VOLUME ONE: RESEARCH COMPONENT

IMPLEMENTATION AND EVALUATION OF DIALECTICAL BEHAVIOUR THERAPY FOR ADOLESCENTS AND FOR EATING DISORDERS

by

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OVERVIEW

This thesis contains two volumes and is submitted as a requirement for the degree of Doctorate of Clinical Psychology at the University of Birmingham. All identifying information has been anonymised to ensure confidentiality.

Volume One

Volume one contains three chapters. The first chapter presents a systematic literature review of Dialectic Behaviour Therapy for young people diagnosed with an Eating Disorder. The second chapter presents an empirical study exploring Dialectic Behaviour Therapy implementation in services supporting young people. The third chapter presents a public dissemination document summarising the literature review and empirical study.

Volume Two

Volume two contains five clinical practice reports (CPRs). The first CPR presents a cognitive behavioural formulation and a systemic formulation of a 15-year-old female presenting with low mood. The second CPR presents a service evaluation exploring both clinical leads and managers views of clinical supervision across one NHS Trust. The third CPR used a single-case experimental design to consider the effectiveness of a cognitive behavioural intervention for a 73-year-old female presenting with symptoms of depression and anxiety. The fourth CPR presents a case study of a 20-year-old female with a learning disability and autism, presenting with symptoms of anxiety. The final CPR is a case study abstract from an oral presentation of Cognitive Analytic Therapy, with a 35-year-old female diagnosed with Borderline Personality Disorder.

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LITERATURE REVIEW

A SYSTEMATIC LITERATURE REVIEW:

EVIDENCE FOR THE EFFECTIVENESS OF DIALECTICAL BEHAVIOUR THERAPY FOR ADOLESCENTS AND YOUNG PEOPLE WITH AN EATING DISORDER

ABSTRACT

Background: Dialectical Behaviour Therapy (DBT) is a leading treatment for Borderline Personality Disorder, and there is growing interest in utilising DBT as an intervention for Eating Disorders (EDs). Theoretical and empirical literature suggests that DBT might be promising for EDs, with a growing literature also exploring the effectiveness of DBT modified for adolescents and young people.

Aims: This literature review aimed to identify and review the quality of published research into DBT with EDs, focusing on adolescents and young people (aged between 12 to 30), examining literature published between 2003 to 2017.

Methodology: After systematic searches of PsycINFO, Ovid MEDLINE and Embase databases, a total of 13 papers were included for review. These papers were appraised for quality using two published frameworks: The Effective Public Health Practice Project quality assessment tool and The Department for International Development framework.

Key Findings: DBT with EDs is a relatively new area of research, with only a small number of papers focusing on young people, although the DBT adaptations show promise. The published papers included in the review provide evidence for the effectiveness of DBT and DBT

outcomes were divided into three groups: papers reporting on DBT with Anorexia Nervosa, Bulimia Nervosa and Binge Eating Disorder. The review found evidence to support positive change after DBT intervention including: change in ED diagnosis (e.g. no longer diagnosed with Bulimia Nervosa), improvement in ED symptoms (e.g. reduced concerns about weight), improvement in behavioural symptoms (e.g. reduced binge eating) and improvement in mood. Overall, the quality of the papers indicated a medium to strong quality evidence base, although as there are currently only a few studies, no firm conclusions can be made about DBT effectiveness with this client population.

Conclusions: The implications of this review, including considering DBT as a treatment option for young people with an ED (including young people with comorbid presentations), the flexibility and adaptability of DBT delivery for ED (e.g. including family members and/or additional nutrition modules), and recommendations to support future research including the need for more randomised controlled studies, are considered.

INTRODUCTION

Background to DBT

Dialectical Behaviour Therapy (DBT) is a well-established, empirically supported, leading treatment for Borderline Personality Disorder (BPD), which is a diagnosis given to clients typically presenting with varying moods, self-image, relationships and behavioural difficulties including self-harm (Linehan et al., 1991; Linehan et al., 1999). The DBT intervention was developed based on Biosocial Theory (Linehan, 1993a; Linehan 1993b). This theory suggests that clients with BPD have a biological tendency to experience difficulties with emotion regulation (i.e. an increased sensitivity to show intense emotional responses), which is combined with experiencing an invalidating environment (i.e. others lack respect and understanding when communicating with the client). DBT targets the emotion regulation difficulties by offering skills to enhance a client's emotion regulation capabilities, which includes attending a weekly group which covers four modules: Mindfulness (e.g. skills for focusing attention), Distress Tolerance (e.g. self-soothing strategies), Emotion Regulation (e.g. skills for describing and modulating emotions) and Interpersonal Effectiveness (e.g. assertiveness skills). The full DBT program (typically lasting from 24 weeks up to a year), includes the weekly skills group, individual therapy, telephone coaching (i.e. telephone support to apply the DBT skills in daily life) and therapist consultation team meetings (Linehan, 1993a; Linehan 1993b). The effectiveness and efficacy of DBT, particularly for BPD, is supported by research literature including findings from meta-analyses (e.g. Kliem et al., 2010; Panos et al., 2014). Specifically, Kliem et al. (2010), whose meta-analysis included 16 studies (8 were randomised controlled trials and 8 were neither randomised nor controlled), found a moderate post-intervention global effect size for reducing suicidal and self-injurious behaviours. Also, Panos et al. (2014), who included five randomised controlled trials (RCTs) in their metanalysis,

combining effect measures for suicide and parasuicidal behaviour, finding support for DBT when compared with treatment as usual (pooled Hedges' g -0.622).

Background to DBT and Eating Disorders

Recently, there has been growing interest in DBT as an intervention with other mental health presentations, including Eating Disorders (e.g. Bankoff et al., 2012). An individual with an Eating Disorder (ED) might present with Anorexia Nervosa (AN) which is characterised by low body weight and intense fears of gaining weight (subtypes including restricting type and binge-eating/purging type), or Bulimia Nervosa (BN) characterised by binge eating episodes and compensatory behaviours typically fasting or self-induced vomiting, along with distorted weight and shape cognitions (APA, 2000). Alternatively, an individual might present with Binge Eating Disorder (BED) characterised by out-of-control recurrent episodes of binge eating, or they might present with an ED that does not fully meet criteria for AN, BN or BED, leading to a diagnosis of Eating Disorder not otherwise specified (EDNOS; APA, 2000). It is noted that EDNOS has now been replaced with OSFED **(**Other Specified Feeding or Eating Disorder; APA, 2013).

Biosocial Theory for BPD was adapted by Wisniewski and Kelly (2003) for ED, suggesting that clients with an ED have a biological vulnerability involving both emotion dysregulation and difficulties regulating hunger cues, combined with experiencing an invalidating environment, leading to behaviours such as restricting, binge eating, and purging. These behaviours or maladaptive coping strategies, are understood to be attempts to change or control painful emotional states, and DBT is therefore a treatment option that offers a repertoire of skills to replace these dysfunctional behaviours. Consequently, DBT has been adapted specifically for adults with eating difficulties to teach skilful behaviour and improve emotion

regulation, with research showing promising findings for a time-limited 20-week intervention, offered either individually or in a group (e.g. Safer, Telch & Agras, 2001; Telch, Agras & Linehan 2001; Wiser & Telch, 1999). A preliminary study into modified DBT to treat BN, compared to a wait-list control, found 29% of participants in the treatment condition abstinent of binge episodes, after their 20 individual sessions that focused predominantly on emotion regulation skills (Safer, Telch & Agras, 2001). Also, preliminary studies of DBT to treat BED, which compared a DBT group treatment (focused on three modules: mindfulness, emotion regulation and distress tolerance) to a wait-list control condition, concluded that DBT is effective and acceptable, finding post-treatment that 89% of the women had stopped binge eating (Telch, Agras & Linehan, 2000; Telch, Agras & Linehan, 2001).

Recently, there has been increasing interest in DBT with adults with a comorbid diagnosis of ED and BPD (ED-BPD), described as complex or 'difficult-to-treat' individuals, finding that DBT is promising particularly for those with BN or BED and co-occurring BPD (Chen et al., 2008). Furthermore, one of the newest adaptations to the standard DBT program is Radically-Open DBT (RO-DBT) which aims to treat the overcontrolled style of coping (i.e. restrictive eating), found in individuals with a diagnosis of Anorexia Nervosa-Restricting type (Lynch et al., 2013). RO-DBT further extends the DBT Biosocial Theory to suggest that this AN subtype specifically have a biological predisposition to be sensitive to threat (which prevents them feeling safe and comfortable in social situations), which is combined with experiences involving the importance of maintaining self-control and avoiding mistakes, leading to restrictive and overcontrolled behaviours. RO-DBT therefore offers clients an additional Radical Openness module focused on skills to promote expressing emotions and feeling safe in social situations (Lynch et al., 2013).

A systematic review of 13 studies of DBT for ED (Bankoff et al., 2012) highlighted that DBT is a potential treatment for adults with AN, BN and BED. The results of the review showed evidence for effectiveness, with outcomes including improvement in ED symptoms (e.g. reduced restricting, bingeing and purging), improvement in client mood, and reduced frequency of self-harm. The review acknowledged that the included ED studies involved modified versions of DBT including: offering a partial rather than the full DBT program (e.g. just offering a DBT group), offering an additional ED or nutrition skills module, adapting DBT skills to focus specifically on eating behaviour, and providing a diary card focused on self-monitoring eating behaviour. Overall, the review concluded that DBT provides an alternative to typically delivered treatments for EDs like Cognitive Behaviour Therapy (CBT), especially for individuals with comorbid ED-BPD, although more research is needed to confirm efficacy including comparing DBT to other interventions. Limitations of the review included differing study designs and small sample sizes of predominantly female clients, leading to cautious conclusions about DBT effectiveness with ED.

More recently, another DBT review (Ritschel et al., 2015), which broadly reviewed DBT adaptations, highlighted that DBT has now been adapted in various ways and there is empirical evidence for its use as an intervention for eating disorders, post-traumatic stress disorder, and substance use disorders. The review mentioned how DBT skills can be specifically adapted for ED clients such as applying mindfulness skills to the process of eating and urges for emotional eating. Also, the review discussed how DBT treatment targets can be specific to ED behaviours such as focusing on life-threatening behaviours (e.g. the impact of long-term vomiting) and therapy-interfering behaviours (e.g. falling below an agreed weight).

DBT and Youth

Due to the positive outcomes with adults, DBT has also been adapted for adolescents with emotional instability and suicidal presentations, aiming to improve their emotion regulation skills (Miller & Rathus, 2015). The DBT adaptations for this younger population include age-appropriate terminology (incorporated on handouts), a shorter typically 24-week intervention, and including families (usually parents) within a fifth module 'Walking the Middle Path', with the hope that family members become coaches to support young people implementing the DBT skills (Miller & Rathus, 2015).

Reviews of DBT for adolescents (Groves et al., 2012; MacPherson et al., 2013) suggest that research supports the effectiveness of adapted DBT for various difficulties experienced by young people including mood disorders, externalising disorders, eating disorders, trichotillomania, and suicide ideation and behaviour, across various settings, with promising findings.

In particular, Groves et al. (2012) noticed that adolescents tend to complete DBT programs and DBT has a range of therapeutic effects, although future studies of adolescents must consider control groups, increasing sample size and diversity. This review included 12 studies (sample sizes ranged from 1-111), the majority of studies were pre-post cohort design, and various outcome measures were reported (predominantly measuring change in reported symptoms of depression, suicidal ideation, hopelessness and symptom checklists). Effect sizes and clinically significant change was not reported.

MacPherson et al. (2013) also noticed the small sample sizes, varying treatment lengths, limited follow-up data and emphasised the need for randomised controlled trials (RCTs) to provide

more definitive evidence for offering DBT as an intervention for adolescents. This review of 18 papers (sample sizes ranged from 1-135), predominantly pre-post cohort design, was only able to report on effect sizes from 5 papers (medium to large effect sizes).

It is noted that since this review, a published randomised controlled trial found support for the effectiveness of DBT in reducing non-suicidal self-injury behaviours in adolescents, when compared to treatment as usual, which was maintained at a 52-week follow-up (Mehulm et al., 2014; Mehulm et al., 2016). However, perhaps further RCTs are needed to provide further supportive evidence.

Youth and Eating Disorders

As mentioned above, DBT has begun to be adapted for adolescents with EDs (Groves et al., 2012; MacPherson et al., 2013). EDs are common and serious among adolescent girls and young women, impacting upon physical and psychological health (Hoek & van Hoeken, 2003). Previously, there were concerns expressed with the lack of empirically supported treatment options for adolescents (Lock & Fitzpatrick, 2009). However, NICE (2017) guidance, acknowledging the risk of developing an ED in young people between the ages of 13 and 17, recommends psychological treatment. At present, psychological treatment for young people with AN includes first considering anorexia-nervosa-focused family therapy (FT-AN), typically 18–20 sessions over 1 year, or alternatively individual eating-disorder-focused cognitive behavioural therapy (CBT-ED). Similarly, psychological treatment for BN, includes offering bulimia-nervosa-focused family therapy (FT-BN), 18–20 sessions over 6 months, then secondly considering individual eating-disorder-focused cognitive behavioural therapy (CBT-ED). Psychological treatment for BED includes offering firstly, a binge-eating-disorder-focused guided self-help programme, or alternatively a 16-weekly group of eating-disorder-focused cognitive behavioural therapy (CBT-ED).

A review of treatments for ED in adolescents (Lock, 2015) indicated that there are several treatment options including family therapy, individual therapy, CBT, interpersonal psychotherapy, cognitive training, and DBT. This review concluded that family interventions are a well-established treatment for AN, although ED treatments need to improve including for BN and BED, and DBT is one of the emerging treatments for ED in youth (Lock, 2015).

Literature Review Rationale and Aims

There has been a systematic review of DBT for ED (Bankoff et al., 2012), although there has not been a review focusing specifically on adolescents and young people. As there appears to be a growing DBT evidence base for both adolescents and EDs, the current review will explore DBT research involving young people (under age 25) diagnosed with an ED, although intentionally incorporating a broad age range (aged between 12 and 30), anticipating limited research.

The previous systematic review of DBT for ED (Bankoff et al., 2012) considered studies published between 1998-2011, and the review of DBT for adolescents with various difficulties including ED (Groves et al., 2012), considered studies published between 1997-2008. Therefore, the current review will be able to offer an updated review of the literature, considering literature published up to 2018.

Therefore, the current literature review aims include:

1. To provide an account of the empirical evidence for DBT modified for young people with ED (exploring effectiveness and DBT adaptations)
2. To evaluate the evidence and review the quality of the literature
3. To offer recommendations for future research and clinical practice

METHODOLOGY

Search Strategy

The literature review, completed in March 2018, involved searching three databases for peer-reviewed relevant empirical papers. These databases included PsycINFO (1967 to March Week 2 2018), Ovid MEDLINE (1946 to March Week 2 2018) and Embase (1974 to 2018 March 16).

Search terms are shown in Table 1. Search terms A and B were combined, and the searches led to 458 results. After duplicates were excluded, the inclusion and exclusion criteria (Table 2) was applied to the abstracts of these articles. A total of 13 papers (i.e. 10 quantitative papers and 3 case studies) were included in the current review. After reviewing reference lists of these papers, forward and backward searching, no further papers were identified for the review. Figure 1 is a flowchart providing details of the search strategy.

Table 1. Keyword Search Terms

Search Group A	Search Group B
dialectic* behav* DBT	eat* anorex* bulim*

Table 2. Literature Review's Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
- Peer-reviewed journal article published in English - Empirical study investigating DBT and ED (including quantitative, qualitative and case studies)	- Non-research papers including review papers - Non-peer reviewed including dissertations and conference abstracts - Articles studying participants outside the 12-30 age range

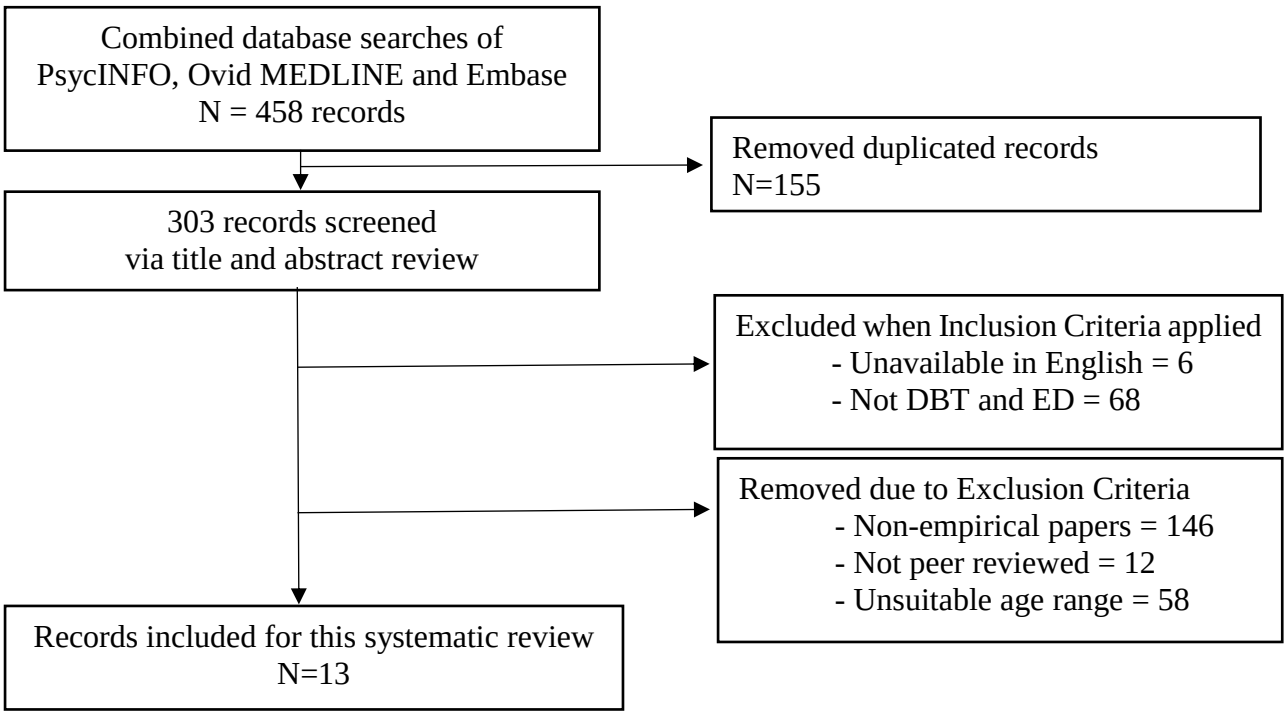

Figure 1. Flowchart of search strategy

Quality Appraisal

Table 3 is a Data Extraction table, created to provide a summary of relevant information from the thirteen included papers, with their overall quality appraisal ratings (green represents 'Strong quality', yellow represents 'Moderate quality' and red represents 'Weak quality').

