revealed that of those who completed treatment, 66.4% had a global Eating Disorder Examination (EDE; Fairburn and Cooper, 1993) score of less than one standard deviation above the community mean, indicating good outcome. Concerning those diagnosed with BN, 38.6% reported ceasing all binge-purge behaviour at the end of treatment, benefits that were maintained at a 60-week follow-up. Overall level of attrition was 22.1%.

In the full sample, there was no difference between the two versions of CBT-E (CBT-Eb and CBT-Ef), but for those clients with substantial additional psychopathology (of the type targeted by CBT-Eb), the use of CBT-Eb appeared to be more effective than CBT-Ef. This trial indicates that a single treatment type can benefit both BN and EDNOS diagnoses, supporting the transdiagnostic model and suggesting an increased utility over its predecessor CBT-BN, regarding the full range of patients treated.

Although RCTs are considered the gold-standard for inferring a cause and effect relationship, they are often criticized for not being relevant to the broad range of clients

seen within a "typical" clinical setting. Fairburn et al.'s. (2009) trial is a partial exception to this, due to the limited exclusion criteria stipulated and its focus on complex, additional psychopathology and maintenance mechanisms. However, it is still difficult to determine how such studies generalize to treatment conducted in a typical clinic, where controlled, prescriptive processes and treatment protocol may be difficult to adhere to, due to "real world" issues, including lengthy waiting-lists, limited resources and less intensive supervision arrangements.

An open trial conducted by Byrne, Fursland, Allen and Watson (2011) attempted to rectify this, by evaluating the generalizability of CBT-E in an outpatient clinic for adults with a full range of eating disorders in Western Australia. Byrne et al. (2011) found that of 176 referred clients, 125 (70%) entered the open trial and attrition rates were 40%. Of the 66 treatment completers, 56.1% were in predefined full remission, with 10.6% in partial remission; 66.7% of treatment completers had posttreatment global EDE-Q scores lower than one standard deviation above Australian community norms, indicating good outcome. Furthermore, significant improvements were revealed on all eating-related measures and associated psychopathology, such as depression, anxiety, stress, self-esteem and quality of life.

These findings suggest that CBT-E is generalizable to treatment conducted in a non-controlled clinical context, provided by therapists with a range of previous experience and training. Furthermore, as this study included individuals with the full range of eating disorders found in the community, this adds further evidence to the generalizability of CBT-E. However, the question remains whether CBT-E can be successfully delivered within the context of a UK NHS Eating Disorders Service (EDS), and, whether a service evaluation conducted within the UK can reproduce the promising findings demonstrated by Byrne et al. (2011).

Aims

This study analysed the impact of CBT-E within the Eating Disorders Service (EDS) of Cardiff and Vale Adult Mental Health Service. Specifically, this paper evaluated treatment outcomes for EDS clients who received CBT-E for treatment of BN or EDNOS between 2002 and 2011. Moreover, the evaluation aimed to investigate whether the response to CBT-E observed within this clinical context would be similar to those achieved in a RCT (Fairburn et al., 2009) and an Australian community study (Byrne et al., 2011). Thus we were evaluating how well CBT-E implemented in a RCT context translated to the delivery of treatment within a UK community setting and hence whether CBT-E is an appropriate treatment in this context.

Method

Recruitment and inclusion for treatment

Clients were referred to the EDS primarily by Community Mental Health Teams (CMHTs). Appropriate referrals received an initial assessment, involving the completion of questionnaires and clinical interview with a clinical psychologist or specialist dietitian. Clients deemed suitable for treatment following assessment were placed on a waiting list until a treatment appointment became available. Eligibility criteria for accepted clients were: aged between 18–65 years; registered with a General Practitioner within Cardiff and Vale

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University Health Board catchment area; experiencing symptoms fulfilling the *Diagnostic and Statistical Manual, 4th Edition* (DSM-IV; American Psychiatric Association, 1994) criteria for BN or EDNOS for a minimum of 6 months; to be free from alcohol and/or drug addiction; and motivated to attend and engage in therapy sessions.

