Treating the Overlooked Majority: Quantitative outcomes from an NHS adaptation of Interpersonal Group Psychotherapy for Binge Eating Disorder

Zoë Meropi Hepburn, Emily Rose Rothwell and Julia Ann Fox-Clinch

Abstract

Purpose

To evaluate the effectiveness of an adaptation of Interpersonal Group Psychotherapy (IPT-G), in facilitating short- and longer-term improvements in eating disorder symptomology, psychosocial impairment, anxiety, depression and attachment difficulties among adults living with overweight and diagnosed with binge eating disorder (BED).

Design/methodology/approach

Twenty-four participants completed measures at the start of IPT-G, mid-treatment, discharge and 6-month follow-up. Quantitative outcomes were analysed utilising one-way repeated measures analysis of variance.

Findings

Treatment retention was 100%. Significant improvements in binge-eating frequency, psychosocial impairment and depression were achieved at mid-treatment and maintained at post-treatment and 6-month follow-up, and with large effect sizes. Attachment anxiety had reduced significantly at post-treatment and was maintained at 6-month review. Body Mass Index (BMI) had stabilised by mid-treatment and was maintained at post-treatment and 6-month follow-up. All hypotheses were supported, with the exception that attachment avoidance did not improve significantly and following a post-treatment reduction, anxiety

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symptoms deteriorated slightly by 6-month follow-up, such that they were no longer significantly different from pre-treatment levels.

Originality

This is the first UK study to investigate the effectiveness of IPT-G at treating BED. Unlike previous studies in the field, this study did not exclude participants based on age, BMI or psychiatric comorbidity.

Practical implications

Despite being the most prevalent of the eating disorders (compared to anorexia nervosa and bulimia nervosa), BED is under-recognised and under-treated in clinical settings. Results indicate the sustained effectiveness of IPT-G in improving eating disorder and comorbid symptomology associated with BED.

Keywords

Eating disorders, Binge eating disorder, Interpersonal Psychotherapy, Effectiveness

Introduction

Binge eating disorder (BED) first became a distinct diagnostic category in 2013, with the advent of the *Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* (American Psychiatric Association, 2013). Prior to this, the condition "binge eating disorder" was referred to under the diagnostic category of eating disorder "not otherwise specified" (NOS) in the *Fourth Edition of the DSM (DSM-IV)* (American Psychiatric Association, 2000). Diagnostic criteria for BED include recurrent episodes of binge eating whereby large quantities of food are eaten in a discrete period of time and with a sense of lack of control, without engaging in compensatory behaviours such as self-induced vomiting and laxative misuse. These binge eating episodes are associated with marked distress.

Although BED is relatively new as a recognised diagnostic category in its own right, BED has consistently been found to be the most prevalent of the eating disorder diagnoses compared to AN and BN (Hay *et al*., 2015, 2017; Hudson *et al*., 2007; Kessler *et al*., 2013; Quick *et al*., 2014). By applying the DSM-5 diagnostic criteria for eating disorders, an Australian study suggested the 3-month prevalence of BED to be 5.6% in older adolescents and adults in the community, compared to less than 1% for AN and BN (Hay *et al*., 2017). Despite this, BED is under-recognised and under-treated in clinical settings (Kornstein *et al*., 2016), with data from the World Health Organisation (WHO) indicating that fewer than 40% of individuals with a lifetime diagnosis of BED have received treatment specifically for an eating disorder (Kessler *et al*., 2013).

This low rate of treatment is attributable to a number of possible reasons, both in terms of barriers to individuals seeking treatment, such as the high levels of shame and stigma commonly experienced by those affected by BED (Ali *et al*., 2017; Hepworth and Paxton,

2007; Herman *et al*., 2014; Jambekar *et al*., 2003) and in terms of knowledge-gaps among primary care physicians in relation to eating disorders (Currin *et al*., 2009; Escobar-Koch *et al*., 2010), particularly BED (Crow *et al*., 2004; Reas, 2017). Likewise, individuals with a diagnosis of BED are publicly perceived to be more responsible for their eating disorder, lacking in self-discipline and to be experiencing less impairment compared to individuals with AN or BN, again illustrating the stigmatising beliefs around BED (Ebneter and Latner, 2013). Additionally, since individuals with a diagnosis of BED commonly are living with obesity too (Brownley *et al*., 2016; de Zwaan, 2001), this is likely to add to the challenges of treatment-seeking and receiving, due to the stigma and discrimination that those living with obesity often face, even from healthcare professionals (Puhl *et al*., 2013, 2014; Puhl and Heuer, 2009).