The quality of the ten quantitative research papers included in this review was assessed using The Effective Public Health Practice Project (EPHPP) quality assessment tool for quantitative studies (Thomas et al., 2004). For each paper, The EPHPP tool involved selecting a quality rating (Weak, Moderate or Strong) applied to: selection bias, study design, confounders, blinding, data collection methods, and withdrawals/dropouts. The ratings for these six areas were then used to decide on an overall rating for the paper: WEAK (between two and six weak areas), MODERATE (one weak area), or STRONG (no weak areas). The EPHPP tool was selected as other researchers have found it to be useful for the quality appraisal of quantitative studies, describing it as a valid quality assessment tool for identifying papers with high and low methodological quality, and suitable for systematic reviews including those focusing on the effectiveness of health interventions (e.g. Bastounis et al., 2016; Claxton et al., 2017; Smith-MacDonald et al., 2017; Wick et al., 2017).

For the three remaining papers, a quality appraisal framework suitable for assessing the quality of case studies was selected, the Department for International Development (DFID, 2014) framework. This framework involves deciding for each case study if it addresses seven quality principles including: Conceptual Framing, Transparency, Appropriateness, Cultural Sensitivity, Validity, Reliability and Cogency. Case studies are given overall ratings of 'High/Strong' for good adherence to quality principles, 'Moderate' if there are some quality principle deficiencies, or 'Low/Weak' if there are numerous deficiencies. As there is no clear

rule about the number of principles needed to decide upon a study's overall rating, the decision was guided by DFID (2015): Strong (considers all seven principles of quality), Moderate (addresses two or more principles of quality) and Weak (considers less than two principles of quality). The DFID framework is recommended as useful for case studies (DFID, 2015), although it appears to have limited use in published literature compared to the EPHPP tool.

To enhance inter-rater reliability, one quantitative paper and one case study were rated by a second assessor, and discrepancies resolved through discussion (considering inter-rater reliability across just these two papers seemed suitable due to the small number of total papers included in the review).

The EPHPP and DFID frameworks (with examples) are outlined in further detail in Appendix 1 and 2. To illustrate the scope and focus of these frameworks, a summary of the EPHPP evaluation for the Johnston et al. (2015) paper includes:

- **Selection bias**: 51 began treatment and 36 completed (71%) – *Moderate rating* (as somewhat likely to be representative of the target population & 60-79% participation rate)
- **Study design**: Cohort study (one group pre & post) – *Moderate rating* (for cohort analytic, case-control, cohort, or an interrupted time series)
- **Confounders**: Confounders appear not to be controlled for – *Weak rating* (as confounders not controlled for or not stated)
- **Blinding**: Appears to be blinding of study participants – *Moderate rating* (as blinding of either outcome assessor or study participants)
- **Data collection methods**: EDE-Q used (valid and reliable measure) – *Strong rating* (as tools are valid and reliable)

- **Withdrawals/dropouts**: 27 participants at 1-year follow-up (75%) – *Moderate rating* (for follow-up rate of 60-79% of participants)
- **Overall**: Moderate Overall Rating (as only one WEAK rating for paper)

The EPHPP framework suggests that study designs of strong quality are Randomised Controlled Trial and Controlled Clinical Trial designs, suggesting that these designs have less bias and offer meaningful comparisons. These designs are viewed as stronger than other designs including: cohort analytic, case-control, cohort, or an interrupted time series. The EPHPP framework suggests that all other designs or not stated designs are of weak quality, which would suggest that case study designs (rated separately for quality by the DFID framework in this review), should be weighted lightly and have less influence on conclusions made in this review. Therefore, a quantitative study would have greater weight in the review conclusions compared with a qualitative study. Thus, these frameworks are consistent with conventional views of the 'hierarchy of evidence'.

Table 3. Summary of the Reviewed Papers (in chronological order)

Study and Setting with Quality Rating	Design and measures	Sample size and demographics	Intervention	Key findings and conclusions	Limitations and comments
Palmer et al. (2003) Eating Disorders service, UK Weak Rating	Pre and post design (no control group) of Therapy-resistant patients with ED and BPD Number days admitted to hospital Major acts of self-harm	N = 7 Gender = all female Age = 5 (aged 21-25) & 2 (aged 30) Eating Disorder = 5 BN, 1 BED & 1 EDNOS Additional Diagnoses = all BPD	DBT program run for 6-18 months (following manuals) Included skills module for ED – weight & eating Involved 3 psychiatric nurses, 2 psychiatrists and a clinical psychologist (all intensively trained in DBT)	Most patients neither eating disordered nor self-harming at 18-month follow-up 3 had no ED & 4 with partial syndrome of EDNOS Suggests DBT has promise	Uncooperative with completing questionnaires, pre-post comparison data limited, statistical analysis seemed inappropriate No comparison group Lack of formal measures
Safer et al. (2007) Clinic specialising in ED, USA Strong Rating	Case Study (DBT for BED) Eating Disorder Examination (EDE)	N = 1 Gender = female Age = 16 Eating Disorder = BED (history of AN and depression)	21 weekly 60-minute individual sessions 4 family sessions as-needed 3 authors involved in treatment, including reviewing audiotapes and supervision	4 EDE subscales post-therapy = 1 improvement, 1 worse, 2 unchanged Baseline 22 binge episodes reduced to 4 post-therapy 3 months follow-up = 1 binge Mixed results but preliminary support for DBT as an acceptable and therapeutic option	Improvements maintained at follow-up but follow-up short More rigorous case studies needed Need to investigate DBT group format

Salbach-Andrae et al. (2008) Outpatient, Germany Moderate Rating	Case Series Structured Inventory for Anorectic and Bulimic Syndromes (SIAB-EX) Eating Disorder Inventoy-2 (EDI-2) The Symptom Checklist-90 Revised (SCL-90)	N = 12 Gender = all female Mean Age = 16.5 (12-18) Eating Disorder = 6 AN & 6 BN Additional Diagnoses = 9 with psychiatric comorbidities including depression, panic disorder & personality disorder	25 weeks of twice weekly therapy (individual therapy & skills training group) Included Dealing with Food and Body Image skills module Family involved mainly in 'Walking the Middle Path' Module Telephone contact available 3 intensively trained therapists (weekly consultation team)	Significant reduction in behavioural symptoms (vomiting and binge frequency), eating pathology and general psychopathology 5 had no ED & 2 with milder EDNOS Significant improvement in mean BMI for all AN (15.6 to 18.1) Promising for DBT, but no firm conclusions	Small sample and lack of follow-up Absence of control group Variation in severity symptoms of AN and BN Randomised controlled trials (RCT) required
Wolter et al. (2009) Inpatient Day Clinic, Germany Moderate Rating	Case Report ED diagnostic crossovers	N = 1 Gender = female Age = 15 Eating Disorder = atypical AN (formerly obese)	Strict calorie plan, psychopharmacological treatment for depressive symptoms and 3 months DBT (group therapy modified for ED, individual therapy and body therapy)	Prevented further weight loss and improved affective state Continued onto outpatient eating disorder unit, still presenting with body image distortion	Follow-up data on the stability of body weight needed Need further research into diagnostic crossover

Ben-Porath et al. (2009) Outpatient ED program, USA Strong Rating	Non-Randomised control study (ED vs ED-BPD) Eating Disorder Examination-Questionnaire (EDE-Q) Negative Mood Regulation Scale (NMR) Beck Depression Inventory-II (BDI-II) The Beck Anxiety Inventory-II (BAI-II) Personality Disorder Questionnaire-4 (PDQ-4)	N = 40 (16 ED & 24 ED-BPD) Gender = majority female (1 male) Mean Age = 26.03 Eating Disorder = AN, BN & EDNOS (with additional Axis I diagnoses particularly depression)	30 hour per week DBT (average 73 days) -informed program adapted to ED Twice weekly DBT skills group, with additional groups focused on motivation & commitment, goal setting, behaviour chain analysis, DBT in-action group, weekly yoga, nutrition module, exposure to food Offered after hours telephone consultation and 30 minutes weekly individual therapy Team of professionals met weekly (included psychologist, psychiatrist, nutritionist, social worker and others)	Both groups reported similar reductions during treatment No statistically significant differences across outcome measures for ED vs ED-BPD over course of the treatment ED-BPD complicated clinical picture, although DBT can treat distress and ED DBT a treatment alternative for the difficult to treat	Need control/wait list group Self-report mood regulation, need actual ability not just perceived Self-report for BPD diagnoses rather than structured interview Findings might not generalise to less severe ED populations
Hill et al. (2011) Outpatient, USA Strong Rating	Randomised control study – Appetite-focused DBT (DBT-AF) with BN EDE-Q NMR BDI-II Preoccupation with Eating Weight and Shape Scale (PEWS) Mizes Anorectic Cognitions Scale-Revised (MACR)	N = 32 (18 DBT-AF & 14 wait-list control) Gender = all female Mean Age = 22.0 Eating Disorder = BN	DBT-AF focuses on developing internal cues including appetite and emotions, while learning DBT skills to replace binge eating 12 individual weekly sessions (total 15 hours) of DBT-AF Modules included appetite awareness and mindfulness, distress tolerance, emotion regulation Therapists included one doctoral level therapist trained in DBT and 4 supervised therapists (with clinical psychology masters degrees)	Treatment attrition low and DBT-AF rated highly acceptable DBT-AF lower pathology on majority of self-report measures at week 6 (medium to large effect sizes – 0.56 to 1.79) & significantly fewer BN symptoms than controls (binge and purge frequency) Post-test, at 12 weeks, 26.9% abstinent from binge/purge episodes for past month & 61.5% no longer met full or subthreshold criteria for BN & depression decreased significantly Rapid rate of response to treatment from mid therapy, suggests a brief intervention can be effective	DBT-AF needs further investigation as a treatment alternative, need to replicate findings Small pilot study No follow-up comparison between groups Need direct comparison to CBT

Federici & Wisniewski (2013) Outpatient, USA Moderate Rating	Case Series of Multidiagnostic Eating Disorder – DBT (MED-DBT) Program EDE-Q The Deliberate Self-Harm Inventory	N = 7 Gender = all female Mean Age = 23.9 (majority 20-24, one aged 31) Eating Disorder = either AN or EDOS Additional Diagnoses = majority Axis I depression or PTSD, majority BPD	Blends DBT with standard eating disorder CBT intervention Over 6 months – included day treatment program (6 hours per day, 5 days a week) and outpatient program (3 hours per day, 3 days a week) Included groups, weekly individual therapy, weekly nutrition and psychiatry appointments, telephone skills coaching Weekly DBT consultation team (therapists were master or doctoral level trained with expertise in EDs and BPD)	4 patients underweight – gained mean 7.2 pounds over treatment Post-treatment = 5 with less restrictive eating, 3 with binge eating then abstinent, 6 with self-induced vomiting reduced to none or minimal 5 complete abstinence from suicidal & self-injurious behaviour All medically stable and significant reduction in hospital admission Clients gave largely positive feedback & therapists said program helped patients & reduced burnout Novel outpatient program, promising intervention for 'hard to treat' population who haven't responded to traditional treatments	Small sample size, statistical analyses were not run Reliance on self-report for symptom frequency Lack of control group, limits generalizability and interpretation Authors who analysed data clinically involved in program
Lynch et al. (2013) Inpatient ED service, UK Moderate Rating	Pre and post design (no control group) EDE-Q Eating disorders quality of life (EDQoL) Clinical outcome in routine evaluation (CORE)	N = 47 Gender = 45 female (2 male) Mean Age = 27.21 Eating Disorder = anorexia nervosa – restrictive type (AN-R)	Radically Open-DBT (RO-DBT) – adaptation of DBT for AN-R overcontrolled personality type, focus on emotional loneliness rather than emotion dysregulation with Radical Openness module to challenge perceptions of reality Weekly individual & group sessions, telephone coaching (mean length of treatment 21.7 weeks) Therapists intensely trained – nurses, psychiatrists, psychologists, dieticians, OT & family therapist	Mean change BMI = 3.57 (large effect size d=1.91) 35% full remission and 55% partial remission Significant & large improvements in eating-disorder symptoms (d=1.17), eating disorder-related quality of life (d=1.03) & reductions in psychological distress (d=1.34) Preliminary support, promising treatment	RCT needed Lack of follow-up to see if improvements retained Entire sample had BMI data but not all questionnaire data Further research to examine RO-DBT with AN-R & binge-purge types

Fischer & Peterson (2015) Outpatient, USA Moderate Rating	Pre and post design (no control group) of ED in adolescents with comorbid suicidal and non-suicidal behaviour (NSSI) EDE BDI-II Deliberate Self-Harm Questionnaire	N = 10 Gender = all female Mean Age = 16.20 (14-17) Eating Disorder = BN with NSSI Additional Diagnoses = 30% major depressive episode, also bipolar I disorder, substance abuse, trichotillomania	6-month rather than 12-month DBT treatment Weekly individual therapy, skills training, and telephone coaching Included psychoeducation of ED symptoms, and inclusion of parents to individual sessions every 4 weeks & parents group Therapist consultation team – therapists doctoral-level students in clinical psychology trained in DBT	Post-treatment, significantly reduced self-harm (Cohen's d = 1.35), frequency of objective binge episodes (d = 0.46), frequency of purging (d=0.66), Global EDE scores (d=0.64) However, levels of depression remained fairly constant throughout At 6-month follow-up, 6 were abstinent NSSI, 3 abstinent binge eating & no longer met criteria for ED DBT able to target both ED and self-harm symptoms	Small sample impacts interpreting effect sizes & lack of control group During follow-up period participants could access other treatments Did not assess treatment acceptability or therapist alliance RCT comparing DBT with another treatment needed
Johnston et al. (2015) Intensive outpatient treatment model, USA Moderate Rating	Pre and post design (no control group) EDE-Q	N = 51 Gender = all female Mean Age = 14.8 (12-17) Eating Disorder = 33% AN, 12% BN, 55% EDNOS Additional Diagnoses = 53% comorbid diagnoses (26 with mood and anxiety disorders)	Combines Maudsley-based family therapy and group DBT skills training for effective tools to replace eating disorder behaviours 7-8 week program: 3 evenings a week for 3-4 hours, included multifamily group (for Walking the Middle Path module), multifamily dinner, parent DBT group, adolescent DBT skills group with additional problem-solving and body image groups Each family met once a week for 45 minutes with a therapist 3 therapists – one psychologist, 2 masters level clinicians, trained in family therapy & DBT	Gained significant amount of weight and significant decrease in ED psychopathology, improvement maintained 1-year post-treatment Binge-purge behaviours decreased but not significant At 1-year follow-up 64% adolescents weight restored and menstruating normally Promising treatment option for adolescent ED but small sample so not sufficiently powered to investigate ED subtypes and limited ability to detect significant decrease in binge-purge behaviours	No control group, no measures of mood & follow-up data difficult to obtain (low response rate) Self-report – patient and parent bias Improvements at follow-up but adolescents receiving outpatient services after program Need to compare to standard outpatient FBT and DBT

Murray et al. (2015) Outpatient, USA Moderate Rating	Pre and post design (no control group) EDE-Q Difficulties in Emotional Regulation Scale (DERS) Parents Versus Anorexia Scale (PVA)	N = 35 Gender = all female Mean Age = 15.7 (14-17) Eating Disorder = primary diagnosis BN	Program integrating family-based treatment (FBT) and DBT – FBT for symptoms of BN and DBT for emotional regulation difficulties Program included individual, family, multi-family and parent-only components, delivered up to 6 days a week, 3-10 hours per day, including multi-family DBT skills training and multi-family meals Mean length of treatment 77.18 days	Significant improvements in overall eating pathology particularly shape and weight concerns, binge episodes & self-induced vomiting Significant increase in parental self-efficacy No global improvement in difficulties in emotion regulation No change in BMI reflective of normative weight range Preliminary findings support integration of FTB & DBT, reduces BN symptomatology	Longer-term follow-up data required Need control group and comparison treatments including comparing integrated approach with FTB and DBT alone
Mazzeo et al. (2016) Outpatient, USA Strong Rating	Randomised control study – Randomised into DBT-based intervention (LIBER8 – Linking Individuals Being Emotionally Real) OR weight management group (2BFit) EDE EDE-Q Loss of Control Eating Disorder Screening Questionnaire (LOC-ED)	N = 45 (28 in LIBER8 & 17 in 2Bfit) Gender = all female (42.2% black) Mean Age = 15.42 (13-17) Eating Disorder = BED	Black adolescents vulnerable to BED, need for empirically validated and culturally sensitive treatments so LIBER8 designed LIBER8 – focus on emotion regulation skills, components of DBT such as mindfulness and distress tolerance with CBT Both manualised interventions (LIBER8 & 2BFit) involved weekly 8 session groups (5 waves of participants completed interventions) Group leaders trained in interventions were doctoral students in psychology or PhD level psychologists	Improvements with both interventions (no significant differences) – reducing maladaptive eating symptoms, significant reductions in ED cognitions and dietary restraint Therapists thought LIBER8 feasible & participants highly satisfied LIBER8 is an intervention for ethnically diverse adolescent girls – possible 'stepped-care' model might be beneficial for BN, 2BFit intervention can be implemented first but if not sufficient LIBER8 can focus on more advanced emotion regulation skills	Difficult to recruit girls as eating behaviours recognised mostly by parents, so not enough participants to randomise 4th and 5th treatment waves Some younger girls found abstract DBT concepts difficult Small sample size so insufficiently powered to detect potential racial differences

Cheng & Merrick (2017) Outpatient, USA Strong Rating	Case Study – need for culturally responsive treatments for women from diverse backgrounds with AN Outcome Questionnaire-45	N = 1 Gender = female Age = 24 (Chinese international student) Eating Disorder = AN binge-eating/purging type (and depression)	Incorporates DBT and cultural adaptation guidelines to adapt treatment to consider language, culture and values Stage 1 (sessions 1-16) – focus on client-therapist relationship & culturally supportive environment Stage 2 (sessions 17-26) – 10 weekly 90-minute DBT skills training group & weekly individual DBT psychotherapy Stage 3 (sessions 27-40) – identified helpful copings skills and termination Parental involvement when they visited including education on ED	After completing DBT, client self-report indicated a significant decrease in distress, increase in quality of social relationships, and increase in satisfaction with social roles (and binge-purge significantly reduced) Post-treatment reported slight increase in distress linked to changes in circumstances 3-month follow-up reportedly gained weight & not overly preoccupied with weight Importance of integrating cultural adaptation and evidence-based treatment	More case studies needed

RESULTS

Study Characteristics and Demographics

Thirteen published studies were included for review. Nine studies were conducted in the USA, two in the UK and two in Germany. The majority of studies (n=11) recruited participants from outpatient rather than inpatient settings. Across articles, overall there were 289 participants, and study sample sizes ranged from 1 to 51 (these are noticeably small samples indicating limited statistical power). The mean age of participants across the study samples ranged from 14 to 27 years. The youngest participant was aged 12 and the oldest participant aged 31 (although it is noted that demographic data was missing from three papers). The majority of papers (n=11) included entirely female samples.