Treatment

EDS treatment was conducted on an outpatient basis and mirrored Fairburn, Cooper and Shafran's (2003) CBT-E. Although a standardized guide for treatment was not published until 2008 (Fairburn, 2008), the two lead psychologists within the EDS underwent training in this treatment model in 2002 with Professor Fairburn and received year long, fortnightly group supervision, which continues to a lesser extent to the present day. Completion of the EDS treatment course was defined as successful progression through each of the four stages outlined by Fairburn (2008), but with some crucial differences within the treatment process:

1) Route into treatment included assessment appointments by two different professionals, one within the CMHT and one within the EDS. Patients meeting the criteria for this study were asked if they wished to proceed with this treatment and placed on a waiting list of 6–8 months, necessary due to limitations of dedicated staff time.
2) Patients opting into treatment were recommended a self-help book (*Overcoming Binge Eating;* Fairburn, 1995) and invited to attend a lecture by the EDS assistant dietitian covering psycho-education of eating disorders, whilst on the waiting list. These options were put in place to increase patient motivation and engagement with the service whilst on the waiting list.
3) Sessions 0–8 were weekly, not twice weekly due to resource constraints.
4) Fairburn (2008) recommends the use of a preparatory session before commencement of treatment. Due to EDS staffing constraints and waiting list pressures, clients were not offered this.
5) Key stages 3 and 4 of treatment were supported with workbooks formulated by EDS psychologists following the training and supervision received from 2002 onwards from Professor Fairburn. The use of workbooks was discussed as a concept with Fairburn in supervision. Workbooks included shape and weight concern and checking, feeling fat, mindsets, dietary restraint and rules, and controlling eating. Workbooks also covered the impact of events, moods and eating, and finally "continuing your progress". Workbooks summarized ideas learned from training with Fairburn prior to publication of the 2008 guide. They were designed to use as a guide with the client in session and to keep the therapist "on model", along with supervision. Many therapists working in the EDS are seconded for half a day into the service on a training basis, with the rest of their time typically spent in a general adult mental health role. The workbooks represented a valued therapy aid for the service, allowing "generalists" to supplement their skills for this client group.
6) As the EDS is a clinical service, rather than a research trial, there was variance regarding the total number of sessions EDS clients received (delivered according to perceived need during treatment). The mean and median number of sessions was 20 and ranged from 6–40 sessions. The additional sessions accounted for in the higher range included work on significant early trauma, which would have been dealt with outside of the EDS in an RCT

or where there was an alternative service to refer more complex cases. Where significant trauma was identified as a barrier to progress at session 6–8, CBT-E work was suspended and 10–20 sessions of trauma work offered before returning to complete stages 3 and 4 of the CBT-E. This occurred in fewer than 5% of cases.

Therapists

Within the EDS, clients were treated either by one of the two lead psychologists, who are eating disorder specialists trained and supervised by Professor Fairburn, or by a seconded non-specialist eating disorder therapist. These therapists were health professionals seconded to the EDS specifically to train in CBT-E and came from varying professional backgrounds, with differing experiences of psychological therapies. Seconded therapists were trained and supervised by the EDS lead psychologists. During their time at the EDS, seconded therapists worked with the EDS for half a day a week so they could see two cases at any one time, attend group supervision and additional training events. This commitment lasted for a minimum of one year. The limited time seconded therapists spent at the EDS was a factor in the restriction to once-weekly appointments in the first 8 weeks of treatment. Throughout the 2002–2011 period, the EDS experienced a high turnover of seconded therapists, with the number of therapists working within the service varying between 2 and 10 at any one time.

Ethics

The project was approved as a service evaluation and so no NHS Research Ethics Committee (REC) approval was required; however, university ethical approval was obtained.

Measures

Before commencing treatment, clients provided demographic data including: sex, age, marital status, ethnicity, occupation, age of onset of eating disorder, current BMI, and lowest ever weight. Clients were also asked to indicate their lifetime use of anti-depressants and contact with psychiatric services. Clients also completed pretreatment motivation scales.