As well as differences in clinical presentation, research suggests that BED differs from other eating disorder diagnoses in terms of demographic correlates and clinical comorbidities. Individuals with a diagnosis of BED tend to have a later age of onset compared to individuals with a diagnosis of anorexia nervosa (AN) or bulimia nervosa (BN) (Fairburn and Cooper, 2011; Hudson *et al*., 2007; Kessler *et al*., 2013; Wonderlich *et al*., 2009), with symptoms typically beginning in late adolescence or early adulthood. BED is also associated with a more equal gender distribution than the other eating disorders (Hudson *et al*., 2007; Kessler *et al*., 2013); higher 12-month persistence (Hudson *et al*., 2007); and a mean duration of eating disorder symptoms of 16 years, compared to 11 years and 12 years for AN and BN respectively (Udo and Grilo, 2018). Consistent with other eating disorder diagnoses, BED is associated with severe impairment to quality of life (Agh *et al*., 2016; Winkler *et al*., 2014); poorer physical and mental health (American Psychiatric Association, 2013; Brownley *et al*., 2016; Grilo *et al*., 2009; Hilbert, 2019); and interpersonal difficulties (Blomquist *et al*., 2012;

Broberg *et al*., 2001; Tasca *et al*., 2006, 2012), including attachment anxiety and attachment avoidance (Gunlicks-Stoessel *et al*., 2019), both of which have been linked to the psychopathology and treatment outcomes in BED (Barone and Guiducci, 2009; Tasca *et al*., 2006, 2007, 2012).

Attachment Theory (Bowlby, 1969) proposes that, in response to interactions with their early caregivers, children build internal working models which influence how they conduct and perceive future interpersonal relationships and how they regulate and express emotion. It has been suggested that individuals experiencing BED have developed unhelpful ways of interacting with others in order to feel safe and avoid being rejected or abandoned by others (Wonderlich *et al.,* 2001) providing support for the Interpersonal Model, which suggests that difficulties with social functioning or interpersonal problems cause negative affect, which in turn leads to binge eating (Karam *et al.*, 2020). Attachment Theory can be utilised as a framework for measuring psychotherapy outcomes (Mallinckrodt, 2000) and this is helpful in relation to BED, since interpersonal problems have been found to contribute to the maintenance of BED symptomology (Arcelus *et al.,* 2013; Miniati *et al*., 2018; Ung *et al.,* 2017).

The National Institute for Health and Care Excellence (NICE) guidelines recommend psychological treatment for BED, and note that that weight loss is not an aim of treatment with treatment tending to have a limited effect on body weight. However, this weight-stabilisation effect comes in the context of the majority of people with BED tending to be on a weight-gain trajectory, indicated at an average rate of 22.2 pounds per person during the 12 months prior to treatment (Blomquist *et al*., 2011). Guided self-help based on a cognitive behavioural approach is recommended as a first-line therapy, with group or individual

cognitive behavioural therapy for eating disorders (CBT-ED) recommended if guided self-help is unsuitable or ineffective. The guidelines state that medication should not be offered as the sole treatment (NICE, 2017a). Interpersonal psychotherapy (IPT) has been suggested as a viable alternative treatment to CBT for the treatment of BED (Wilfley *et al*., 2002) and until 2017 was recommended as such by NICE (NICE, 2004; Wilson and Shafran, 2005). Currently, the evidence base for use of IPT in the treatment of BED is less than for CBT-ED (Ghaderi *et al*., 2018), with the Clinical Evidence section of the full NICE guidelines concluding that the existing research base does not show a difference in the effects of IPT on binge eating at end of treatment and follow-up (NICE, 2017a).