In terms of diagnosis, Anorexia Nervosa (AN) was included within 7 papers, Bulimia Nervosa (BN) within 7 papers, and Binge Eating Disorder (BED) within 3 papers. The studies used a range of outcome measures, although the majority of studies (n=9), incorporated the recommended Eating Disorder Examination (EDE) and/or Eating Disorder Examination-Questionnaire (EDE-Q) as a measure (NICE, 2017).

Variation in the delivery of DBT included: the full DBT program (n=6), individual DBT sessions only (n=2), a DBT group intervention (n=3), and attending both individual DBT and DBT group sessions (n=2). Variation in DBT delivery also included DBT duration, lasting from 7 weeks up to 18 months, and at times DBT included family members (n=6).

Quality Appraisal of Studies

Quality appraisal involved applying the quality assessment tools, guided by the summaries of the methodology and limitations of the research papers in the Data Extraction Table (Table 3), using the EPHPP framework for the ten quantitative papers (Table 4) and the DFID framework for the remaining three case studies (Table 5). Tables 4 and 5 are colour-coded to indicate Weak (red), Moderate (yellow) and Strong (green) quality ratings for the methodological quality of the papers. Seven of the thirteen papers received an overall quality rating of 'Moderate', five papers were rated 'Strong', and one paper was rated as 'Weak'.

Overall, all ten quantitative papers were rated 'Moderate' for Selection Bias, due to being somewhat representative of the target population. The majority (n=7) of papers were also rated 'Moderate' for Study Design due to the Cohort Design, although three studies were rated 'Strong' due to being Randomised Controlled Trials or Controlled Clinical Trials. The majority (n=7) of papers were rated 'Weak' for Confounders as confounders did not appear to be controlled for or were not stated. All ten papers were rated 'Moderate' for Blinding, primarily because the assessor was not aware of the intervention status and/or unclear reporting of blinding was described. Data Collection Methods were rated 'Strong' for most papers (n=9) as standardised measures were included, including the recommended EDE and EDE-Q measure for ED. Withdrawals and Dropouts were rated either 'Moderate' or 'Strong' depending on follow-up rate.

Overall, across the three case study papers, two of the papers were rated 'Strong' overall as they sufficiently covered the seven quality principles: conceptual framing, transparency, appropriateness, cultural sensitivity, validity, reliability and cogency. The third paper was rated 'Moderate' overall due to weaknesses predominantly with conceptual framing and

cultural sensitivity. It is noted that all three case studies were rated ‘Weak’ for internal and external validity, as the case study design is less able to determine cause and effect linkages, and the findings from the one participant is unlikely to be replicable across multiple contexts.

Table 4. The literature review's quality ratings for the included quantitative studies using the EPHPP Quality Assessment Tool (Thomas et al., 2004)

Study	Selection Bias	Study Design	Confounders	Blinding	Data Collection Methods	Withdrawals & Dropouts	**Overall Rating**
1. Palmer et al. (2003)	Moderate	Moderate	Weak	Moderate	Weak	Strong	**Weak**
2. Salbach-Andrae et al. (2008)	Moderate	Moderate	Weak	Moderate	Strong	Strong	**Moderate**
3. Ben-Porath et al. (2009)	Moderate	Strong	Strong	Moderate	Strong	Moderate	**Strong**
4. Hill et al. (2011)	Moderate	Strong	Strong	Moderate	Strong	Strong	**Strong**
5. Federici & Wisniewski (2013)	Moderate	Moderate	Weak	Moderate	Strong	Strong	**Moderate**
6. Lynch et al. (2013)	Moderate	Moderate	Weak	Moderate	Strong	Moderate	**Moderate**
7. Fischer & Peterson (2015)	Moderate	Moderate	Weak	Moderate	Strong	Moderate	**Moderate**
8. Johnston et al. (2015)	Moderate	Moderate	Weak	Moderate	Strong	Moderate	**Moderate**
9. Murray et al. (2015)	Moderate	Moderate	Weak	Moderate	Strong	Strong	**Moderate**
10. Mazzeo et al. (2016)	Moderate	Strong	Strong	Moderate	Strong	Strong	**Strong**

Table 5. The literature review's quality ratings for the included case studies using the DFID framework (Department for International Development, 2014)

Study	Safer et al. (2007)	Wolter et al. (2009)	Cheng & Merrick (2017)
Conceptual Framing:			
Acknowledges existing research?	Yes	Yes	Yes
Constructs a conceptual framework?	Yes	No	Yes
Research question or hypothesis?	Yes	No	Yes
Transparency:			
Presents raw data it analyses?	Yes	Yes	Yes
Study context described?	Yes	Yes	Yes
Declares support or funding?	Yes	No	Yes
Appropriateness:			
Research design & method described and suitable?	Yes	Yes	Yes
Cultural Sensitivity:			
Considers context-specific cultural factors?	Yes	No	Yes
Validity:			
Measurement validity?	Yes	Yes	Yes
Internally and Externally valid?	No	No	No
Ecologically valid?	Yes	Yes	Yes
Reliability:			
Measures stable and reliable?	Yes	Yes	Yes
Findings changeable depending on analytical technique?	Unclear	Unclear	Unclear
Cogency:			
Reader signposted throughout?	Yes	Yes	Yes
Limitations considered?	Yes	No	No
Conclusions based on results?	Yes	Yes	Yes
Overall Rating:	**Strong**	**Moderate**	**Strong**

DBT Outcomes for Anorexia Nervosa

The review outcomes were divided into three groups: papers reporting on DBT with anorexia nervosa (AN), bulimia nervosa (BN) and binge eating disorder (BED). Table 6 provides a summary of these DBT outcomes.

Seven papers reported on DBT and AN (Ben-Porath et al., 2009; Cheng & Merrick, 2017; Federici & Wisniewski, 2013; Johnston et al., 2015; Lynch et al., 2013; Salbach-Andrae et al., 2008; Wolter et al., 2009). Salbach-Andrae et al. (2008) studied 12 adolescent girls, 6 with AN and psychiatric comorbidities, who attended a 25-week DBT program (which included family members and included food and body image modules). Improvements in eating pathology and general psychopathology were found, including improvement in mean BMI, and 5 of 6 girls no longer had an eating disorder diagnosis. Limitations included small sample size, lack of follow-up and absence of control group.

Wolter et al. (2009) reported a diagnostic crossover case study of a 15-year-old female with atypical AN (formerly obese) who attended a 3-month inpatient DBT program, with psychopharmacological treatment aimed at reducing depressive symptoms. They concluded that DBT prevented further weight loss and improved affective state was found, although there was a lack of follow-up data.

Ben-Porath et al. (2009) compared two groups of young people, those diagnosed with an eating disorder including AN, and those with a comorbid diagnosis of an eating disorder and borderline personality disorder (ED-BPD). Participants attended a DBT-informed program which included a nutrition module and additional groups which focused on topics such as motivation and goal setting. Both groups of young people showed similar reductions on the

EDE-Q and the researchers concluded that DBT could be a treatment alternative for a complicated ED-BPD presentation, as DBT can treat ED and distress, although a control group and less reliance on self-report measures was suggested. These conclusions are supported by Federici and Wisniewski (2013) who studied seven young females with predominantly an AN diagnosis (with additional BPD and additional diagnoses such as depression), previously treated with a CBT intervention with little success. The participants were offered a 6-month DBT program, and post-treatment, 5 participants were showing less restrictive eating and 5 participants were abstinent from suicidal and self-injurious behaviour, suggesting a promising intervention for 'hard to treat' complex populations.

Lynch et al. (2013) studied an adaptation of DBT, the Radically Open-DBT (RO-DBT) program, with 47 young people with anorexia nervosa – restrictive type (AN-R). Post-treatment, after an average of 21 weeks of RO-DBT, 35% of participants were in full remission from an AN-R diagnosis, with significant improvement in eating-disorder symptoms and reductions in psychological distress. Johnston et al. (2015) also reported on 51 adolescent females with eating disorders (33% diagnosed with AN), attending an 8-week combined family therapy and DBT skills program (involving parents). At 1-year follow-up, 64% of the adolescents were weight restored and menstruating normally, although some were accessing further outpatient services during this time. Lastly, Cheng and Merrick (2017) reported a case study of a 24-year-old Chinese international student, with AN binge-eating/purging type, offered a 10-week DBT program with cultural adaptations. After DBT, improvements were noted on the self-report measure and binge-purge behaviours were significantly reduced.

Overall, of the seven papers reporting on DBT and AN, three of the papers scored highly on quality, and the other four were rated 'Moderate'. The papers suggest that DBT is promising

and there is preliminary support for the effectiveness of DBT adaptations for young people with AN, including AN with comorbid presentations. However, more research is needed, including focusing on the subtypes of AN. Also, it is noted that small sample sizes and lack of control groups (to determine whether the changes are due to treatment or other factors) prevent strong conclusions from being drawn. Additionally, studies lacked post-treatment follow-up to see whether improvements were maintained.

DBT Outcomes for Bulimia Nervosa

Seven papers reported on DBT and BN (Ben-Porath et al., 2009; Fischer & Peterson, 2015; Hill et al., 2011; Johnston et al., 2015; Murray et al., 2015; Palmer et al., 2003; Salbach-Andrae et al., 2008). Palmer et al. (2003) studied seven participants, five with a diagnosis of comorbid BN and BPD. After attending a DBT program (which included an ED module and lasted up to 18 months), two participants no longer had an ED diagnosis and three participants were presenting with the partial syndrome of EDNOS. The study suggested that DBT is possible for those with a diagnosis of BN with a comorbid personality disorder, who may present with self-defeating and self-damaging behaviours (which complicates treatment), although there was a lack of comparison group and lack of formal outcome measures. However, these conclusions are supported by Ben-Porath et al. (2009) who compared two groups of young people, those diagnosed with an ED (including BN), and those with a comorbid diagnosis of an eating disorder and borderline personality disorder (ED-BPD). Participants attended a DBT-informed program (which included a nutrition module) and both groups of young people showed similar reductions on the EDE-Q, leading to conclusions that DBT is a possible treatment for a complicated ED-BPD presentation, although again a control group is needed. Fischer and Peterson (2015) also reported a study of 10 adolescents with BN (with comorbid suicidal behaviour), who attended a 6-month DBT program (which incorporated parents), finding post-treatment, significantly reduced self-harm and reduced binge and purge frequency, suggesting that DBT can treat BN and self-harm behaviour (although it was noted that at the 6-month follow-up participants had accessed other treatments).

Salbach-Andrae et al. (2008) studied 12 adolescent girls (6 with BN and psychiatric comorbidities) who attended a 25-week DBT program (which included food and body image modules, and incorporated family members). Improvements in eating pathology and general

psychopathology were found, including significant reduction in vomiting and bingeing frequency. Also, 2 of the 6 girls were given a diagnosis of the partial syndrome of EDNOS, although the study limitations included small sample size, lack of follow-up and absence of control group.

Hill et al. (2011) reported a randomised controlled study of 32 young females with BN, receiving either 12 group sessions of appetite-focused DBT (which introduces an additional appetite awareness module) or allocated to the wait-list control. Post-treatment 26.9% were abstinent from binge and purge episodes and 61.5% no longer met BN diagnosis criteria, although lack of comparison to CBT and the need to replicate findings was suggested. Also, Johnston et al. (2015) reported on 51 adolescent females with an ED (12% diagnosed with BN), attending an 8-week combined family therapy and DBT skills program, finding that binge-purge behaviours decreased, as well as a significant decrease in eating disorder psychopathology on the EDE-Q. Furthermore, Murray et al. (2015) studied 35 adolescent girls with BN offered an integrated program of DBT and family-based treatment, for an average of 77 days. Preliminary findings supported the integrated program, evidenced by improvements in eating pathology measured by EDE-Q.

Overall, of the seven papers reporting on DBT and BN, two of the papers scored highly on quality, four were rated 'Moderate', and one was rated 'Weak'. The studies show DBT is promising and offer preliminary support for the effectiveness of DBT with BN, including BN with comorbid presentations, and adapting DBT to include families. There is varying quality across the papers, although it is noted that the use of standardised measures enhanced the quality of the studies. The papers suggest there is a need for an RCT to directly compare DBT for BN, with another treatment, and a need for longer-term follow-up data.

DBT Outcomes for Binge Eating Disorder

Three papers reported on DBT and BED (Mazzeo et al., 2016; Palmer et al., 2003; Safer et al., 2007). Palmer et al. (2003) studied participants predominantly with a diagnosis BN, although one participant aged 24 with a diagnosis of BED and BPD was included, who no longer met diagnosis of an eating disorder at follow-up. Safer et al. (2007) also studied a 16-year-old female with a diagnosis of BED, offered individual DBT for 21 weeks with family sessions included, finding mixed results, as binge episodes reduced although the four subscales of the EDE post-treatment were a mix of improved, unchanged and worse. Additionally, Mazzeo et al. (2016) reported a randomised controlled study of 45 ethnically diverse adolescent girls, comparing an 8-week DBT-based group with a weight management group. Improvements on the EDE-Q were found for both groups, suggesting that DBT might be an intervention option for girls who need additional emotion regulation skills. Methodological concerns included that the study was insufficiently powered due to sample size.

Overall, these three studies of BED, suggest DBT could be a therapeutic option for young people with BED, although the small sample sizes and variability in the DBT delivery, suggest more research is needed. Two of the papers received overall 'Strong' quality ratings, giving weight to the findings, although one paper did receive a 'Weak' rating, and it is noted the inconsistency in the findings across the papers.

Table 6. Summary of the DBT Outcomes for AN, BN and BED

	Anorexia Nervosa	Bulimia Nervosa	Binge Eating Disorder
Papers	Ben-Porath et al., 2009; Cheng & Merrick, 2017; Federici & Wisniewski, 2013; Johnston et al., 2015; Lynch et al., 2013; Salbach-Andrae et al., 2008; Wolter et al., 2009	Ben-Porath et al., 2009; Fischer & Peterson, 2015; Hill et al., 2011; Johnston et al., 2015; Murray et al., 2015; Palmer et al., 2003; Salbach-Andrae et al., 2008	Mazzeo et al., 2016; Palmer et al., 2003; Safer et al., 2007
Study Design	Case studies (n=2), Case series (n=2), Cohort (n=2), Non-RCT (n=1)	Case series (n=1), Cohort (n=4), Non-RCT (n=1), RCT (n=1)	Case study (n=1), Cohort (n=1), RCT (n=1)
Measures	EDE-Q (n=4) BDI-II and NMR (n=1)	EDE or EDE-Q (n=5) BDI-II and/or NMR (n=3)	EDE and/or EDE-Q (n=2)
DBT Delivery	Full program (n=4) Groups only (n=2) Group and individual DBT (n=1)	Full program (n=4) Groups only (n=1) or Individual DBT only (n=1) Group and individual DBT (n=1)	Full program (n=1) Groups only (n=1) or Individual DBT only (n=1)
DBT Adaptations	Included comorbid AN-BPD clients (n=2) Included additional ED module (n=3) Included family members (n=3) Adapted DBT – e.g. RO-DBT (n=3)	Included comorbid BN-BPD or NSSI clients (n=2) Included additional ED module (n=4) Included family members (n=4) Adapted DBT – e.g. DBT-AF (n=3)	Included additional ED module (n=1) Included family members (n=1)
DBT Duration	Range: 7 weeks – 25 weeks Included follow-up (n=1)	Range: 7 weeks – 18 months Included follow-up (n=3)	Range: 8 weeks – 18 months Included follow-up (n=2)
Post-DBT changes	ED diagnosis (n=2) ED psychopathology on EDE or EDE-Q (n= 2) Effect sizes on EDE-Q (n=1) Behavioural symptoms – binge & purge (n=3) Self-harm (n=1) Mood or distress (n=4) Weight or BMI (n=6)	ED diagnosis (n=4) ED psychopathology on EDE-Q (n= 3) Effect sizes on EDE or EDE-Q (n= 2) Behavioural symptoms – binge & purge (n=5) Self-harm (n=2) Mood or depression (n=2)	ED diagnosis (n=1) ED psychopathology on EDE or EDE-Q (n= 2) Behavioural symptoms – binge episodes (n=1) Self-harm (n=1)
Limitations	Further research needed into DBT with AN including RCTs, current studies have small samples, need a control group and comparison treatment groups, & longer follow-up	Further research needed into DBT with BN including RCTs, current studies have small samples, need a control group and comparison treatment groups, & longer follow-up	Further research needed into DBT with BED, current studies have small samples, need comparison treatment groups, & longer follow-up

DISCUSSION

Key Findings

This systematic review aimed to provide an account of the literature on DBT for young people with EDs, evaluating the evidence and reviewing the quality of the literature, with recommendations for future research and clinical practice. After a comprehensive search of three electronic databases, 13 studies were included for review. The DBT outcomes, across the papers, consider the effectiveness of DBT with anorexia nervosa (AN), bulimia nervosa (BN) and binge eating disorder (BED). The key findings across AN, BN and BED included: clients no longer met their ED diagnosis after DBT, ED symptoms measured by the EDE and EDE-Q reduced (measures client concerns about: dietary restraint, eating, weight and shape), behavioural symptoms (including binge and purge symptoms) and self-harm reduced. Also, for these key findings, statistically significant reductions were found. Additionally, across AN and BN, improvement in mood, depression and distress was found. However, it is acknowledged that only three studies considered effect sizes with the EDE and EDE-Q (i.e. one study of AN found large effect sizes and two studies of BN found medium to large effect sizes). Furthermore, most studies identified the need for further research into DBT with ED, including RCTs and longer follow-up.