Eating disorder features were assessed both prior to and following treatment, with the Eating Disorder Examination Questionnaire (EDE-Q; Fairburn and Cooper, 1993), a 28-item self-report measure assessing the present state of an eating disorder. Eating disorder associated psychopathology was assessed with the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown and Steer, 1988); and Beck Depression Inventory (BDI; Beck, 1996).

Outcome variables

The main outcome involved changes in the EDE-Q, BDI and BAI for treatment completers, from pre to posttreatment. EDE-Q global scores generated from the four psychopathology subscales formed the second outcome measure. Normative comparisons were conducted to evaluate clinical significance of the intervention and offer indication of good outcome. Clinical significance was defined as posttreatment functioning falling within a normative range (Kendall, Marrs-Garcia, Nath and Sheldrick, 1999). Posttreatment global EDE-Q scores were examined with scores less than one standard deviation above the UK global EDE-Q

community mean (i.e. below 2.53) (EDE 17.0D; Fairburn, Cooper and O'Connor, 2014), indicative of good outcome. No follow-up data are available on the above outcomes.

Statistical analysis

Outcome data were analysed using both completer and intention to treat methods. For intention to treat analyses, pretreatment data were carried forward for those cases where end (posttreatment) scores were missing. The intention to treat sample consisted of all those who started treatment ($n = 272$); however, it excluded individuals who were currently receiving treatment ($n = 26$). Therefore the total number of individuals within the intention to treat sample was $n = 246$.

For comparisons between treatment starters and non-entrants, and completers and non-completers, categorical data were compared using chi-square tests, and continuous data compared with either Mann-Whitney U (for non-normal data) or independent *t*-tests (for normally distributed data). Pre and posttreatment data were compared with Wilcoxon signed-rank tests, due to the non-normal distribution of the data. Effect sizes were calculated using Pearson's *r* and Bonferroni correction was applied to control for multiple testing. Global EDE-Q scores were calculated for those who had complete data, pre- and posttreatment, for both completer and intention to treat analyses.

Results

Entry into EDS and patient characteristics

The EDS received 683 referrals between January 2002 and June 2011, with 272 patients commencing treatment. Figure 1 shows participant referral and flow through the EDS. "Non-entrants" were those who reached the top of the treatment waiting list and did not enter their first appointment, and those who attended their first appointment but decided not to engage with treatment. The 272 patients (60.3% of the 451 receiving an initial assessment) beginning treatment is larger than the 42.7% of patients entering Fairburn et al.'s (2009) trial, but closer to the 70% of clients entering the Byrne et al. (2011) open trial from original referral and assessment. Characteristics of treatment starters are presented in Table 1.

Comparison of pretreatment measures and time waited between referral and initial assessment did not reveal any differences between treatment starters and non-entrants, following corrections for multiple testing. There were significantly more females within the treatment starters group (97.1% vs. 89.7%, $p < .01$); however, this did not remain significant, following corrections for multiple testing.

Attrition

Of the 272 treatment starters, 135 (49.6%) completed treatment; 88 (32.3%) dropped out of treatment; and 23 (8.5%) were categorized under "agreed closure" in which treatment was suspended on the joint decision of client and clinician, bringing the total "non-completers" to 111 (40.8%). A further 26 clients (9.6%) classified as "open" were still receiving treatment at the time of the study. Comparison of pretreatment measures between treatment "completers" and "non-completers" revealed significant differences for the BAI: $t(240) = 3.517$, $p < .001$),