Both IPT and CBT-ED have been found to be effective in reducing core symptoms such as number of binge eating episodes and associated psychosocial difficulties, with body mass index (kg/m^2) (BMI) tending to stabilise (Agras *et al*., 1995; Hilbert *et al*., 2012; Miniati *et al*., 2018; Tasca *et al*., 2006; Wilfley *et al*., 1993, 2002; Wilson *et al*., 2010). Research evidence also suggests that combining IPT and CBT-ED is an effective approach for helping patients with eating disorders reduce symptomology, for example by utilising an IPT module within the "broad" version of the transdiagnostic approach Enhanced CBT (CBT-E), targeted at treating individuals with more complex care needs (Fairburn *et al*., 2009). A randomized controlled trial compared group IPT and group CBT for 162 individuals with a diagnosis of binge eating disorder (Wilfley *et al*., 2002). Participants were randomly assigned to either 20 weekly sessions of group IPT or group CBT; both treatments also consisted of three individual sessions which addressed participants' goals and progress. Both groups demonstrated similar recovery rates at post-treatment, and at the one-year follow-up, with binge eating episodes remaining significantly below baseline levels. When followed up four years after treatment, results suggested the long-term efficacy of both IPT and CBT, with

64.4% of individuals who were followed up meeting the criteria for full recovery (Hilbert *et al*., 2012). To date, there have been no studies investigating the effectiveness of group IPT (IPT-G) in the UK.

Current study

This study was undertaken in 2015/6, during the period when IPT was recommended as an alternative intervention to CBT-ED for treating BED (NICE, 2004). The study aimed to evaluate the effectiveness of an adaptation of IPT-G delivered within a specialist NHS eating disorders service in the south-west of England, in terms of quantitative outcomes at post-treatment and 6-month follow-up, among adults living with overweight or obesity and with a diagnosis of BED. It was hypothesised that post-treatment reductions would be achieved in binge eating frequency, psychosocial impairment, attachment difficulties and comorbid anxiety and depression, that BMI would stabilise by post-treatment, and that these post-treatment levels would be maintained at 6-month review for all variables.

2 Materials and method

2.1 Participants

Participants were 24 adults who had sought treatment for an eating disorder and, following initial assessment by the Eating Disorders Service Community Team, were referred for a further assessment appointment with both the IPT-G therapists (BLANK and BLANK). If the programme was deemed suitable for the individual, they were then offered a place in one of the four consecutive groups, each comprising six patients. In order to be accepted for IPT-G, patients needed to meet the DSM-5 criteria for BED and their weight fall within the "overweight" range (defined as BMI $\geq$ 25 kg/m^2). This group intervention was targeted exclusively at individuals who were living with overweight or obesity, in an attempt to

address the stigma associated with these. In addition, group treatment needed to be assessed as an appropriate intervention for the individual, who if willing to engage in group work, was offered an IPT-G place. Exclusion criteria comprised acute suicidal ideation/behaviour, acute psychosis, uncontrolled substance dependence and a primary diagnosis of a personality disorder that was considered likely to interfere with group engagement and cohesion. If patients met the IPT-G inclusion criteria, and gave informed consent to participate (including release of anonymised clinical data), then they were eligible for inclusion in this study. In practice, all those who presented to the service with BED during the period of recruitment to the study met the inclusion criteria and no one was excluded.

Using G*Power (Faul *et al.*, 2007) it was calculated that a sample size of 24 or more (giving power = 0.8) would be required to attain a medium effect, with α set at 0.05.

2.2 Procedure

Ethical approval for the study was granted by the local Research and Development Office. Participants were recruited to the study from consecutive routine referrals to IPT-G and measures were administered at four time-points: start of treatment (first individual session), middle of treatment (mid-treatment individual review session), end of treatment (final individual review session) and again at follow-up, six months after the end of the group intervention, at a face-to-face individual appointment prearranged specifically for this purpose. The exception was the Experiences in Close Relationships, Revised (ECR-R) measure, which was not taken at mid-treatment due to the length of the self-report questionnaire. Both IPT-G therapists (BLANK and BLANK) were present at all four stages with each participant.

2.3 Treatment

2.3.1 IPT

IPT focuses on identifying and addressing interpersonal difficulties associated with the onset and/or maintenance of the eating disorder, with the aim of supporting individuals to make positive changes in their interpersonal relationships and to reduce binge eating symptomatology (Amianto *et al*., 2015; Burke *et al*., 2018). Underpinned by attachment theory (Bowlby, 1969; Stuart, 2008), IPT can be effective in addressing attachment anxiety and attachment avoidance (Gunlicks-Stoessel *et al*., 2019). IPT is comprised of three phases and targeted at resolving difficulties related to any of four social themes: grief, interpersonal role disputes, role transitions and interpersonal deficits/social isolation (Weissman *et al*., 2017). IPT is a brief therapy (up to 20 sessions) which can be delivered individually, or alternatively in a group context, where group participants are encouraged to work on their relationship difficulties while learning from other group members within this "interpersonal laboratory" (Wilfley *et al*., 2000, p. 82).