Overall, all thirteen papers in this systematic review support the use of DBT as an intervention, with promising findings and no adverse effects. However, the small number of studies (with only three papers exploring BED), together with only five studies rated as providing strong robust quality evidence, prevents strong and firm conclusions from being drawn about the effectiveness of DBT for young people with an ED.

Strengths and Limitations of the Review

This is the first systematic review of DBT for EDs, focusing specifically on adolescents and young people. The majority of papers were of moderate quality overall, with clearly stated hypotheses, well established measures including the EDE-Q (recommended by NICE, 2017), and with few participants dropping out of therapy.

In comparison with other reviews, specifically Groves et al. (2012), who considered DBT studies of adolescents, of the three EDs studies they identified, two studies were included in the current review. The other article was excluded at it was written in German (i.e. Salbach et al., 2007). Also, in comparison to Bankoff et al. (2012), who reviewed DBT for ED, without an age range limit (identifying 13 articles), only five papers overlapped with the current systematic review. The current review was therefore unique and novel, as it was able to incorporate the empirical evidence of seven new papers, to explore in further depth the effectiveness of a DBT intervention for adolescents and young people.

Across the thirteen papers, in the current systematic review, deficits in the research methodology included small sample sizes (indicating limited statistical power), which were predominantly female with a mixture of ages and diagnoses (and defining the age of a 'young person' is debatable). It is noted that only 7 papers included adolescent participants (under the age of 18), and of remaining 6 papers, four papers had a mean age of under age 25 (the other two papers had a mean age of 26 and 27). Therefore, the majority of papers focused on young people under the age of 25 (with only two papers slightly exceeding age 25).

Other deficits in the research methodology include only tentative conclusions are possible in this review, as across the papers, differences and variations impact upon comparisons of the

DBT papers and the generalisability of the studies, although they do emphasise the flexibility and adaptability of DBT. The variations include: differences in intervention delivery (with only six studies offering a full DBT program), variation in DBT duration and short follow-ups, differences with offering additional DBT modules (e.g. nutrition modules), the inclusion of parents, and therapists with differing training experiences. Also, the review included several pilot studies of modified DBT interventions (e.g. DBT-AF), and despite the inclusion of the EDE-Q there was inconsistency, across the thirteen papers, in the selection of additional measures (e.g. BDI-II).

Despite the differences, across the studies, using quality frameworks in this review helped to compare the papers. However, it is acknowledged that the frameworks are broad, impacting upon comparison, and they focus on the reporting and not necessarily the actual quality of the studies. Also, specifically although the DFID framework was found to be useful in this review, it lacks support from other literature reviews, in comparison to the well supported EPHPP framework (e.g. Bastounis et al., 2016; Claxton et al., 2017; Smith-MacDonald et al., 2017). Additionally, it is recognised that using two different sets of quality criteria can create a challenge when making review conclusions, particularly in terms of acknowledging that a quantitative study has greater weight upon review conclusions in comparison to a qualitative study. However, as all included papers were supportive of DBT for ED in the current review, this minimised the challenge.

Recommendations for Future Research

On the basis of the review findings, more robust research and statistical analyses is recommended to enhance future studies, including calculating effect sizes. Also, involving male participants and individuals from diverse cultural backgrounds in the research studies, including control and comparison treatment groups (i.e. comparing DBT to CBT or family therapy), and collecting long-term follow-up data. Overall, wider recruitment is recommended to reduce sampling bias, data collection should continue to include established standardised measures such as the EDE-Q, and high quality RCTs are needed to evaluate efficacy.

In particular, further research is needed to replicate and support the findings of the pilot studies (e.g. DBT-AF). Moreover, future research might report on the impact of differing therapist teams and training upon delivering DBT to young people. Furthermore, research might evaluate the unique contribution of the nutrition modules and other aspects of a DBT intervention, as well as considering qualitative research to explore experiences of DBT for ED.

Recommendations for Clinical Practice

The current review suggests a number of clinical implications and recommendations for clinicians. The review suggests that DBT is a treatment option for young people with EDs, including for young people with comorbidities such as BPD, although it cannot be concluded that DBT is more effective than other treatments. It is noted that Schneider et al. (2010) has found satisfaction and acceptability of modified adolescent DBT for EDs. DBT should therefore be considered as an option or alternative treatment along with NICE (2017) recommended ED treatments.

Preliminary studies of adults with EDs described 20-week DBT interventions (e.g. Safer, Telch & Agras, 2001; Telch, Agras & Linehan 2001; Wiser & Telch, 1999). If clinicians or services are considering DBT for young people with an ED, the papers included in the current review indicate that the duration of a DBT intervention might last 7 to 12 weeks (n=7) or a longer intervention might last 21 to 25 weeks (n=6). However, it is recommended that services perhaps consider initially, shorter interventions (7 to 12 weeks), if suitable for their clinical setting, as improvements from brief interventions could be cost-effective and reduce client waiting times to access intervention.

It is acknowledged that the majority of papers included in the review described a full DBT intervention, especially for young people with ED-BPD. It is therefore recommended that clinicians and services considering DBT as an intervention for young people with an ED, should consider first their ability to offer the full program. However, other papers in the review suggested that DBT can be delivered as an individual and/or group intervention, and it is acknowledged that the wider DBT literature suggests that stand-alone DBT interventions can be suitable, such as a stand-alone DBT skills group (Valentine et al., 2015). There was less

evidence, across the papers included in the review, to support a modified DBT intervention (such as RO-DBT or DBT-AF) for young people, although the evidence suggests that these interventions could perhaps be a secondary consideration (if an alternative to the standard DBT intervention seems appropriate).

It is acknowledged that three papers in the review described a DBT intervention combined for clients with AN and BN, and one paper described DBT combined for clients with BN and BED. Therefore, the evidence would support services considering offering separate or combined DBT groups and interventions for AN, BN and BED. Moreover, it is recommended that services considering offering a DBT intervention for young people with an ED, should consider incorporating an additional ED module (such as a nutrition and/or body image module), and if possible involve family members. Services should also consider the number and mix of staff available to deliver DBT (in the current review there was predominantly at least 3-6 therapists in a DBT team). Additionally, it is recommended that clinicians and services use the EDE or EDE-Q as outcome measures, to measure change in client ED symptoms, along with possibly an additional measure of mood or emotional regulation, such as the BDI-II or NMR.

Conclusions

DBT is a research area which is growing, with studies increasingly exploring DBT effectiveness separately with young people and with eating disorders. Despite the small number of DBT research studies exploring young people diagnosed with an ED, the current review found the research to be promising, although limited by small sample sizes and lack of control and comparison groups. Overall, the current review found predominantly medium to strong quality evidence, supporting the effectiveness of a DBT intervention for adolescents and young people with eating disorders, which has implications for clinical practice, although further research is still needed including further RCTs.

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EMPIRICAL RESEARCH PAPER

WHAT HELPS AND HINDERS STAFF IMPLEMENTING DIALECTICAL BEHAVIOUR THERAPY (DBT) SUCCESSFULLY WITH ADOLESCENTS AND YOUNG PEOPLE?

ABSTRACT

Background: The effectiveness of Dialectical Behaviour Therapy (DBT) with adults presenting with emotional dysregulation has been well researched, and recent studies have considered outcomes of DBT with adolescents and young people. As the evidence base for adolescents continues to develop, studies have begun to interview staff on their experiences of delivering DBT, as well as exploring DBT implementation.

Method: A qualitative methodology, Enhanced Critical Incident Technique (ECIT), was used to explore DBT implementation, focusing specifically on clinician experiences in services supporting adolescents and young people. 16 clinicians, from four DBT teams, were interviewed. Clinicians were asked to consider what helps and hinders DBT implementation, and their wishes for DBT going forward.

Results: Using the ECIT methodology, 240 incidents were extracted from 16 interviews and sorted into 10 helping, 10 hindering, and 7 wish list categories. Across these 27 categories, five key areas were identified as important considerations for DBT delivery and implementation. These five key findings consider: shaping the DBT service, sufficient DBT time, staff training, clinicians and the therapy team, and shaping DBT groups. These findings showed consistency with both generic implementation studies, and studies exploring DBT implementation across adult services. Additionally, the results offer new insights into delivering and implementing DBT services specifically for young people.

Conclusions: Overall, ECIT was found to be a useful methodology for DBT research, and the study offers ideas and suggestions for establishing a successful DBT service aimed at young people, with possible considerations and changes for struggling teams. The study suggests that DBT teams might initially discuss service development guided by the suggested five key findings, followed by later exploring further and more detailed changes guided by the 27 categories identified in the study. It is hoped that the findings and learning from the study will be transferable to other DBT teams, particularly those with similar service contexts, supporting the sustainability of DBT services for adolescents and young people.

INTRODUCTION

Dialectical Behaviour Therapy

Dialectical Behaviour Therapy (DBT) was initially developed for adults with Borderline Personality Disorder (BPD) diagnoses, by Professor of Psychology Marsha Linehan in 1993. DBT is a treatment intended to help adults with BPD, by focusing on their emotion dysregulation difficulties, offering skills to enhance their ability to manage their emotions. DBT focuses on encouraging thinking dialectically which involves both practicing acceptance (including validation) and focusing on change. DBT offers individual support and a skills group focused on four modules: Interpersonal Effectiveness (relationship skills), Distress Tolerance (coping with emotional distress), Emotion Regulation (balancing emotions), and Mindfulness (paying attention to the present moment). DBT also involves telephone skills coaching/consultation, enabling an individual to phone a DBT therapist for support to select DBT skills to use in daily life. Additionally, the team of DBT therapists support one another within weekly consultation team meetings (Linehan, 1993).

Since the original DBT research found reduction in both self-harm and overdoses, for adults diagnosed with BPD (Linehan et al., 1991), the evidence base has grown and NICE (2009) guidance currently supports DBT as a treatment option for adults with BPD. Numerous randomised control trials now provide evidence that DBT with adults can reduce suicide behaviour, substance abuse, depression and anger, and enhance quality of life and interpersonal functioning (MacPherson et al., 2013). Additionally, recent research has supported the use of DBT with people with an intellectual disability (Crossland et al., 2017), adapting DBT for Dissociative Identity Disorder (Foote & van Orden, 2016), DBT for improving emotion regulation in patients with bipolar disorder (Eisner et al., 2017), and the effectiveness of DBT skills with perinatal women with emotion dysregulation (Wilson & Donachie, 2018). Other

DBT studies have also highlighted that a brief DBT skills group is feasible in a jail setting (Moore et al., 2018), that DBT skills can benefit family members of patients with mental health problems (Wilks et al., 2017), and that Radically Open-Dialectical Behaviour Therapy (RO-DBT), which differs to standard DBT as it focuses on emotional loneliness (rather than emotion dysregulation), can be effective with presentations such as anorexia nervosa, chronic depression and obsessive-compulsive personality disorder (Keogh et al., 2016).

With increasing evidence supporting DBT with adults, DBT was adapted by Rathus and Miller (2015) into a manual to deliver typically a 24-week DBT intervention, for adolescents (DBT-A). DBT-A includes an additional module 'Walking the Middle Path' which offers support to the young person's family. Literature indicates that DBT-A is a promising intervention for young people who present with emotional dysregulation difficulties including intense anger outbursts, impulsivity and self-damaging behaviours, reducing suicide attempts and self-harm behaviours, increasing ability to manage emotions in crisis using new skills, and improving relationships with others (e.g. Katz et al, 2004; James et al., 2008; James et al., 2011; Woodberry and Popenoe, 2008; Fleischhaker et al., 2011). A randomised controlled trial which included 77 adolescents assigned to DBT-A or a treatment as usual (TAU) control group, found DBT-A reduced non-suicidal self-injury behaviours, and DBT-A remained superior to TAU in reducing the frequency of self-harm over a 52-week follow-up period (Mehulm et al., 2014; Mehulm et al., 2016). Other studies also suggest effectiveness of DBT-A with a range of diagnoses including young people presenting with eating disorders, bipolar disorder, trichotillomania and oppositional defiant disorder (e.g. Safer et al., 2007; Salbach-Andrae et al., 2008, Goldstein et al., 2007; Nelson-Gray et al., 2006; Welch & Kim, 2012). There is also preliminary evidence that a DBT skills group may be a promising intervention for depressed adolescent perinatal females (Kleiber et al., 2017), brief DBT skills groups may be effective in

school settings (Zapolski & Smith, 2017) and DBT can improve medical adherence in adolescents with chronic illnesses (Lois & Miller, 2017). Overall, the recent increase in quantitative DBT studies suggests that DBT is a treatment that can be effective with adolescents with differing presentations, in different settings.

DBT studies have also considered staff experiences of delivering DBT. For example, Perseius et al. (2003) interviewed ten patients and four DBT-therapists, using content analysis, they found that DBT was described as 'lifesaving', with the 'understanding' and 'skills' learnt from DBT described as the most effective aspects of the therapy. DiGiorgio et al. (2010) studied therapist adherence to the DBT protocol finding that therapists modified DBT depending on client diagnosis and therapist theoretical orientation. Lindgren and Hällgren Graneheim (2015) focused on narrative interviews with nine DBT professionals, finding that they described the intervention as an unpredictable journey, which is sometimes experienced as a joint endeavour with the client and sometimes lonely. More recently, Hutton et al. (2017) interviewed 6 NHS staff delivering DBT to explore the impact of adding, onto their existing job role, becoming a DBT therapist. The six themes from the thematic analysis included DBT as a useful framework, DBT as the most satisfying part of the job, conflicts in roles, importance of informal support, uncertainty about the future, and using DBT skills personally.

DBT research involving staff has also focused on exploring the therapeutic alliance, stress and clinical burnout. For example, Jimenez (2013) reported a case study of a DBT therapist's therapeutic alliance with a client with BPD, while Richardson-Vejlgaard et al. (2013) found that therapist-rated alliance in DBT was not associated with either client mood or BPD symptoms, although Bedics et al. (2015) did find an association between perception of the therapeutic alliance in DBT and reduced client suicidal behaviour. Additionally, Perseius et

al. (2007) studied 22 clinicians who, after completing DBT training, described reduced stress while providing DBT treatment, and moreover Carmel, Fruzzetti and Rose (2014) found decreased scores of burnout after the nine clinicians treating clients with BPD attended a 10-day comprehensive DBT training.

Implementation Science

DBT studies are currently expanding into Implementation Science (e.g. Swales 2010a; Swales 2010b). Finding effective treatments for mental health difficulties does not guarantee they will be implemented, and Implementation Science considers promoting implementation, sustainability and monitoring outcomes of evidence-based practice and treatments (EBTs) in routine clinical practice settings (Bloch et al., 2006).

It is acknowledged that there is a gap between research and practice; and understanding the important factors for successfully implementing evidence-based approaches is complex (Fixsen et al., 2005). The importance of both designing and considering the implementation of interventions and sustainability, has been suggested as essential (Damschroder & Hagedorn, 2011), and growth in research considering implementation hopes to explore best practice including for implementing evidence-based psychological treatments (McHugh & Barlow 2010).

There have been many conceptual models created to guide the implementation and sustainability of EBTs, and a review by Tabak et al. (2012) found 61 implementation models and frameworks currently employed across the Implementation Science literature (e.g. The Exploration, Planning, Implementation, and Sustainment Framework – EPIS, Aarons et al., 2011). There are five main types of frameworks: models focused on classic theories and implementation theories, frameworks focused on the process of implementation, determinants frameworks which specify barriers and facilitators, and evaluation frameworks which focus on intervention success and failure (Khalil, 2016). One implementation framework which is often selected is the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009), which brings together five common factors of successful implementation:

intervention characteristics (the complexity of the intervention), outer setting (economic, political and social factors), inner setting (organisational structure, culture and resources), characteristics of the individuals involved, and the process of implementation. The CFIR intends to promote and evaluate implementation across settings.

Overall, Implementation Science involves more than simply introducing EBTs into service delivery settings, it considers the process of training and considers barriers to the long-term use and sustainability of treatments (McHugh & Barlow, 2010). The Improving Access to Psychological Therapies (IAPT) program, implemented in the United Kingdom (UK) in 2007, is described as the most extensive effort of implementing evidence-based psychological therapies, involving large-scale investment in the National Health Service (NHS), with government support and substantial resources to train clinicians and ongoing evaluation of patient outcomes (McHugh & Barlow, 2010).

Similar to the IAPT program, DBT involves a comprehensive training approach. The 'Behavioral Tech' organisation has been coordinating DBT training in the United States (US) since 2003, and 'British Isles DBT Training' has been the provider of DBT training for UK teams since 1997. The training approach recommended for DBT is the 'DBT Intensive Training Model', rather than self-study or 2-day workshops or electronic-learning. Teams of therapists attend the intensive training, which involves two 5-day teaching blocks, usually separated by several months. The training is aimed at supporting each team to begin establishing their DBT programme, between the two teaching blocks, promoting implementation (Swales, 2010a).

Acknowledging the emphasis throughout the DBT training on promoting implementation, DBT research has begun to explore DBT delivery and implementation, including Bedics et al. (2013) who discussed three key clinical strategies involved in delivering individual DBT. The key strategies highlighted were firstly structuring individual sessions, secondly incorporating change-focused problem-solving and acceptance-focused validation, and thirdly focusing on dialectical strategies (defined as balancing opposing skills). Also, Ben-Porath et al. (2004) explored the effectiveness of DBT in clinical settings, discussing implementation barriers involving staff turnover difficulties and the need to select staff with strong emotion-regulation skills with an ability to maintain therapy boundaries, and the need for DBT training to ensure fidelity when delivering the DBT model. Focusing more directly on obtaining perspectives of implementation, Herschell et al. (2009) interviewed thirteen participants in leadership roles working across 9 mental health organisations implementing DBT in the US, finding four major themes from the interviews. The themes identified included: positive opinions expressed about current DBT practices, challenges with needing sufficient ongoing client referrals, lack of resources such as the time commitment, and staff turnover with a need to select staff who were interested and committed to the organisation. Herschell et al. (2009) suggested that increasing understanding of implementation in turn supports successful DBT implementation and sustainability.