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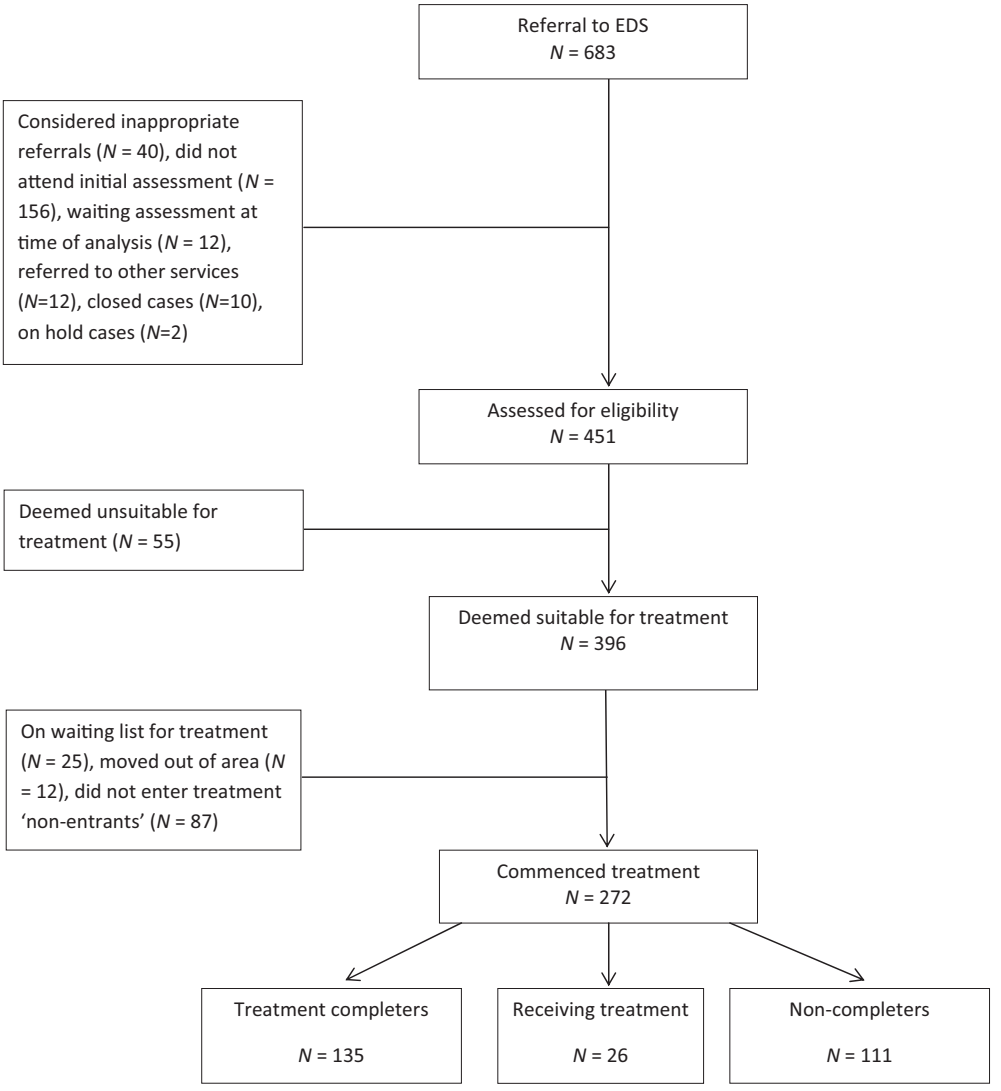

Figure 1. Flow of patients through the EDS

with pre-treatment BAI scores being lower for treatment completers. Completer and non-completer groups did not differ on any other pre-treatment measures or time waited between assessment and first treatment offer, following corrections for multiple testing.