2.3.2 Adapting IPT-G for the NHS

Both IPT therapists (BLANK and BLANK) were trained by Dr BLANK (then Director of the BLANK IPT Centre at the University of BLANK and Chair of the IPTUK Training Committee at that time) and Dr BLANK (then Clinical Director for Complex Care Services at BLANK Partnership NHS Foundation Trust), who in collaboration with Dr BLANK (Professor of Psychiatry, BLANK University School of Medicine) had adapted the IPT-G model (Wilfley *et al*., 2000) for practice within the NHS.

Prior to joining as a group, each patient attended two one-hour individual assessment sessions during consecutive weeks with both IPT-G therapists in order to develop the narrative

formulation, select a focal area, agree interpersonal goals (individual and group goals) and prepare for group work. Group work started the following week, comprising 14 weekly 90-minute sessions, structured into three phases. During the initial phase ("Trying on my goals", group sessions 1 – 4), the aims included: developing group cohesion and positive group norms, psychoeducation about the symptoms of BED and the role of IPT-G in helping them address these and group members sharing their goals and focal area with each other. The intermediate phase ("Working on change", group sessions 5 – 10) was targeted at enabling group members to connect with and learn from fellow group members and maximise self-disclosure and emotional expression, while remaining focused on implementing positive interpersonal changes consistent with the aim of achieving their agreed goals. Group members continued working towards these goals during the ending phase ("Consolidating change", group sessions 11 – 14) while reflecting on progress, planning for potential future setbacks, acknowledging and sharing their feelings about finishing and saying goodbye to each other and the therapists.

Within 24 hours of each group session, the IPT-G therapists wrote and sent a summary of the session to all group members by post. Each group member received the same summary, structured to a standard format, containing all individuals' stated progress towards their goals and themes that had arisen during group discussion. Group summaries can serve an important therapeutic function, including maintaining momentum and focus, de-mystifying the psychotherapy process and increasing group cohesion (Wilfley *et al*., 2000). With the agreement of the group, the summary was also sent to any group members who had a one-off absence from a group session, for example due to physical health problems.

Individual review sessions (each 30 minutes long with both IPT-G therapists present) were arranged halfway through the group treatment (between sessions 7 and 8), prior to ending (between sessions 13 and 14) then again at 6-month follow-up. The purpose of these meetings was to return measures and reflect on progress towards interpersonal goals and reducing BED symptoms.

In a deviation from Wilfley's model of IPT-G for BED (Wilfley *et al*., 2000) this NHS adaptation included an element of CBT-based guided self-help. The rationale for incorporating a CBT-ED stance into IPT-G was two-fold. Firstly, staff at the service had been trained by Dr Fairburn and at the time of the study it was routine practice to give a copy of his CBT-based self-help book *Overcoming Binge Eating (OBE)* (Fairburn, 2013) to every adult patient of the service, regardless of their eating disorder diagnosis (AN, BN or BED) and agreed treatment approach (CBT-ED or IPT). Secondly, research evidence provides support for combining IPT and CBT-ED as an effective approach for treating eating disorders among individuals with more complex care needs (Fairburn *et al*., 2009).

Specifically, this inclusion of CBT-ED comprised: structured weekly weight monitoring in private with one of the IPT-G therapists (BLANK/BLANK alternate weeks), with patients being encouraged to interpret trends rather than individual readings and not weigh themselves at home between sessions; psycho-education on the importance of regular eating; identifying triggers for, and finding alternatives to, binge-eating. Prior to beginning group work, each patient was given a copy of the *OBE* book (Fairburn, 2013) with the recommendation to read chapters one, four and five then progress to Part Two while engaged in group work. It was expected that group members would work through the book independently, though 5-10 minutes at the beginning of each group session was devoted to reviewing progress towards

regular eating, alongside a brief symptom-check. Subsequently, group members were encouraged to make links between their reported symptoms and interpersonal triggers, consistent with the IPT model (Weissman *et al*., 2017).