DBT implementation research in the UK includes Swales (2010a), who discusses the importance of DBT team selection, team capacity, team commitment, skills mix, leadership, DBT intensive training, and consultation teams to train and supervise therapists. Swales also (2010b) suggested that in order to prevent implementation failure, there was a need to attend to organisational context, rather than just training staff with the hope they will implement DBT. Four stages of pre-treatment for an organisation were suggested including: identifying

organisational goals, assessing organisational suitability, orienting the system, and gaining commitment (Swales, 2010b). More recently, Swales et al. (2012) contacted all UK teams trained in DBT and interviewed the team leaders of 68 DBT programmes over the telephone about implementation. Content analysis identified facilitating factors including organisational support, additional training and supervision, and the hindering factors of lack of organisational support and the DBT model. The study also highlighted that DBT programmes, during the second and fifth years after training, are at increased risk of failure and therefore exploring implementation is needed to promote DBT sustainability. In another study conducted in the US, Carmel, Rose and Fruzzetti (2014) interviewed 19 clinicians to explore DBT implementation challenges and solutions. The three challenges, identified using content analysis, were the themes of patient recruitment and developing the DBT program, time dedicated to DBT, and limitations with administrative provision and investment from the organisation. The study recommended the need for more studies into DBT implementation.

Recently, an unpublished instrument developed by Behavioral Tech, referred to as the Barriers to Implementation Survey (BTI), has been used in research to explore barriers to implementing DBT (e.g. Chugani & Landes, 2016; Landes et al., 2016). The survey is a checklist of barriers based on reports provided to Behavioral Tech's expert DBT trainers at training events, barriers including the team (e.g. team conflict and leadership), administrative, philosophical/theoretical (e.g. discrepant theoretical orientations or mindfulness viewed negatively), and structural problems (e.g. lack of management support, lack of therapists and needing more time). Acknowledging that DBT implementation research is increasing, to evaluate implementation and support sustainability, the original BTI survey is now being developed into a scale (BTI-S), although it needs further refinement to be a truly reliable and valid measure of DBT barriers (Chugani et al., 2017).

In another implementation study (Ditty et al., 2015), guided by the CFIR (Damschroder et al., 2009), the focus was on exploring the relationship between DBT implementation and Inner Setting variables (the structural, political, and cultural context of the organisation). DBT clinicians completed an online quantitative survey and participated in interviews, finding four variables (team cohesion, team communication, team climate, and supervision), which were considered possible facilitators for DBT implementation. Also, at present a study is investigating the effectiveness of DBT in community mental health services across Ireland, both adult and child/adolescent services, evaluating the coordinated national implementation of DBT (Flynn et al., 2018).

Enhanced Critical Incident Technique (ECIT)

Although studies of DBT implementation have used a range of methodology including content analysis, which typically involves labelling interesting and meaningful portions of text data and counting key content (e.g. Swales et al., 2012; Carmel, Rose, & Fruzzetti 2014), other methodologies are an option. ECIT is a qualitative framework that specifically focuses on identifying Critical Incidents (CIs), defined as participant perspectives on what is critical or significant for helping and hindering the effectiveness of an activity or experience (Butterfield et al., 2009). Extracting 50-100 CIs from participant interview data is deemed to be satisfactory, rather than needing a specific number of participants, and incidents are then grouped and organised to develop Categories (Flanagan, 1954).

ECIT is described as a valid and reliable, efficient and practical methodology, used with a range of research studies including psychology (Butterfield et al., 2009), developed from Flanagan's Critical Incident Technique approach (CIT), where it was originally used for selecting and classifying aircrews in the army (Flanagan, 1954). ECIT differs to CIT, due to two enhancements that involve asking participants (during interviewing), contextual questions for background information, and asking participants for their wishes to explore what they believe would further help the situation studied (Butterfield et al., 2009).

CIT is a well-established flexible technique and exploratory tool of qualitative organisational research, which supports building theories, and has the recommendation that it should be used more by researchers (Bott & Tourish, 2016). CIT has been used in service research to explore topics such as service quality, service failure and service delivery, in a variety of contexts including hotels, restaurants, public transportation and education (Gremler, 2004). CIT has been described as a relevant, appropriate, sound and credible approach for service researchers,

offering an exploratory approach for sparingly researched topics, collecting rich data of the respondents' experiences and specific situations, and exploring what is important to them without forcing the findings into existing theoretical frameworks. However, the method is limited by participant truthfulness and recall bias (Gremler, 2004).

Recent CIT studies, summarised in Appendix 3, have focused on psychology and mental health (e.g. Richards & Bedi, 2015; Shannon et al., 2016; Ahern et al., 2016; Goodwill & Ishiyama, 2016). The first ECIT study focused on employees (Butterfield et al., 2010) and several subsequent ECIT studies, summarised in Appendix 3, have focused on young people (e.g. Chou et al., 2015; Bartlett & Domene, 2015; Curle et al., 2016; McIntosh et al., 2016). Overall, ECIT is a flexible technique, used with a range of research studies including focused on psychology, mental health, service research and implementation. It was therefore selected as the methodology for the current study.

Study Rationale

Due to the expanding DBT evidence base, including research focused on DBT with adolescent populations and staff studies, the current study focused on DBT-A and incorporated staff. Also, due to the growing literature on DBT implementation, with notably more focus on barriers than facilitators (e.g. Ben-Porath et al., 2004; Herschell et al., 2009; Carmel, Rose, & Fruzzetti, 2014; Chugani et al., 2017), the current study aimed to explore both the facilitators and barriers in the successful implementation of DBT. Overall, the current study was novel as it focused on staff perspectives of specifically implementing DBT-A, contributing to the limited DBT implementation literature in the UK.

Previous implementation studies have used various methodologies including content analysis to explore DBT implementation (e.g. Swales et al., 2012; Carmel, Rose, & Fruzzetti, 2014). As there appears to be no recommended tool, the current study used the novel qualitative method ECIT (Butterfield et al., 2009), as this flexible research method specifically focuses on separating out facilitators, barriers and wishes, and considers the strength of outcomes and can offer concrete recommendations for DBT implementation. ECIT was therefore selected for the current study to explore what makes a difference, helps and hinders clinicians setting up and maintaining a DBT service for young people within the NHS (National Health Service) in the UK. It was anticipated that ECIT could provide new insights, including directly exploring clinician wishes, promoting successful DBT implementation and sustainability.

Qualitative research focused on DBT-A implementation appears to be an important step in DBT research as model-specific implementation concerns have been raised, and the need for further qualitative studies has been emphasised to prevent DBT implementation failure (e.g. Swales et al., 2012). Although ECIT methodology has not previously been used with DBT

studies, the methodology appears more suitable than content analysis, for the current study, as it has a structured, specific and direct focus to explore what makes a difference in successful DBT implementation, incorporating context and human factors. ECIT as a methodology, also meets the need for an exploratory methodology to provide in-depth data on DBT-A, without being hypothesis-driven, allowing comparison to the adult DBT UK implementation research of Swales et al. (2012) and comparison with Behavioral Tech's checklist (Barriers to Implementation Survey), as well as comparison to implementing other therapeutic models and interventions.

Study Aims

The current research study aimed to explore and understand important events or experiences (Critical Incidents) that clinicians utilising DBT identified and perceived as helpful, hinderances and wishes for implementing, establishing and maintaining a successful DBT service with adolescents and young people.

The research question was: 'What helps and hinders clinicians implementing DBT with adolescents and young people?'

METHODOLOGY

Enhanced Critical Incident Technique (ECIT)

The current research study was guided by the ECIT methodology (Butterfield et al., 2009). As mentioned previously, ECIT is a systematic approach to qualitative research that specifically focuses on identifying Critical Incidents (CIs). CIs are not necessarily dramatic or extreme discrete events. Instead, CIs are defined as participant perspectives, interpretations and descriptions, of specific important contributing factors which are significant or revelatory, for helping and hindering an outcome or experience (Butterfield et al., 2009).

ECIT involves primarily conducting interviews, to understanding a participant's perspective, forming categories based on the CI data, deciding on the specificity of categories, followed by labelling categories with operational definitions and self-descriptive titles (Figure 2). For example, McIntosh et al. (2016), asked participants their perspectives on implementing a school intervention, as participants spoke about the importance of visiting another school and learning from a presentation provided by another school, these critical incidents led to the development of the Helping Category 'Networking with Implementing Schools' (Appendix 3).

As mentioned previously, ECIT shares similarities to Content Analysis as it focuses upon categorising qualitative data. Content Analysis involves a researcher taking qualitative data and transforming it into quantitative data, focusing on word frequencies, via a continuous process of coding, and categorising the data. In comparison, ECIT, differs as it has a specific focus upon discovering significant occurrences, processes and events, identified by a participant, as positively or negatively contributing and making a difference to an outcome (Butterfield et al., 2009). Additionally, ECIT has several strengths and distinctive features including its strict and structured process, ability to provide tangible outcomes and concrete recommendations, focus on percentage and strength of categories (which are less interpretative

than themes), and its focus on enhancing the trustworthiness of the data interpretation with nine credibility checks (Butterfield et al., 2009). The ECIT methodology was selected for the current research study as the focus of the methodology, specifically upon helping and hindering factors, fits with DBT-A implementation research question.

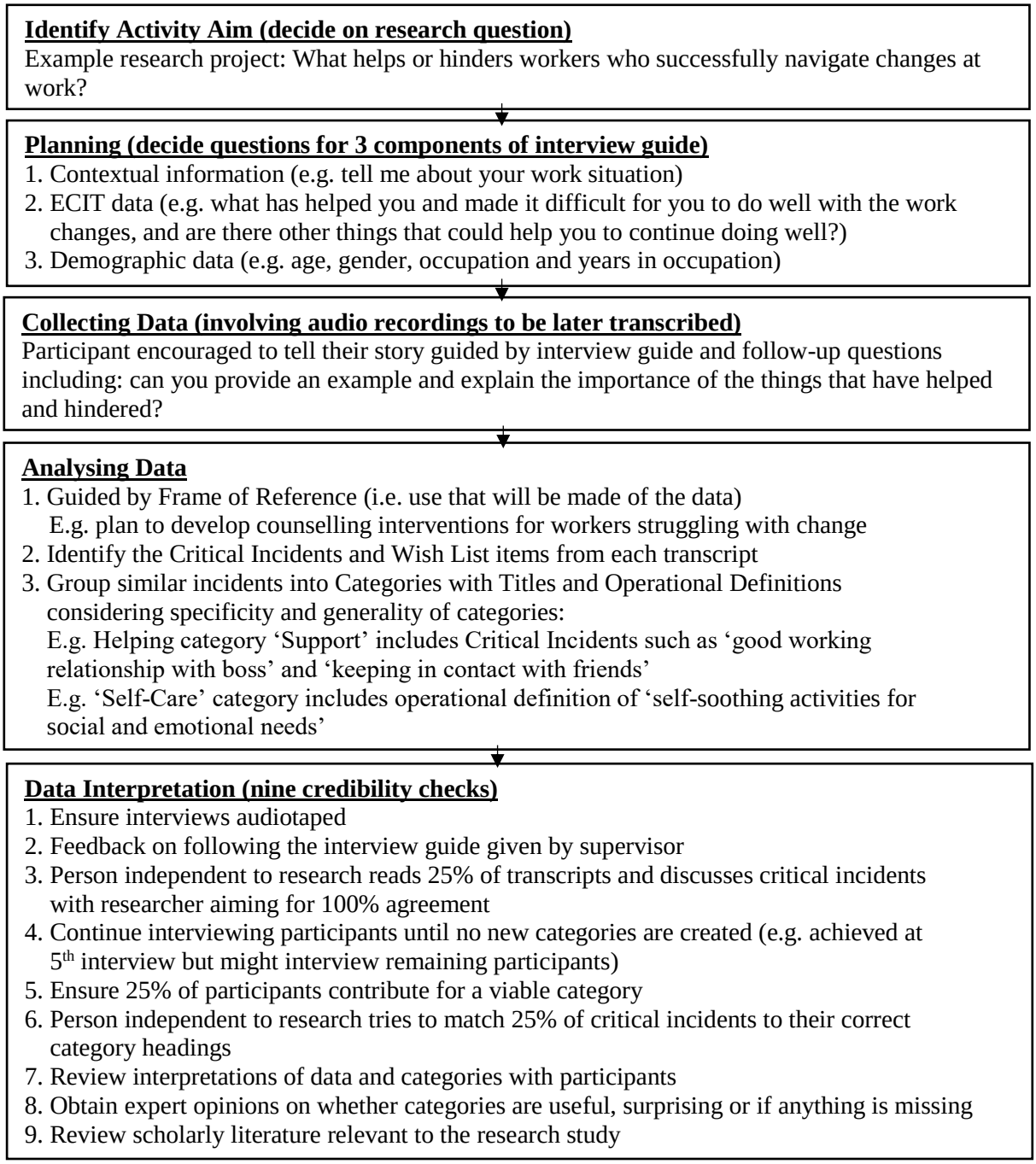

Figure 2. Process for conducting an ECIT study including an example research project (based on Butterfield et al., 2009)

Ethical Approval

An NHS Ethics Committee and relevant NHS Trust Research and Development departments provided approval for the current research study (Appendix 4).

NHS Trusts

The DBT teams that participated in the current study were identified based on contacting established DBT teams within the NHS, across one geographical area in the UK, accessible and convenient for the researcher to arrange interviews. Four DBT teams where contacted, as they met the service inclusion criteria (i.e. had been delivering DBT-A for a minimum of 9 months), and all four teams agreed to participate in the study. These four teams were based within two NHS Trusts.

The differences between the four DBT teams is summarised in Table 7, which shows that they differed primarily in the length of time the DBT service had been running, number of clinicians and client referrals. Overall, all four DBT teams allocated at least one day a week for DBT, offered weekly one-hour individual DBT sessions to clients, at least weekly a two-hour DBT skills group, and 1-2 hours weekly DBT team consult. Three teams offered a weekly or fortnightly parent group, and only one team had the telephone consultation well established.

Table 7. Key features of the four DBT service contexts

Services	Service Description
A	• Service running for approximately 4 years • Accepts only community clients aged 14-25 • Number of clinicians in core DBT team is 7
B	• Service running for approximately 1 year • Accepts only inpatient clients aged 12-18 • Number of clinicians in core DBT team is 5
C	• Service running for approximately 1 year • Accepts only community clients aged 13-17 • Number of clinicians in core DBT team is 4
D	• Service running for approximately 1 year • Accepts only community clients aged 14-17 • Number of clinicians in core DBT team is 5

Participant Recruitment

Identifying potential participants for the current study involved contacting the four DBT teams. All clinicians within the four DBT teams received a study information flyer (Appendix 5), which provided an overview to the study and the contact details of the researcher. Clinicians interested in taking part in the study completed a 'permission to contact' slip, after which the researcher then emailed the potential participants an information sheet (Appendix 6). For those clinicians agreeing to take part in the study, the researcher contacted them to organise an interview. Those who agreed to participate signed an informed consent form prior to their interview (Appendix 7).

Participant Inclusion and Exclusion Criteria

Clinicians were deemed appropriate for inclusion in the study if they had any clinical involvement, within their role, with delivering DBT-A and were fluent in English (as all interviews were conducted in English). Staff were excluded from participation if they had been involved in DBT within their current service for less than 2 months (due to possible limited understanding of the service).

Participants

16 clinicians were recruited from the four DBT teams (3-5 clinicians from each team). From the demographic data collected, the sample included 6 men and 10 women (age range 20 – 59 years). 13 participants were married or cohabiting, and 3 were single. Regarding participants ethnicity, 11 were Caucasian and 5 were from other ethnic backgrounds. The occupations represented across the teams included 7 clinical psychologists and 6 nurses. There were also 3 clinicians from other disciplines (2 occupational therapists and 1 counsellor), grouped together henceforth, to protect confidentiality. Participants had been involved in DBT delivery (DBT groups and/or DBT individual sessions) and implementation, across the four teams, for an average of 2 years (range 1–5 years).

Materials and Data Collection Procedure

Sixteen individual semi-structured interviews were completed, with each interview lasting an average of 45 minutes. Interviews were conducted in private rooms at the participating local NHS sites. Participants were invited to tell their story of their DBT experience throughout the interviews, supported by an Interview Guide (Appendix 8) based on the ECIT template (Butterfield et al., 2009).

Led by the Interview Guide, participants were first asked background information about their role, to provide context for the ECIT-related questions. Second, interviews focused on exploring the CIs and wishes for successful DBT implementation, which involved asking participants the following three specific questions:

1. What has helped you in implementing and delivering DBT with adolescents and young people?
2. What has made it more difficult to implement and deliver DBT with adolescents and young people?
3. Are there other things, a wish list, that could help you to continue doing well?

While answering the above three questions, participants were encouraged to offer specific examples and supporting information when discussing each important factor mentioned within their answers. Participants were also asked to elaborate on their answers for the three questions until they were unable to identify any further CIs for helping and hindering DBT implementation. Follow-up questions and prompts were used, to clarify and ensure sufficient detail. Lastly, to describe the sample, demographic data were collected from each participant, at the end of each interview.

All interviews were recorded using an audio recorder, which were then transferred to a secure computer. The recordings were transcribed verbatim, then individually each transcript was coded for analysis (see next section – Data Analysis).

Data Analysis

ECIT data analysis involves first clarifying the Frame of Reference, defined as the use that will be made of the data. The current study's Frame of Reference was to identify factors that could help with setting up and maintaining a successful DBT service for young people, intending to inform other DBT-A services, encouraging their service development, future research and preventing services failing.

Secondly, ECIT data analysis involves extracting CIs and wish list items from the interview transcripts. In the current study, each individual incident (helping, hindering or wish) identified by the researcher from the transcripts, was coded by giving a brief summary description to capture its meaning, and then placed into categories (see Results section). The categories were derived by grouping similar incidents. Specificity and generality was considered when forming the categories, considering if they made sense or overlapped, or needed to be merged into fewer categories.