Post-treatment CBT-E effects

For both treatment completers and the intention to treat sample, significant differences were found between all pre and posttreatment eating related psychopathology, associated

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Table 1. Characteristics of EDStreatment starters

	Treatment starters ($N = 272$)	
Characteristic	*N*	%
Diagnosis		
Bulimia Disorder	74	27.2
Atypical ED	177	65.1
Unspecified in data set (but not Anorexia Nervosa)	21	7.7
Female	264	97.1
Marital status		
Single	183	67.3
Married	38	14.0
Cohabiting	18	6.6
Divorced	14	5.0
Separated	2	0.7
Widowed	1	0.4
Unspecified	16	6.0
Ethnicity		
White	250	92.0
Ethnic origin other than white	12	4.4
Did not disclose	10	3.6
Previous contact with psychiatric services		
Yes	134	49.3
No	112	41.2
Counselling	4	1.5
Did not specify	22	8.0
Ever taken anti-depressant medication		
Yes	183	67.3
No	71	26.1
Did not disclose	18	6.6
	Mean	Standard Deviation
Age (years)	28.74	8.49
Age of onset (years)	18.26	7.36
Body Mass Index (BMI)	23.81	6.31

psychopathology and for the following behavioural measures of the EDE-Q frequencies: binge episodes, binges, loss of control, vomiting and laxative use. Results are displayed in Table 2.

For treatment completers, 8 (7.5%) of the 106 patients for whom a global score could be calculated had a pretreatment score less than one standard deviation above the community mean (i.e. below 2.53). Posttreatment, this was the case for 83 (78.3%) treatment completers. Regarding the intention to treat sample, 12 (5.1%) of the 237 treatment starters for whom a global EDE-Q score could be calculated had a pretreatment score less than one standard deviation above the community mean, and posttreatment this was the case for 94 (39.7%) treatment starters. Fairburn et al.'s (2009) RCT defined good outcome using global EDE scores, whereas the EDS utilized the EDE-Q, due to lack of feasibility to administer the EDE.

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Table 2. Mean pre and posttreatment scores and effect sizes for treatment completers and the intention to treat sample on EDE-Q and associated psychopathology measures

	Treatment completers			Intention to treat sample		
Measure	Pre-treatment mean score (*SD*)	Post-treatment mean score (*SD*)	Effect Size (r)	Pre-treatment mean score (*SD*)	Post-treatment mean score (*SD*)	Effect size (r)
			Associated psychopathology:			
Beck Anxiety Inventory	22.11 (12.09)	10.11* (10.33)	0.58	24.71 (12.99)	18.61* (14.56)	0.42
Beck Depression Inventory	31.86 (12.38)	10.09* (12.89)	0.53	33.38 (12.87)	22.80* (17.55)	0.37
			Eating disorder psychopathology (based on EDE-Q):			
Eating restraint	4.12 (1.40)	1.11* (1.27)	0.59	4.27 (1.41)	2.84* (2.13)	0.41
Eating concern	4.15 (1.32)	1.31* (1.36)	0.59	4.21 (1.25)	2.78* (1.95)	0.42
Shape concern	4.99 (1.09)	2.49* (1.71)	0.59	5.14 (1.19)	3.89* (2.04)	0.42
Weight concern	4.73 (1.29)	1.99* (1.62)	0.59	4.76 (1.26)	3.43* (2.02)	0.42
			Eating disorder behaviour (based on EDE-Q):			
Frequency of binge episodes	8.19 (10.18)	1.49* (3.51)	0.50	8.37 (9.65)	5.37* (9.12)	0.36
Frequency of bingeing	14.53 (15.81)	2.67* (5.26)	0.53	13.78 (14.86)	7.79* (11.66)	0.38
Frequency of loss of control	14.18 (15.43)	1.81* (4.09)	0.52	13.89 (15.37)	7.73* (12.60)	0.37
Frequency of vomiting	18.05 (46.55)	1.34* (4.59)	0.47	19.74 (45.37)	11.39* (31.60)	0.36
Frequency of laxative use	4.55 (10.28)	.61* (3.72)	0.30	5.19 (12.28)	3.12* (10.76)	0.23

Note: *Significant following bonferroni correction for multiple testing.

Byrne et al. (2011) also employed the EDE-Q, from which global scores were calculated and compared with Australian community norms. Table 3 compares the three studies on this outcome variable.