2.4 Measures

BMI was calculated (kg/m^2) after measuring participants' height and weight at each of their individual review sessions. An interview assessed demographic information at baseline, including participants' age, ethnicity, employment and marital status, duration of illness and whether they had received any prior treatment for an eating disorder. Eating behaviours were also assessed by interview. Specifically, at each time-point, participants were screened for use of compensatory behaviours (such as self-induced vomiting, driven exercise or laxative misuse), that could suggest that they were transitioning from a diagnosis of BED to another eating disorder diagnosis. Frequency of binge eating was assessed at each time-point using an interview based on the relevant sub-section of Eating Disorder Examination (EDE) (Fairburn *et al*., 2014).

The Eating Disorder Examination (EDE; Edition 17.0D) (Fairburn *et al*., 2014): An investigator-based interview designed to gain an understanding of the individual's current eating behaviours and attitudes. The interview aims to assess the frequency of certain behaviours related to the eating disorder in the last 28 days, and the severity of eating disorder psychopathology. The EDE assesses four subscales: Restraint, Eating Concern, Shape Concern and Weight Concern. Scores for each subscale range from 0-6, and a "global" score (the average of the four subscales) can also be obtained. Higher scores on the EDE indicate a greater severity of eating disorder psychopathology. When utilised to assess binge

eating disorder symptoms and the associated features of BED, the EDE has been found to have excellent inter-rater reliability for binge eating behaviours (Spearman's ρ = .91 - .98). In relation to the EDE subscales, inter-rater reliability varies between (Spearman's ρ = .65 - .96). Test-retest reliability have been found to be very good for objective binge eating behaviours (Spearman's ρ = .70 - .71) and very good for EDE subscales despite variation (Spearman's ρ = .50 - .88). Test-retest reliability was found to be unacceptable for subjective binge eating behaviours (Spearman's ρ = .17) (Grilo *et al.,* 2004).

Measures of psychosocial impairment, anxiety, depression and attachment insecurity were assessed through self-report questionnaires, using the following assessment measures:

The Clinical Impairment Assessment (CIA) questionnaire (Bohn *et al*., 2008): A 16-item self-report measure designed to assess the impact of the eating disorder on psychosocial functioning in the last 28 days. The questionnaire focuses on areas of life that are commonly affected by eating disorder psychopathology, such as mood, cognitive functioning and interpersonal functioning. Scores are combined to give a single total score which can range between 0-48, with higher scores suggesting greater psychosocial impairment. The CIA has been found to have good internal reliability (Cronbach's α = .94) and test re-rest reliability over the period of one-week (Spearman's ρ = .94) (Reas *et al*., 2010). Normative data is also available for the CIA (Welch *et al*., 2011).

The Experiences in Close Relationships, Revised (ECR-R) (Fraley *et al*., 2000): A 36-item self-report measure designed to assess individual differences in adult romantic attachment, in particular attachment-related anxiety and attachment-related avoidance. Attachment-related anxiety refers to fear of rejection and abandonment associated with the desire for more

closeness, whilst attachment-related avoidance refers to discomfort with intimacy and a desire to seek independence. Individuals who score highly on one or both subscales (Anxiety and Avoidance) are assumed to have an insecure adult attachment style, whereas those with low scores on both values are assumed to have a secure adult attachment style (Brennan *et al*., 1998; Lopez and Brennan, 2000). The ECR-R has been reported to have a high level of internal consistency, with alpha co-efficient of .91 for the Anxiety subscale and .94 for the Avoidance subscale based on the student population (Brennan *et al*., 1998). Test re-test reliability over a 6-month period has be found to be .68 and .71 respectively for the Anxiety and Avoidance subscales (Lopez and Gormley, 2002).

Generalised Anxiety Disorder-7 (GAD-7) (Spitzer *et al*., 2006): A seven-item self-report measure which aims to assess for symptoms of general anxiety. The questionnaire determines how often in the past two weeks that participants have been bothered by symptoms of anxiety such as feeling nervous or being unable to stop or control worrying. Scores are rated on a scale from 0 (not at all) to three (nearly every day), to give a total score out of 21. Higher GAD-7 scores are indicative of greater levels of anxiety. The GAD-7 had demonstrated high internal consistency (Cronbach's α = .92), and good test re-test reliability (intraclass correlation = .83) (Spitzer *et al*., 2006).