To increase confidence in the analysis and results, the data were subjected to the nine ECIT credibility and trustworthiness checks (Table 8). The seventh Credibility Check, which involved contacting each participant by email 1-2 months after their interview, was used to enable participants to review the interpretations made about their data. Participants were asked whether the interpretations needed revising or if anything was missing, and to confirm that the categories made sense and their CIs had been appropriately categorised. During this cross-checking, participants were given the opportunity to provide further feedback on their interpretations over the telephone if needed.

Table 8. Summary of Credibility Checks

Credibility Check	Details
1. Descriptive validity	Audiotaping all the interviews to accurately capture each participant's words
2. Interview fidelity	The researcher's two academic supervisors reviewed every fourth recorded interview and provided feedback to help ensure fidelity to the interview guide
3. Independent extraction of CIs by an independent person	25% of interview transcripts were randomly selected (four transcripts), one from each of the four DBT teams, and 100% inter-coder agreement rate was found between the researcher and two other people with DBT experience (who were independent of the research)
4. Exhaustiveness	Point of exhaustion was achieved after the sixth interview transcript, as no new categories emerged for the seventh through to the sixteenth interview, suggesting a sufficient number of interviewees were interviewed
5. Participation rates	Ensuring credibility of categories by confirming that at least 25% of the participants contributed to each category
6. Placement of CIs into the pre-existing categories by an independent judge	Two people (independent of the research with DBT experience), were provided with 25% of the CIs, to try to match them under the category headings, 94% agreement was found between the researcher and these independent judges, and the remaining differences were resolved by discussion (match rate of 80% or better is recommended)
7. Cross-checking by participants	A second contact with participants to ensure that the researcher has correctly understood each participant's story – 100% of participants responded, the majority indicated that the interpretations and categories were appropriate and fitted with their experiences (two minor changes to specific CIs were suggested by two participants which did not impact upon the categories themselves)
8. Expert opinions	Two experts (experienced DBT clinicians from a different NHS Trust), were asked whether the derived categories were useful, surprising, or if anything was missing (they independently agreed that the categories were useful – elaborated further in the Discussion section)
9. Theoretical agreement	Reviewing scholarly literature to find support for the emergent categories (this is considered and elaborated within the Discussion section)

RESULTS

After analysis, categories with self-descriptive titles and operational definitions were finalised. The researcher extracted a total of 240 incidents from the 16 participant interviews. The incidents included 84 helping incidents, 84 hindering incidents, and 72 wish list items. The data were organised and sorted into 27 categories for DBT delivery and implementation: 10 categories of helpful critical incidents, 10 categories of unhelpful (hindering) critical incidents and 7 categories of wish list items.

The list of helping, hindering, and wish list categories, generated from the interviews, with operational definitions are provided in tables 9, 10 and 11. These tables also include examples of participant critical incidents, extracted from the 16 interview transcripts, which were grouped and contributed to forming each category. Moreover, the tables show participation rates, which indicates the strength of a category, defined as the percentage of participants contributing at least one Critical Incident towards the category.

In light of the large number of categories, stronger categories (participation rate of 40% or more) are considered in more detail within the text, with participant quotes (consistent with the reporting of Butterfield et al., 2010). Additionally, in light of the large number of categories, table 12 provides a summary of the key findings.

Helping Categories

The support of the NHS Trust and Management

One of the helping categories with the highest strength, 63% participation rate, was 'The support of the NHS Trust and Management'. This category highlights the importance of those in senior positions providing support to establish the DBT service. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

Critical incidents spoken about by participants were predominantly the importance and helpfulness of 'management', with quotations which illustrate this including:

> "And the management allowing us that space, and sending us all on the training, has meant we can just fly with it…"
>
> "you can't change a service without having real sign-up from management and the NHS Trust"
>
> "And therefore the whole of the management team really supported us and enabled that process whereby we were able to get the funds and get a team together, whereby we went on the training in the first place."

An example of the 'management' critical incident which contributed to this category is shown in greater detail in Appendix 9, which provides an extract from a participant transcript.

Diverse and skilled DBT team

The other helping category with 63% participation rate, was a 'Diverse and skilled DBT team'. This category considers the importance of a strong team with varied experience and skills. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

Participant CIs included the helpfulness of a 'Strong Team' and a 'Supportive Team', with comments which illustrate this including:

> "a team that's committed, works together, can gently challenge one another, focuses on the model, can be vulnerable in the DBT consult, that's what makes the team"
>
> "there was so much goodwill and determination, I think, to get this service set up"
>
> "having a supportive team, having a team that is committed as well, and that believe in the model, and that are passionate about what they are doing"

A further example of a critical incident, 'strength of the team', which contributed to this category, is shown in further detail in Appendix 9, which provides an extract from a participant transcript.

Establishing and shaping a DBT service

Another strong helping category, with 44% participation rate, was 'Establishing and shaping a DBT service'. This category thinks about introducing the DBT model, using ideas to shape and develop a successful DBT service. Participants from three DBT teams contributed to this category, including psychologists, nurses and other professionals.

This category includes the following CIs: 'Developing a service together', 'Linking up with other DBT teams' and 'Sharing DBT with the senior team and nurses'. The following quotes illustrate these CIs and this category:

> "actually learning together with other new people is really useful, for me personally, because it's almost like you can make your mistakes together, and talk through things"
>
> "because they have been established as a DBT service for a little while… met with them… they shared literature and experiences, and good ideas"
>
> "the meeting before we sort of launched it, we had a couple of sort of full days meeting as a team, making sure everything was in place… lots of sort of liaising with the sort of senior team, the consultants across the building and all the wards, sort of sharing what we are going to be doing"

Remaining Helping Categories

The remaining helping categories included: 'DBT training opportunities', 'Adequate DBT time', 'Usefulness of the DBT consult', 'Contributions of individual DBT therapists and other staff', 'Therapist style suited for DBT', 'Suitable DBT groups' and 'Obtaining formal and informal feedback'. For these remaining helping categories, participants from at least two DBT teams contributed to each category, with both psychologists and nurses contributing to each category.

Table 9. Helping Categories

Helping Categories	Operational Definition	Examples of Critical Incidents	Participation Rate
The support of the NHS Trust and Management	Those in senior positions valuing and believing in DBT, willing to provide support to establish the DBT service, including support to attend the training, time to develop the service, and the provision of relevant books and resources.	• Management • NHS Trust provided initial training and books • Space for DBT to happen • Senior staff in the DBT team • Support from the wider service	63%
Diverse and skilled DBT team	A strong, passionate, determined team from different disciplines, different backgrounds, with different experience, knowledge and a mix of skills.	• Team from different disciplines • Established DBT team • Supportive team • Strong team	63%
Establishing and shaping a DBT service	Developing the DBT service together, thinking about the evidence, advice and ideas from others to establish a successful service, and bringing in the DBT model to fit into the wider service, as well as shaping DBT inpatient environments including practical changes and sharing language and skills across the entire inpatient service.	• Developing a service together • Evidence-based model • Linking up with other DBT teams • Sharing DBT with the senior team and nurses • Ward staff interested in supporting young people	44%
DBT training opportunities	Learning the DBT background, skills and completing tasks, as well as learning from trainers, those with DBT experience and from others.	• Contact with DBT trainers • Intensive DBT training • Attending groups with experienced trainers • Staff training for clinical support workers	38%

Adequate DBT time	Being given the time needed and allocated for DBT, to implement and develop the service, including protected time and team awaydays.	• DBT is protected time • Allocated time • Distinct DBT day • Awaydays	38%
Usefulness of the DBT consult	Opportunity to think about individual clients with the DBT team, and receive guidance, advice, support, and to consider any other team or service matters.	• Supportive consult • Regular consult • Weekly consult • Protected consultation time	38%
Contributions of individual DBT therapists and other staff	The skills and support of particular DBT team members such as the team lead, psychologist, psychiatrist, person responsible for admin, or other roles within the team.	• The DBT Lead” • Psychologist leading the DBT” • Psychiatrist in the DBT team” • Admin support	38%
Therapist style suited for DBT	Being a clinician that believes and has an interest in the DBT model and client group, likes being part of a team, focusing on behaviours and skills, good at organising own time and managing risk, with relevant background experience.	• Liking the model as a clinician • Able to focus on behaviours • Manage risks well • Background knowledge	25%
Suitable DBT groups	Consistently offering groups which are comfortable, relaxed and interesting for the young people, taking into consideration the room space, technology, and rotating staff involved in group delivery.	• Maintaining a comfortable and interesting group • Good facilities • Group room • Groups consistent	25%
Obtaining formal and informal feedback	Evidence of the impact and the difference DBT can make to the lives of young people, noticed by the young people and those around them.	• Positive client feedback • Positive feedback • Formal evaluation	25%

Hindering Categories

Complications when establishing a DBT service

The strongest hindering category, with 56% participation rate, was 'Complications when establishing a DBT service'. This category highlights the required considerations when preparing for implementing and maintaining a DBT service, from job planning to considering the wider service. Participants from three DBT teams contributed to this category, including psychologists, nurses and other professionals.

Examples of participant CIs included the hinderance of: 'Changes in NHS', 'Setting up a complicated DBT service' and 'Changing the DBT and consult day'. Examples of quotations for these CIs and this category include:

> "some of the unsettledness of the Trust as a whole has seeped into DBT at times. And that is like with people's job planning, and you know, again there are managers who aren't really clear about what DBT is… so like Tuesday is my DBT day but you naturally end up just getting caught up in other stuff…"
>
> "I think maybe at the start when we hadn't done as much education and teaching throughout the whole wards…. there might not have been the knowledge in the widespread nursing team… it was quite a big change within the service…"
>
> "changing the times of the consult… and I think we are going to… our DBT day will soon change to a Tuesday, which is hopefully more convenient to everybody. It's just about trying to resolve those issues…"

Obstacles with parents

The other strongest hindering category, with 56% participation rate, was 'Obstacles with parents'. This category thinks about the possible challenges with parents, which might arise when offering a service to young people, such as a parent's own mental health difficulties and their availability to attend. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

Examples of CIs include 'No role currently for parents' and 'Parenting groups', with examples of participant quotations including:

> "…parents haven't committed to the parents group, and that has created dilemmas for us around how their skill is generalised to their natural environment at home and at school when parents haven't been learning the same skills…"
>
> "…DBT programme for teens. I don't think… I don't think it's particularly helpful in telling us how to incorporate parents into the groups…"
>
> "…the parents have their own mental health difficulties, and perhaps have similar difficulties to the young people, so that can be quite challenging in the parents' group as well. You might get a parent that is quite dominant… And I think also in terms of the parents' groups, you know, parents… a lot of parents work, and then having that commitment to attend a group…"

Complexities of young people

Another category with a high participation rate of 50% was ‘Complexities of young people’. This category thinks about the range of abilities, risk and chaotic lives of young people attending DBT. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

The excerpts below provide examples of quotes which support the CIs for this category, including ‘Client difficulties’, ‘Young people with a range of abilities’ and ‘Social media’:

> “I think the other issue is really about client difficulties… you know, adolescents tend… that we work with, their lives tend to be quite chaotic at times, you know… the vulnerable children that we work with are often looked after or having difficulties in school. And then trying to, kind of, meet their needs can be more difficult…”
>
> “…adolescents or young people, that… that covers a very wide range, of both ages, stages of development they may be at regardless of their age, biological age. It encompasses a range of abilities… each time you are working individually with a young person, there are… can be different challenges…”
>
> “…we had difficulties with social media, the people that were in the DBT group, the young people… were actually contacting one another, and it became quite sort of negative and quite bullying…”

Challenges for individual DBT therapists and other staff

Another strong category, with 50% participation rate, was 'Challenges for individual DBT therapists and other staff'. This category highlights that individual clinicians might have personal difficulties and challenges delivering and implementing DBT, such as grasping the DBT model and having other roles. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

CIs described by participants included the hinderance of 'Unfamiliar DBT material', 'DBT only one day a week' and 'Commitment for clinicians', with comments which illustrate this category including:

> "some of the material as well like is quite odd… I mean the whole thing about dialectics is not really that familiar to us. And really the whole thing about mindfulness as well…"
>
> "…it's delivered mainly on a Tuesday, for the rest of the week I am not thinking anything DBT, I am using different models, different approaches… you know, I go back to my core profession of work..."
>
> "…It's a lot of commitment, every Tuesday night… it's not just a 6-month commitment for us, it's an ongoing commitment…"

Fewer numbers of DBT therapists and other staff

Another strong category, with 50% participation rate, was 'Fewer numbers of DBT therapists and other staff'. This category highlights the impact upon a service with low numbers of clinicians and the loss experienced when staff begin leaving. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

As illustrated in the extracts below, CIs included the unhelpfulness of 'Staff leaving' and 'Reduction in the mix of experience within team', with participants stating:

> "…some of the core team members have left, you know, so moved on to other jobs within the Trust. So, it has reduced the number of people that are offering DBT in our area, you know, and obviously places more of a pressure on those delivering the group… delivering the individual therapy…"
>
> "Massive impact losing a clinician… when we came in as newbies, that we had these experienced… it was like you had this mentor… so losing him felt like a real, real loss…"
>
> "…So, I think the numbers diminishing has made it, just about bearable to deliver the same service we were delivering last year. Just because there are only so many individual cases we can each take…"

Young people's varying DBT commitment and attendance

Another category with a high participation rate of 44% was 'Young people's varying DBT commitment and attendance'. This category thinks about the fluctuating motivation and attendance noticed with young people offered DBT. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

The CIs described by participants included 'Covering a wide area' and 'Commitment from young people', with quotes which illustrate this category:

> "…wide area we are trying to cover I think makes it difficult to deliver DBT as clinicians but also for the clients to access DBT sometimes… you know, getting into town for group, getting to individual appointments… also, the amount of travel time…"
>
> "…so, it is a really massive commitment. And we had young people that dropped out, or that would not attend, or cancel at short notice, and that has been a bit of a challenge, and where outside influences have tried to sabotage their attendance in DBT…"
>
> "…you are asking for a big-time commitment, you know, when they start therapy… you are asking children and young people to come, you know, for an hour's individual session and then for a two hour, you know, group session… plus any other appointments they may have around that with their care coordinator or a medic…"

Remaining Hindering Categories

The remaining hindering categories include: 'Difficulties with DBT groups', 'Insufficient DBT time', 'Unsatisfactory DBT referrals' and 'Dilemmas with providing DBT phone consultation'. For these remaining hindering categories, participants from at least three DBT teams contributed to each category, with psychologists, nurses and other professionals contributing to each category.

Table 10. Hindering Categories

Hindering Categories	Operational Definition	Examples of Critical Incidents	Participation Rate
Complications when establishing a DBT service	Preparing for implementing and maintaining a DBT service including considerations with leadership, consult, clinician job planning, ongoing changes within the service, and the significant change DBT brings to the wider service.	• Setting up a complicated DBT clinic/service • Changes in NHS • Changing the DBT and consult day • Consult • Unclear leadership	56%
Obstacles with parents	Trying to arrange a group for parents and managing their fluctuating attendance and commitment, parents' expectations, foster parents attending, and parents with their own mental health and personality disorder presentations.	• No role currently for parents • Parenting groups • Timing of parent group and attendance • Parents with mental health difficulties	56%
Complexities of young people	Young people accessing DBT, including looked after children, can have chaotic lives, they can present as risky, emotional, confrontational, impulsive, as well as differing in a range of abilities and misusing social media.	• Client difficulties • Young people with high risk • Group of emotional young people • Young people with a range of abilities • Social media	50%
Challenges for individual DBT therapists and other staff	Clinician confidence with the behavioural model, possibly drifting from the model, having to balance and switch between different roles, maintaining commitment to DBT, and being part of the DBT team.	• Split post • DBT only one day a week • Commitment for clinicians • Unfamiliar DBT material	50%

Fewer numbers of DBT therapists and other staff	Concern about changes in staffing including staff leaving and lack of admin staff, particularly experienced staff leaving, and the pressure to be able to offer and deliver the same service.	• Staff leaving • Lack of staff • Reduction in the mix of experience within team • Lack of admin	50%
Young people's varying DBT commitment and attendance	Motivation can fluctuate with young people, they can have various situations to balance and manage, chaotic lives, other commitments, and can find it difficult to access appointments.	• Attendance • Commitment from young people • Client motivation • Covering a wide area	44%
Difficulties with DBT groups	Selecting a suitable room with the technology to support the delivery of the group material, enabling young people to access the group, and considering managing risk including additional staff support within a group.	• Appropriate space for group • Access to IT • Arranging rooms • Therapeutic support	38%
Insufficient DBT time	Trying to prioritise and fit DBT in, including making time for DBT reading, preparing DBT groups and developing the service.	• Allocated time • Dedicated time for reading • Extra time for DBT	38%
Unsatisfactory DBT referrals	Receiving enough referrals, appropriate and suitable referrals, and young people being able to access inpatient and community DBT.	• Limited referrals • Referrals into our service • Transition to community services	38%
Dilemmas with providing DBT phone consultation	Figuring out the practicalities of offering this crisis support service for the young people.	• Phone consultation not set up • Informal phone contact set up	25%

Wish List Categories

DBT training and further learning opportunities

The wish list category with the greatest participation rate (81%) was 'DBT training and further learning opportunities'. This category highlights the importance of training and skill development for clinicians and staff teams to maintain a DBT service. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

As highlighted in the below excerpts, specific participant wishes focused on 'More staff trained in the full DBT' and 'Additional training and books', with participants stating:

"maybe three people, to go on to the intensive training, because that it ensuring that we are planning for natural succession. You know, and it gives us… so if somebody decides to leave for example…"

"just to increase my skills, improve my skills… but that is as a team, talking individually and as a team…"

"probably more staff trained in the full DBT… so, that we could offer it up to more young people… so that we could offer a parent group alongside it and do some service changes…"

Enhancing the DBT groups

The other wish list category with the greatest participation rate (63%) was 'Enhancing the DBT groups'. This category thinks about improvements for DBT groups, considering location, technology and budget. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

Examples of participant wishes include 'Good IT support', 'An accessible area and clinical space' and 'DBT budget', with participant quotations including:

> "it would be great in our group rooms to have really good IT services so we can play YouTube clips and music, and you know, provide the kind of access that kids are used to…"
>
> "…people can come to groups within their local area. We have had families that have to get numerous buses and travel several hours to get groups…"
>
> "just regarding sort of the finances… we are giving like mindfulness colouring books or there are pencils or some things for the self-soothe… that all comes out of the budget"

Developing the DBT service further

Another category with a high participation rate (56%) was 'Developing the DBT service further'. This category considers areas for development within services such as staff roles, groups, and the DBT telephone coaching. Participants from three DBT teams contributed to this category, including psychologists and nurses.