Discussion

This evaluation aimed to explore the effectiveness of CBT-E as a treatment for BN and EDNOS offered by an Eating Disorders Service (EDS) within the Welsh NHS. Specifically, the evaluation aimed to investigate whether treatment outcomes associated with CBT-E

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Table 3. Comparison of the EDS results with those from the Fairburn et al. (2009) RCT and Byrne et al. (2011) open trial on equivalent variables

	EDS using EDE-Q global scores and UK norms	Fairburn et al. (2009) using EDE global scores and UK norms	Byrne et al. (2011) using EDE-Q global scores and Australian norms
Started treatment (*N*)	272	149	125
Attrition rate %	40.8	22.1	40
Good outcome - treatment completers %	78.3% (83/106)	66.4 (77/116)	66.7 (44/66)
Good outcome - treatment starters %	39.7% (94/237)	53 (79/149)	42.4 (53/125)

Note: Good outcome was defined as having a posttreatment Global EDE-Q / EDE score less than 1 standard deviation above community norms.

offered within this clinical context would be similar to those achieved in an RCT (Fairburn et al., 2009) and an open trial (Byrne et al., 2011).

The results demonstrated significant posttreatment improvements for treatment completers for eating psychopathology, measured by the EDE-Q, as well as for associated psychopathology assessed with the BAI and BDI, with medium to large effect sizes. Significant improvements were also demonstrated for the intention to treat sample; when including all treatment starters, however, they were associated with small to medium effect sizes. Similar findings in Byrne et al.'s (2011) open trial further indicated the successful impact and generalization of CBT-E to community, non-research settings.

Good outcome (global EDE-Q score of less than one standard deviation above the community mean) was achieved by 78.3% of EDS treatment completers, compared with 66.4% observed in Fairburn et al.'s (2009) trial and 66.7% in Byrne et al.'s (2011) open trial, using comparable definitions. Intention to treat methods revealed that good outcome (defined above) was achieved by 39.7% of those individuals who started treatment, a rate lower than the 53% observed in Fairburn et al.'s (2009) RCT and the 42.4% in Byrne et al.'s (2011) open trial. The higher rate of good outcome achieved by EDS treatment completers is interesting to note, especially considering a number of important service differences, potentially affecting treatment potency. Differing service variables are outlined in Table 4. These findings suggest that if the EDS is able to retain individuals within treatment, outcomes are positive, with a large proportion of treatment completers achieving good outcome, based on global EDE-Q scores. It therefore appears that a fundamental issue facing the EDS and potentially other non-research clinical services concerns retention of patients to treatment programmes.

Reflective of this are the high attrition levels witnessed within the EDS (40.8%). EDS attrition rates were higher than those in Fairburn et al.'s (2009) RCT (22.1%), but more comparable with the 40% observed within the Byrne et al. (2011) open trial and also within the 29–73% range of drop-out rates reported for eating disorder trials conducted on an outpatient basis (Fassino, Piero, Tomba and Abbate-Daga, 2009). Such elevated rates of attrition may be partially attributable to lower exclusion figures within the EDS than in Fairburn et al.'s (2009) trial. For instance, of 449 patients assessed for treatment eligibility within the EDS

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Table 4. Service variables that may account for differences in the treatment outcome between the EDS, the RCT and the open trial

Service variables	EDS	Fairburn et al.'s (2009) RCT	Byrne et al.'s (2011) Open Trial
Ensuring therapist compliance to model	Via workbooks and from 2008 Fairburn's guide. No treatment adherence meetings and no recording of sessions.	All sessions taped and regularly audited to ensure treatment adherence was high.	Weekly treatment adherence meetings, including a review of some videotaped sessions.
Staff time allocated to CBT-E delivery and professional background	Two part time specialist clinical psychologists. Seconded therapists generalists in mental health, offering one session a week into EDS for a minimum of one year and from varying professional groups. Regular staff change over.	Four psychologists and one psychiatric nurse specialist, all with generic and specialist ED clinical experience and with 6 months initial training. Time allocation on to CBT-E not made clear in paper.	Four full time clinical psychologists on project, tending to be post clinical psychology training with little or no experience of ED. "Considerable change over of staff during the 4 years of the project" (10 staff in total).
Supervision	Group or individual supervision *once a fortnight* from a specialist.	Group supervision *once a week* from a specialist.	Individual supervision *once a week* from a specialist.
Preparation sessions	No	Yes	Yes
Waiting list	Yes, average of 28 weeks approx. waiting time.	Only for those in the control group who would then wait 8 weeks.	Yes, average of 22.2 weeks waiting time.