As illustrated in the extracts below, participant comments supporting their wishes of 'Extend the service', 'Telephone coaching' and 'Better use of outcome measures' included:

> "I would want a full time running team, where we have multiple groups running and then perhaps for different presentations, just because we have got demand for it at the moment, but actually we could get people to just be DBT therapists"
>
> "…for the full DBT, you are meant to be offering like this coaching service and we keep coming up at these stumbling blocks…"
>
> "Probably be a little bit better with outcome measures... And I think that would help, in terms of like, evidence-based practice…"

Allocated DBT time

Another category with a high participation rate (50%) was 'Allocated DBT time'. This category highlights the importance of time allocated for DBT, such as for planning, delivering and developing the service. Participants from all four DBT teams contributed to this category, including psychologists, nurses and other professionals.

Participant wishes included 'Clinicians given more DBT time' and 'Protecting the time', with quotes which illustrate this category including:

> "enough admin time, you know… so, admin time to like… yeah, I suppose, write up the assessment as well as just, I suppose reflecting really on sessions, that seems to be limited…"
>
> "I think definitely like protecting the hours… the time… I think we need that thinking time"
>
> "Being given more time… that would definitely be a wish. Not practical. But yeah being given time to have… with something kind of being taken off us, not just fit it in or anything like that… I think it would allow us to have more time to think about DBT… we would be able to offer more and take on more individual patients, and probably think more about how we are setting the groups up…"

Remaining Wish List Categories

The remaining wish list categories include: 'Additional DBT therapists and other staff', 'Further DBT supervision' and 'Connecting with other services'. For these remaining wish list categories, participants from at least three DBT teams contributed to each category, with psychologists, nurses and other professionals contributing to each category.

Table 11. Wish List Categories

Wish List Categories	Operational Definition	Examples of Wish List	Participation Rate
DBT training and further learning opportunities	More DBT clinicians trained to ensure adequate numbers to deliver the service and to offer more groups, training for the wider staff team and service, and further training for current DBT clinicians to promote ongoing learning, development of skills, and learning together as a team.	• More staff trained in the full DBT • Additional training and books • In-service training • More staff on 2-day training • Further Awaydays	81%
Enhancing the DBT groups	Considerations include offering local accessible groups, in a consistent, comfortable room with suitable technology for group delivery, considering group numbers, client suitability and enhancing group completion, and small budgets for items like self-soothe boxes.	• Resources • Good IT support • An accessible area and clinical space • Increase numbers in groups • DBT budget	63%
Developing the DBT service further	Considerations include offering the DBT telephone consultation, more groups for different mental health presentations and for parents, a drop-in clinic, rotating the staff who deliver groups, having full-time DBT staff, developing the roles of staff who have completed the skills training, and evaluating the service.	• Extend the service and parent group • Telephone coaching • Increasing DBT access • Clinicians who focus full-time on DBT • Better use of outcome measures	56%
Allocated DBT time	Increasing the time allocated for DBT, or at least protecting the time and ensuring it's not reduced, as time is needed for planning groups, seeing clients, admin, thinking time, attending consult, and service development.	• A day or more allocated to deliver DBT • Clinicians given more DBT time • Protecting the time • Time for service development	50%

Additional DBT therapists and other staff	Increasing the number of clinicians in the core DBT team, clinicians with a mix of experience, to enable offering more DBT groups, supported by assistant psychologists and dedicated admin staff.	• More diverse team • More assistant psychologists or support workers • Solid core team • Dedicated admin	38%
Further DBT supervision	Separate to consult, group or external supervision and consultation to focus just on individual clients, facilitated by an experienced clinician or expert, who can offer feedback to enhance practice, or offer individual supervision.	• DBT group supervision • One-to-one supervision • External supervision • Buy in consultation	38%
Connecting with other services	Meeting regularly with other teams and services, including meetings with community and inpatient services, forums and conferences, to share ideas and experience, and to enhance practice.	• DBT conference • Connecting community and inpatient services • Liaising with other teams • Meeting with other DBT providers • DBT forum	38%

Key Findings

Across the helping, hindering and wish list categories, there appears to be five key findings which capture and summarise the 27 categories for delivering and implementing DBT. Table 12 shows the key findings linked to the relevant categories.

The five key findings (with accompanying explanations):

1. **Shaping, complications and developing the DBT service** (developing a DBT service together, supported by management, considering job roles, leadership, the wider service, suitable referrals, phone consultation, a supportive consult, collecting feedback and meeting with other services)
2. **Importance of sufficient DBT time** (protected time for delivering DBT, with time for planning, admin and service development)
3. **Importance of staff training opportunities** (DBT training and opportunities for learning from others, with ongoing training available for new and current staff)
4. **Importance of skilled clinicians and strengthening the therapy team** (a committed team with a mix of skills and experience, comfortable with their roles, interested in DBT and able to manage risk, with additional supervision available, and replacing staff if staffing levels are low)
5. **Shaping DBT groups and the specific challenges of young people and parents** (promoting the attendance of young people and parents, managing emotions and risk in groups, and offering accessible, comfortable and interesting groups, supported by technology and a small budget to enhance delivery)

Table 12. Key Findings

Key Findings	Helping Categories	Hindering Categories	Wish List Categories
1. Shaping, complications and developing the DBT service	'The support of the NHS Trust and Management' 'Establishing and shaping a DBT service' - e.g. developing the service together guided by advice 'Usefulness of the DBT consult' - e.g. DBT team meetings that offer support and guidance 'Obtaining formal and informal feedback'	'Complications when establishing a DBT service' - e.g. the need to consider leadership and the wider service 'Dilemmas with providing DBT phone consultation' 'Unsatisfactory DBT referrals'	'Developing the DBT service further' - e.g. more groups or developing the roles of staff 'Connecting with other services'
2. Importance of sufficient DBT time	'Adequate DBT time'	'Insufficient DBT time'	'Allocated DBT time'
3. Importance of staff training opportunities	'DBT training Opportunities'		'DBT training and further learning opportunities'
4. Importance of skilled clinicians and strengthening the therapy team	'Diverse and skilled DBT team' 'Contributions of individual DBT therapists and other staff'- e.g. the skills and support of the team lead 'Therapist style suited for DBT' - e.g. an experienced clinician with an interest in DBT	'Challenges for individual DBT therapists and other staff' - e.g. clinician commitment to DBT and the behavioural model 'Fewer numbers of DBT therapists and other staff'	'Additional DBT therapists and other staff' 'Further DBT supervision'

5. Shaping DBT groups and the specific challenges of young people and parents	‘Suitable DBT groups’- e.g. comfortable and interesting groups	‘Difficulties with DBT groups’ - e.g. managing risk and finding an accessible group location ‘Obstacles with parents’ - e.g. parents with mental health difficulties ‘Complexities of young people’ - e.g. young people presenting as impulsive or confrontational ‘Young people’s varying DBT commitment and attendance’	‘Enhancing the DBT groups’ - e.g. offering groups in a comfortable room with access to technology for group delivery

DISCUSSION

The current qualitative study aimed to explore the critical factors that DBT clinicians perceived as helpful, hinderances and wishes for setting up and maintaining a successful DBT service with adolescents and young people. Using the ECIT methodology, the study identified a total of 27 categories including: 10 categories of helpful critical incidents, 10 categories of hindering critical incidents, and 7 categories of wish list items. Across the majority of the 27 categories, participants from three or all four DBT teams contributed to each category, with contributions from psychologists, nurses and other professionals, which suggests that the categories appear to capture the experiences of clinicians across the four DBT teams and from a range of occupational groups.

From the data, five key important findings were noted across the helping, hindering and wish list categories:

1. Shaping, complications and developing the DBT service
2. Importance of sufficient DBT time
3. Importance of staff training opportunities
4. Importance of skilled clinicians and strengthening the therapy team
5. Shaping DBT groups and the specific challenges of young people and parents

These key findings are consistent with the Expert Opinions (Eighth ECIT credibility check), provided by two clinicians from a different NHS Trust, who after reviewing the current study's categories, identified these five areas as useful and consistent with their own DBT-A experience. The experts also noted that the categories 'Complexities of Young People' and 'Obstacles with Parents', are particularly useful considerations when thinking about the unique experiences of DBT services for young people, compared with adults of working age. The

findings identified in the current study also share similarities with the five factors from the CIFR framework (Damschroder et al., 2009) including the importance of the intervention characteristics, outer setting, inner setting, characteristics of the individuals involved, and the implementation process.

Aligning with DBT implementation literature, the current study's findings are consistent firstly with the research of Swales (2010a) who considered the importance of DBT team selection, DBT intensive training, and consultation teams to train and supervise therapists. Additionally, Swales et al. (2012) identified facilitating factors including organisational support (including time to deliver the intervention and funding), additional training and supervision, skilled clinicians, leadership and improved clinical outcomes. Moreover, Swales et al. (2012) identified some challenging factors including the DBT model and lack of organisational support (e.g. insufficient protected time, absence of management buy-in, funding difficulties, staff turnover, multiple staff roles with competing priorities and insufficient resources).

The five key findings from the current study are also consistent with the findings of Carmel, Rose, & Fruzzetti (2014), who identified three DBT implementation challenges including firstly, patient recruitment and developing the DBT program, which considers that DBT requires significant training and with staff turnover, insufficient staff numbers impact ability to provide DBT, with the added challenge of patient engagement with DBT. Secondly, the time dedicated to DBT is challenging as clinicians deliver DBT while having other clinical responsibilities. Thirdly, there can be limitations with provision and investment from the organisation including lack of management support and interest. Additionally, the current study's findings are consistent with a study (Chugani & Landes, 2016) that involved counsellors and DBT clinicians who completed an online survey about the barriers to DBT

programs in college counselling centres in the US, identifying barriers such as lack of time for implementing DBT, lack of individual therapists, time for team consultation, and willingness to offer phone coaching. Facilitators to implementation were staff interest, expertise and experience with DBT, DBT training programs and DBT program models designed for counselling centres, and funding for DBT training.

The findings from the current study also fit with a research paper which reviewed barriers and strategies encountered by those who have implemented DBT (Swenson et al., 2002). Barriers included mental health authorities (e.g. the need for organisations to give priority to the allocation of finances towards DBT and influence policy), DBT program leaders (e.g. leaders to set priorities for care, seek resources, and structure DBT in the organisation including training funds and the selection of DBT team members), clinicians (e.g. many clinicians need to shift therapeutic belief, redefine their role and acquire new skills), and clients (including engaging with the behavioural treatment and showing commitment to the therapy).

The Wish List Categories in the current study include considering training, supervision and outcome measures, which shares some similarities with the findings of Landes et al. (2016) who explored clinicians' desired resources for DBT, finding that they desired more DBT training and mentoring for clinicians, templates for documenting DBT within electronic patient records including outcome measurement and mobile apps for clients and therapists. Also, the Wish List from the current study fits with the 'Expert Recommendations for Implementing Change' study (Powell et al., 2015) which identified published implementation strategies across Implementation Science. The 73 strategies included considering funding and readiness of the organisation, sharing knowledge between implementation sites, involving and encouraging patients, meetings with providers and stakeholders, ongoing training and learning

for staff including shadowing experts and designated clinicians to train others, collecting feedback and evaluation, with tools for monitoring outcomes and quality. Also, ensuring mixed staff teams including different disciplines, leadership and champions, promoting adaptability and revising roles among professionals, and providing clinical supervision and ongoing consultation.

Some of the findings and categories from the current study therefore appear to be largely generic across implementation literature, rather than unique and specific to DBT. One study which included cognitive-behavioural practitioners, psychodynamic practitioners and eclectic practitioners, identified that barriers to implementing EBTs include insufficient time to learn, the expense of the training, and lack of support among colleagues (Gray et al., 2007). Also, one case study (Hutsebaut et al., 2012) studied the problematic implementation of another EBT, Mentalisation-Based Treatment for Adolescents (MBT-A) with BPD presentations (delivered by a therapy team similar to DBT). The findings included identifying organisational factors (e.g. organisational structures, support, staffing and budget planning), team factors (e.g. team problems prior to the implementation, resistance toward change, lack of clear leadership, and lack of clear supervisory structures), therapist factors (e.g. therapist selection and lack of experience with the model) and other issues (e.g. choice of MBT, the inpatient setting, and the characteristics of adolescents complicating group therapy). Bales et al. (2017), also studied seven mentalisation-based treatment programs identifying factors at the organisational level (e.g. financial support, proactive management, quality monitoring of treatment processes and outcomes, clearly defined treatment program structure, facilitating sufficient time, recruiting professionals with necessary skills and competencies, and a team leader able to effectively build teams). The study also identified team/therapist level factors (e.g. consistently applied interventions by all team members, willingness of team members to improve their skills

through training and supervision, optimal team size consisting of five to nine therapists, clearly defined roles and responsibilities and unambiguous clinical leadership). Additionally, Ringle et al. (2015) interviewed fifty therapists, identifying barriers and facilitators in the implementation of Cognitive Behavioural Therapy (CBT) for young people with anxiety. They identified client factors (e.g. motivated clients facilitated the use of CBT, whereas clients with complex issues and parental instability hindered), intervention factors (e.g. the CBT model and strategies were facilitators, whereas the CBT structure and preparing materials in advance was described as constraining), and organisational factors (e.g. the absence of support and challenges of inadequate time hindered, whereas supervision facilitated implementation).

Furthermore, it has been suggested that overall what helps and hinders implementation and long-term sustainability of an EBT (Gotham, 2006) includes the individual (practitioners with supportive attitudes and competence trained to deliver the EBP), the organisation (support from management and adaptability of the organisation) and external factors (support of policies and funding). Similarly, Karlin and Cross (2014) suggest that research indicates that the key factors that impact implementation success are the provider including the provision of training, systems including organisational resources and staff capacity, the patient's attitudes and preferences, and policy.

Overall, the literature indicates that certain findings from the current study are generic across interventions and EBTs, although some aspects are distinctive to DBT implementation, particularly when considering the four modes of DBT (individual and group therapy, phone coaching and team consultation). Also, some findings are specific to implementing EBTs with young people, particularly the categories which consider young people and their parents.

Clinical Implications

The current study explored what helps and hinders DBT-A implementation. The clinical implications include that the study offers an encouraging message of possible ways of enhancing an existing DBT-A service. It also offers suggestions for struggling teams, concerned about sustainability, who could discuss possible changes. In particular, new DBT services may wish to be guided initially by the current study's five broad key findings, whereas established or struggling services may benefit from the guidance of the detailed 27 categories with operational definitions. Specifically, services may wish to prioritise, during team discussions and when considering changes, the areas outlined by the stronger categories (with the higher participation rates), or they may perhaps first consider categories which appear to stand out as a priority for their specific service.

The helping and hindering ECIT categories suggest that teams might focus their service development discussions upon: management support and referrals, the structure of the DBT service including groups, consult and phone coaching, young people and their parents including attendance, individual clinicians and the DBT team including number of therapists, staff training, allocated time, feedback and outcome measures. Additionally, the wish list categories from the current study suggest that DBT teams might discuss to enhance their future practice: developing their DBT service (e.g. telephone coaching, groups offered and staff roles), staff supervision, time allocated for DBT and service development, and connecting with other DBT services. It is noted that in the absence of, for example the phone consultation, even a DBT skills group as a stand-alone intervention has been found to be suitable for some teams (Valentine et al., 2015).

At present, in the US, a measure of DBT barriers is in development, the Barriers to Implementation Scale (Chugani et al., 2017), which would suggest that the categories from the current study could possibly be developed into a detailed checklist of both facilitators and barriers specially for DBT services for young people. This checklist would enable teams to monitor and review their services perhaps on a six-monthly or yearly basis, identifying early any concerns to enable proactive changes to occur, particularly prior to or at vulnerable times such as during the second and fifth years after training when services are at increased risk of failing (Swales et al., 2012). Overall, it is hoped that the findings and learning from the current study will be transferable particularly to UK DBT teams, supporting the sustainability of DBT-A.

On balance, the scope and transferability of the current research extends beyond the four teams that participated in the study, partly because the rigour of the ECIT process is designed to produce validated insights, and partly because concern about DBT implementation is a wider issue. There is a need to enhance implementation, as emphasised by Swales et al. (2012), and it is likely that many of the issues identified in this study would be relevant in other services within the NHS. The learning from the research is therefore relevant for other DBT teams. It is also possible that some of the practical recommendations for enhancing implementation are likely to apply to other specialist manualised interventions or team approaches for young people, such as Mentalisation-Based Treatment for Adolescents.

Research Implications

The current study found using the ECIT methodology useful for DBT research. Specifically, ECIT was found to be useful as it is exploratory, in comparison to implementation tools with more structured checklists such as the CFIR (Damschroder et al., 2009). Also, compared to other qualitative methodologies, such as content analysis, ECIT offers a structured approach separating out what helps and hinders, and exploring the wishes of the clinicians, supported by nine credibility checks to enhance the trustworthiness of the data. ECIT has previously been used flexibly with research including psychology, mental health and research focused on services (e.g. Butterfield et al., 2010; Shannon et al., 2016; McIntosh et al., 2016), and the current study would also support the usefulness and flexibility of the ECIT methodology. However, it is acknowledged that the limitations of ECIT, found in the current study, include the challenge of identifying a main take-home message amongst the large number of categories. This led to summarising the categories into five key findings within the current study, which perhaps provides more helpful learning and concise information for services considering enhancing DBT implementation. Also, it is noted that the ECIT categories focus on participation rates, which considers the number of people who contributed, rather than the amount of contributions (i.e. total number of Critical Incidents), to decide category strength. Additionally, it is noted that the ECIT category titles are not stand-alone titles, and rather to grasp and understand the titles, it is important to consider the titles along with the operational definitions. Moreover, the ECIT methodology might be enhanced if participants kept a diary for perhaps two weeks prior to their research interviews, to enhance recall of critical incidents.

On balance, the ECIT methodology was found to be useful, with minimal limitations, and the ECIT methodology can also be considered along with the findings of Martin et al. (2018). Martin et al. (2018) interviewed participants from healthcare organisations, noticing that their

concerns and views on healthcare quality may not reach the managerial level, as staff may stay silent because of the personal effort, risk of consequences, or viewing speaking up as pointless. The study highlighted that subduing the voices of staff led to information remaining part of a hidden world of half-secrets, and it is important to find ways to access and value the insights of staff. Therefore, the current ECIT methodology can be considered to be an exploratory method to access staff perspectives on DBT implementation, which contributes together with other DBT implementation studies which have explored and gathered data in differing ways.

It is acknowledged that rather than solely researcher experience and perspective, a more structured method for assessing ECIT utility, while completing the current DBT research study, would have been useful, if a suitable method was available.

Limitations

Methodological limitations of the current study include the small sample of only two NHS Trusts in the UK, which raises questions on whether the services are representative of other NHS Trusts delivering DBT to young people, and the generalisability of the study findings. It is acknowledged that additional support for the findings was obtained from the Expert Opinions given by a different NHS Trust, although clinicians from other DBT teams in other parts of the UK may have differing experiences, so the conclusions and learning from the current study might primarily be useful for DBT teams with similar service contexts. Therefore, perhaps obtaining Expert Opinions from NHS Trusts across the UK would have been useful, to explore the extent to which findings are transferable to other regions.

Further limitations include that there is possible sampling bias within the research, as the participants who took part were qualified therapists, and the research did not capture the perspectives of others in the wider services, such administrative staff or inpatient support workers. It is also acknowledged that there is possible social desirability bias, as the participants who took part are likely to be supportive of DBT, wanting to promote the sustainability of the model, as they have been trained and employed to deliver DBT, and therefore they might provide favourable socially acceptable responses during interviewing, minimising the negative aspects of DBT implementation. Also, it is noted that the ECIT methodology relies on some retrospective recall of what has helped and hindered, introducing further possible bias. Nevertheless, the findings of the study are strengthened by the nine ECIT checks which enhance credibility and trustworthiness.

It is recognised that at alternative to ECIT would be Grounded Theory (Glaser & Strauss, 2017), which focuses on qualitative data, coding, grouping into concepts, and then into

categories. However, Grounded Theory is time and resource intensive, and ECIT is the most suitable methodology for specifically exploring 'what makes a difference' for a particular activity, namely DBT implementation in this study.

Further Directions

The current study was a small exploratory study, which has implications and suggests directions for further research. In particular, replicating the study in other areas across the UK would be helpful, to consider the extent to which the findings can be replicated with other DBT-A teams. If the study was replicated, it could be enhanced by supplementing the interview data, with observational data, such as if the researcher was able to access team meetings and record the helping and hindering factors raised there, to explore the consistency between observational data and interview data. Also, further research exploring the different experiences of implementation in inpatient and community teams supporting young people might merit further study, as these experiences were considered together rather than separately within the current study. Also, perhaps separately considering the different experiences of teams which have been implementing DBT for differing lengths of time.

Moreover, implementing and evaluating the impact of the wish list items from the current study would provide insights into how helpful implementing perceived wishes might be for a DBT service. Furthermore, if the categories from the current study were developed into a detailed checklist of both facilitators and barriers specially for DBT services for young people, research exploring the usefulness and suitability of the checklist for services across the UK, could enable the development of a valid and reliable quantitative measure for the UK, specific to DBT-A, similar to the ongoing development of the US Behavioral Tech BTI-S.

Conclusions

In summary, this qualitative study focused on DBT implementation using ECIT to uniquely add to the current literature, offering new insights specifically into services for young people. Overall, ECIT was found to be a useful methodology and five findings particularly stood out as useful considerations for teams setting up and maintaining DBT services for young people, supporting implementation and sustainability in diverse clinical settings in the UK.

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PUBLIC DISSEMINATION DOCUMENT:

IMPLEMENTATION AND EVALUATION OF DIALECTICAL BEHAVIOUR THERAPY FOR ADOLESCENTS AND FOR EATING DISORDERS

This thesis was submitted for the requirements of a Doctorate in Clinical Psychology. This document includes background information about Dialectical Behaviour Therapy (DBT) and summarises a DBT literature review and a DBT research study.

DBT Background Information

DBT is a recommended treatment for adults with Borderline Personality Disorder (BPD**;** NICE, 2009). Adults with BPD primarily experience difficulties with intense and varying emotions, known as Emotion Dysregulation. Attempts to change and control these emotions, can lead to behaviours such as self-harm, and DBT therefore teaches a range of skills to enhance emotional regulation (Linehan, 1993a; Linehan 1993b). A full DBT program invites clients to attend individual therapy sessions and a group. Clients also access telephone support (Telephone Coaching/Consultation), enabling them to receive support in daily life to use the DBT skills. Additionally, the therapists delivering DBT attend weekly meetings together (DBT Consultation Team meetings).

There is now increasing research exploring modified DBT, expanding DBT beyond adults with BPD. Recent DBT modifications have included adapted versions for adolescents and for eating disorders, and these adaptations were the focus of the current literature review and research study.

Literature Review

Introduction

DBT is an empirically supported treatment for adults with BPD, and more recently DBT has been suggested as a treatment option for adolescents who present with similar difficulties with emotions (Miller & Rathus, 2015). Wisniewski and Kelly (2003) also suggest that individuals with eating disorders (EDs), similar to individuals with BPD, may experience difficulties with intense emotions, and therefore DBT is a possible treatment option for learning skills to replace behaviours such as binge eating. Reviews have separately considered modified DBT for adolescents (e.g. Groves et al., 2012; MacPherson et al., 2013) and modified DBT for ED (e.g. Bankoff et al., 2012). However, currently no published reviews of DBT have a combined adolescent and ED focus, thus this was the aim of the current systematic review.

Method and Findings

Literature searches identified 13 published DBT studies (between 2003-2017) of young people with an ED (aged 12-30), which included ten quantitative research papers and three case studies. The main finding of the review was that DBT has been modified in a variety of ways for EDs including Anorexia Nervosa (typically characterised by low body weight), Bulimia Nervosa (typically characterised by binge eating and self-induced vomiting) and Binge Eating Disorder (typically characterised by binge eating). DBT modifications included variations in the number of DBT sessions offered, offering stand-alone DBT groups, or stand-alone individual DBT sessions. These adaptations led to a range of promising findings, including: young people, after attending DBT, no longer met criteria for their ED diagnosis (e.g. no longer diagnosed with Bulimia Nervosa), young people reported improvement in their ED concerns (e.g. reduced concerns about weight), ED behaviours changed (e.g. reduced binge eating) and

there were improvements in mood for young people. The quality of the research papers was also considered in the review, finding that studies were predominantly of moderate quality.

Conclusions

Overall, as there is only a small number of studies included in this review, only tentative conclusions about the effectiveness of DBT for ED can be made, although medium to strong quality research was found. The review identified a number of areas of quality across the included papers (e.g. the inclusion of well-established measures for ED), although there were research limitations (e.g. small numbers of individuals were involved in the studies) and further research is recommended (e.g. comparing DBT to other treatments for ED). This review concluded that DBT for young people with an ED is an option, although services should consider which adaptations would be suitable for their clinical setting (e.g. including family members and/or including nutrition topics into the DBT intervention).

Research Study

Introduction

As a therapy, DBT typically involves training teams of therapists, who together plan how to practically fit DBT (i.e. the groups, individual sessions, team meetings and telephone support) into their already established clinical services. Consequently, DBT studies are beginning to explore across DBT services for adults, DBT implementation, which involves trying to understand how to successfully introduce, establish and maintain DBT in clinical settings (e.g. Swales 2010a; Swales 2010b). As DBT has more recently been adapted for use with adolescent populations (Rathus & Miller, 2015), the current research study was the first in the UK to focus on exploring specifically DBT implementation in services supporting adolescents and young people.

Method

Sixteen individual therapists working with adolescents and young people in the NHS, from four separate DBT teams, were recruited and interviewed. Therapists were asked to consider what helps and hinders DBT implementation, as well as wishes for enhancing DBT implementation. Interview data were analysed using Enhanced Critical Incident Technique (ECIT; Butterfield et al., 2009), which focuses on identifying categories for what helps and hinders an experience, specifically in this study, the experience of implementing DBT. To enhance trustworthiness and increase confidence in the findings, ECIT involves nine checks, including checking that 25% of interviewees contribute interview data to each category, for a credible category. Although ECIT has not previously been used in DBT studies, ECIT has been found to be a useful method for psychological research (Butterfield et al., 2009), and it was anticipated that this structured but flexible method might offer new insights for DBT implementation.

Findings

ECIT categories are reported as three lists of what helps, hinders and wishes. For DBT implementation, the analysis identified a total of 27 categories, including 10 Helping Categories, 10 Hindering Categories and 7 Wish List (wishes) Categories:

What has helped with DBT implementation (Helping Categories)?

- The support of the NHS Trust and Management
- Diverse and skilled DBT team
- Establishing and shaping a DBT service
- DBT training opportunities
- Adequate DBT time
- Usefulness of the DBT consult
- Contributions of individual DBT therapists and other staff
- Therapist style suited for DBT
- Suitable DBT groups
- Obtaining formal and informal feedback

What has been difficult with DBT implementation (Hindering Categories)?

- Complications when establishing a DBT service
- Obstacles with parents
- Complexities of young people
- Challenges for individual DBT therapists and other staff
- Fewer numbers of DBT therapists and other staff
- Young people's varying DBT commitment and attendance

- Difficulties with DBT groups
- Insufficient DBT time
- Unsatisfactory DBT referrals
- Dilemmas with providing DBT phone consultation

What would help to continue to successfully implement DBT (Wish List Categories)?

- DBT training and further learning opportunities
- Enhancing the DBT groups
- Developing the DBT service further
- Allocated DBT time
- Additional DBT therapists and other staff
- Further DBT supervision
- Connecting with other services

These 27 categories of DBT implementation were summarised by 5 key findings:

1. Shaping, complications and developing the DBT service
2. Importance of sufficient DBT time
3. Importance of staff training opportunities
4. Importance of skilled clinicians and strengthening the therapy team
5. Shaping DBT groups and the specific challenges of young people and parents

Conclusions

This small exploratory DBT study was the first in the UK to focus on exploring DBT implementation in services supporting adolescents and young people. The study concluded that ECIT was a useful method, offering a flexible and structured approach suitable for this DBT research study, leading to identifying 27 DBT implementation categories (helping, hindering and wish list categories). The majority of the DBT categories are consistent with research studies exploring the implementation of other therapies such as Cognitive Behavioural Therapy (e.g. the need for organisational support and adequate time), although some of the findings from the current study appear to be distinctive to implementing DBT (e.g. findings focused on the DBT groups, consult and telephone consultation), including specific insights into therapy with young people (e.g. obstacles with parents).

While it is acknowledged that therapists from only four DBT teams were interviewed in this study, and there is a need to replicate these findings across more teams, the results offer some unique and interesting findings. Overall, the study offers guidance and suggestions for services considering introducing DBT, as well as suggestions for new, established and struggling teams delivering DBT to young people, who may wish to consider enhancing their services and reviewing ways to maintain DBT long-term within their service.

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APPENDICES

Appendix 1 – Example involving the paper of Johnston et al. (2015) of using the EPHPP Quality Assessment Tool (Thomas et al., 2004)

Quality Assessment Components	Strong	Moderate	Weak
Selection Bias	Very likely to representative of the target population & greater than 80% participation rate	**Somewhat likely to be representative of the target population & 60-79% participation rate** **Johnston et al., 2015 – 51 began treatment and 36 completed (71%)**	All other responses or not stated
Study Design	Randomised Controlled Trial & Controlled Clinical Trial	**Cohort analytic, case-control, cohort, or an interrupted time series** **Johnston et al., 2015 – Cohort study (one group pre & post)**	All other designs or not stated
Confounders	Controlled for at least 80% of confounders	Controlled for 60-79% of confounders	**Confounders not controlled for or not stated** **Johnston et al., 2015 – Confounders appear not to be controlled for**
Blinding	Blinding of outcome assessor & study participants to intervention status and/or research question	**Blinding of either outcome assessor or study participants** **Johnston et al., 2015 – Appears to be blinding of study participants**	Outcome assessor & study participants are aware of intervention status and/or research question
Data Collection Methods	**Tools are valid and reliable** **Johnston et al., 2015 – EDE-Q used (valid and reliable measure)**	Tools are valid but reliability not described	No evidence of validity or reliability
Withdrawals & Dropouts	Follow-up rate of >80% of participants	**Follow-up rate of 60-79% of participants** **Johnston et al., 2015 – 27 participants at 1-year follow-up (75%)**	Follow-up rate of <60% of participants of withdrawals and dropouts not described
Overall Rating	No WEAK ratings for paper	**One WEAK rating for paper** **Johnston et al., 2015 – Overall Rating**	Two or more WEAK ratings for paper

Appendix 2 – Example of using the DFID framework (Department for International Development, 2014)

Study	Cheng & Merrick (2017)	Details
Conceptual Framing:		
Acknowledges existing research?	Yes	Acknowledges existing research and theory on ED and DBT.
Constructs a conceptual framework?	Yes	Constructs conceptual framework including exploring issues on culturally responsive treatments.
Research question or hypothesis?	Yes	Specific research question on culturally adapted DBT.
Transparency:		
Presents raw data it analyses?	Yes	The data that was gathered presented in a graph.
Study context described?	Yes	Location/geography described including counselling centre in the United States.
Declares support or funding?	Yes	Author states no financial support received.
Appropriateness:		
Research design & method described and suitable?	Yes	The case study design is described in detail and appears suitable for the individual participant.
Cultural Sensitivity:		
Considers context-specific cultural factors?	Yes	Considers cultural factors including Chinese culture on intervention and research.
Validity:		
Measurement validity?	Yes	Outcome Questionnaire-45 described as valid and appears to be a well suited specific measure appropriate for the case study.
Internally and Externally valid?	No	Case study design less able to determine cause and effect linkages, as possible confounding variables, & the findings from the one participant unlikely to be replicable across multiple contexts.
Ecologically valid?	Yes	Research carried out in the field (clinical setting) rather than introducing something artificial into the context.
Reliability:		
Measures stable and reliable?	Yes	Outcome Questionnaire-45 described as reliable.
Findings changeable depending on analytical technique?	Unclear	No suggestion of whether a different analytic technique could produce different results.
Cogency:		
Reader signposted throughout?	Yes	Conceptual framework linked to data and conclusions.
Limitations considered?	No	No clear limitations explored.
Conclusions based on results?	Yes	Conclusions on culturally adapted psychotherapy for quality mental health care backed up by data and findings.
Overall Rating:	**Strong**	**Demonstrates adherence to principles of: appropriateness, validity and reliability, conceptual framing, transparency, cogency and cultural appropriateness**

Appendix 3 – Overview of CIT and ECIT studies

Study	Study Summary
Richards & Bedi (2015)	• CIT – asked clients what they found hindered the therapeutic alliance with their mental health professionals • 7 categories including 'Not the Right Fit/Approach', 'Client Not Putting in Enough Effort' and 'Time Problems'
Shannon et al. (2016)	• CIT – explored the mental health referrals of refugees • Categories of successful referrals included 'active care coordination' and 'culturally responsive care' • Categories for unsuccessful referrals included 'system and language barriers'
Ahern et al. (2016)	• CIT – explored parental perspectives and responses to risk behaviours in teenagers • Developing five categories including 'talking to my children', 'setting up consequences', and 'seeking help'
Goodwill & Ishiyama (2016)	• CIT – interviewed 10 men on gang exit processes • Finding 136 critical incidents • Organised into 13 categories including 'accepting support from family or girlfriend', 'not wanting to go back to jail' and 'avoiding alcohol'

Butterfield et al. (2010)	• ECIT – 45 interviews with workers on factors that facilitated and interfered with their ability to handle change well
	• 790 critical incidents found and organised into 10 categories
	• Strong Categories with 40% participant contribution included:
	  • 'Personal Attitudes' with critical incidents such as optimistic and confident
	  • 'Self-Care' with critical incidents such as exercise and hobbies
	  • 'Taking Action' with critical incidents such as distracting oneself from negativity and solving problems

Chou et al. (2015)	• ECIT – interviewed 18 participants on what helped and hindered success in mainstream and alternative education • Intention to support vulnerable young people and improve educational policy • 703 CIs identified • Helpful Categories – 'a supportive staff member', 'structure/environment' and 'positive peer influence' • Hindering Categories – 'bullying' and 'social issues' • Wish List Categories – 'more academic support', 'smaller class sizes' and 'recognizing different learning styles'

Bartlett & Domene (2015)	• ECIT – interviewed 16 young people with criminal histories on their perceptions of what has facilitated and interfered with the achievement of their career goals • Helping Categories included 'relationships outside of the family' – including critical incidents focused on receiving support from peers and discontinuing unhealthy peer relationships • Hindering Categories included the 'educational system' – including critical incidents such as dropping out of school and receiving a lack of support from educational authority figures • Wish List Categories included 'different family circumstances'
Curle et al. (2016)	• ECIT – focused on school transition among deaf children • From the 10 interviews they extracted 146 CIs • 10 helping categories – e.g. 'Providing information and support to parents' and 'Enough time for adequate preparation' • 9 hindering categories – e.g. 'Limited placement options' and 'No key contact person' • 5 wish list categories – e.g. 'Clearer or simpler transition process' and 'Stakeholder communication'
McIntosh et al. (2016)	• ECIT – focused on Implementation Science • Focused on School-wide Positive Behavioural Interventions and Supports (PBIS) • Interviewed 10 principals to gather information regarding specific behaviours and important events that they perceived as helping or hindering their decision to support PBIS • The findings included: The Helping Category 'Networking with implementing schools' which included helping incidents such as visiting another school and learning from a presentation provided by another school • The Hindering Category 'Witnessing unsupportive staff' including hindering incidents such as the negative effects of interacting with staff who did not support implementing PBIS • Example of a Wishlist Category included 'Learning about PBIS earlier'