60.6% subsequently began treatment compared to 42.7% of those originally assessed within Fairburn et al.'s (2009) RCT. Another possible explanation concerns the lack of preparatory sessions within the EDS. Fairburn (2008) emphasized the utility of such sessions to engage the client, formulate treatment expectations, and form a positive therapeutic relationship. They may also diminish barriers to treatment, reduce anxiety and promote retention within the treatment programme, potentially linking the association between attrition and higher pre-treatment anxiety rates. However, Byrne et al. (2011) did include preparatory sessions but still had a 40% attrition rate; hence further research may help clarify the role of preparatory sessions in this context. A third contributing factor may be the absence of initial twice-weekly sessions, which could have had a negative impact on initial engagement with the therapist and treatment.

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Traditionally RCTs do not have waiting lists; however, increasing waiting lists are a notable concern within the NHS (Statistics for Wales, 2010) and may be relevant in explaining attrition rates in the eating disordered population, where motivation to change and to engage in treatment is notoriously low (Casasnovas et al., 2007). Within the EDS, there was no significant difference in terms of waiting times between completers and non-completers. It is however possible that waiting times contribute to higher attrition rates than those witnessed in an RCT context, especially given that Byrne et al. (2011) found longer waiting times for non-completers (25.9 weeks vs.18.15 weeks), and Carter et al. (2012) identified wait-list time as a significant predictor of dropout from the Australian clinic described in the open trial.

Potential explanations for the high attrition rates seen within the EDS highlight important issues and directions for service improvement as well as for the development of a more appropriately tailored service. This is especially relevant given the positive outcomes observed for those who remain in treatment and successfully complete within the EDS. In light of these findings, the EDS has since made service changes, including the introduction of a preparation session. Other discrepancies, however, cannot be so easily addressed within the NHS provision, such as specialist dedicated staff and shorter waiting list times.

Limitations of this study include the use of the self-report EDE-Q to derive outcome variables, as it is subject to both response and recall bias. However, validation studies have demonstrated high levels of agreement between the EDE-Q and the EDE in both the general population (Fairburn and Beglin, 1994) and in clinical samples (Carter, Aime and Mills, 2001). In addition, the EDS did not include measures of additional psychopathology addressed by the "broad" version of CBT-E (CBT-Eb).The EDS could benefit from obtaining pre- and posttreatment measurements of such eating disorder features to assess whether CBT-Eb is effective in reducing their severity for those clients in which they are present.

Future research including follow-up assessments of treatment completers would be beneficial to assess the long-term utility of CBT. Eating disorders tend to run a chronic course with cycles of treatment and relapse episodes (Fairburn, Stice, Cooper et al., 2003). It would therefore be interesting to explore predictors of both short and long-term response in order to identify within-client features associated with treatment efficacy. Research suggests early change to be a significant predictor of treatment outcome (Agras et al., 2000). Therefore it may be advantageous to measure progress throughout treatment to identify those who will respond well to treatment and to provide further support to those not displaying such a positive early response.

In conclusion, this service evaluation provided support for the dissemination of CBT-E to treat BN and EDNOS. CBT-E was associated with significant improvements in eating disorder and associated psychopathology and improvements in the majority of behavioural symptoms for both completer and intention-to-treat methods. Moreover, global EDE-Q scores revealed high rates of "good outcome" for treatment completers, surpassing those found within the RCT (Fairburn et al., 2009) and open trial (Byrne et al., 2011). Lower rates of good outcome observed for the intention to treat sample and high rates of attrition indicate the importance of retaining patients to treatment programmes.

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