Patient Health Questionnaire (PHQ-9) (Kroenke *et al*., 2001): A nine-item self-report measure which aims to assess the severity of depression and low mood. Overall scores can range from 0 – 27, with higher scores suggesting greater severity in low mood. The PHQ-9 has been found to have high internal consistency, with a study on two different patient populations giving Cronbach alphas of .86 and .89 (Kroenke *et al*., 2001). Test re-test reliability has also been found to be high (.84) (Kroenke *et al*., 2001).

Remission criteria: participants were viewed as being remitted from binge eating disorder if they were abstinent from binge eating for the previous 28 days.

2.5 Statistical analysis

Analyses were performed using SPSS Version 25.0. Data were screened for missing items and compliance with the assumptions necessary for parametric testing. In order to quantify change in measures between admission, mid-treatment, discharge and 6-month follow-up, one-way repeated measures analysis of variance (ANOVA) was undertaken in relation to each factor. Following Bonferroni post hoc testing, adjustments were made in order to minimize the risk of Type One error due to multiple, non-orthogonal contrasts being performed. For each inferential statistical test reported in relation to analysing change between time points, the *p*-value for significance (α) specified was reduced conditional on the number of such analyses undertaken. Effect sizes are specified in terms of partial eta squared (.01 = small effect size, .06 = moderate effect size, .14 = large effect size) (Richardson, 2011).

3 Results

3.1 Treatment retention

Treatment retention was 100%, with all participants returning data at all four time-points.

[Place Table I about here]

3.2 Patient demographics and clinical characteristics

An overview of the demographic and clinical characteristics of the sample is provided in Table I.

3.3 Analysis of outcomes

Means (with standard deviations) at pre-treatment, mid-treatment, post-treatment and 6-month follow-up for the whole sample of 24 participants are shown in Table II, detailed across all outcomes measured.

[Place Table II about here]

3.3.1 Effectiveness at facilitating sustained reduction in frequency of binge eating

When compared to pre-treatment levels, participants were found to experience significantly fewer binge eating episodes at mid-treatment, post-treatment and 6-month follow-up ($p \leq$ .002 for all). There was a significant main effect of time-point (F (2.23, 51.2) = 17.0, p = .009). Effect size was large (η_p^2 = 0.424). There was no significant difference between binge frequency at discharge and binge frequency at 6-month and 12-month follow-ups ($p > .99$ for both) and no significant difference between binge frequency at 6-month and 12-month follow-ups ($p > .99$). Mauchly's test indicated that the assumption of sphericity had been violated (χ^2 (5) = 13.6, p = .018), therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity (*Epsilon* = .742).

3.3.2 Effectiveness at stabilising BMI

BMI stabilised from the start of treatment, through to follow-up. There was no significant difference between BMI at pre-treatment, mid-treatment, post-treatment and 6-month review ($p \geq .81$ for all).

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3.3.3 Effectiveness at facilitating sustained reductions in psychosocial impairment

There was a significant main effect of time-point (F (2.59, 59.6) = 12.3, $p < .001$). Effect size was large ($\eta_p^2 = 0.349$). When compared to pre-treatment levels, participants were found to report significantly less psychosocial impairment at mid-treatment, post-treatment and 6-month follow-up ($p \leq .001$ for all). There was a further significant improvement in psychosocial impairment between mid-treatment and post-treatment ($p = .034$), with levels remaining similarly reduced at follow-up ($p = .961$). Mauchly's test indicated that the assumption of sphericity had been violated (χ^2 (5) = 16.0, $p = .007$), therefore degrees of freedom were corrected using Huynh-Feldt estimates of sphericity (*Epsilon* = .863).

3.3.4 Effectiveness at facilitating sustained reductions in symptoms of depression

There was a significant main effect of time-point (F (3, 69) = 14.6, $p < .001$). Effect size was large ($\eta_p^2 = 0.389$). When compared to pre-treatment levels, participants' symptoms of depression had reduced significantly at mid-treatment, post-treatment and 6-month follow-up ($p \leq .002$ for all). Depression levels remained similar at mid-treatment, post-treatment and 6-month follow-up ($p \geq .142$ for all comparisons).

3.3.5 Effectiveness at facilitating sustained reductions in symptoms of anxiety

There was a significant main effect of time-point (F (3, 69) = 11.5, $p < .001$). Effect size was large ($\eta_p^2 = 0.334$). When compared to pre-treatment levels, participants' symptoms of anxiety remained similar at mid-treatment ($p = .084$) but had reduced significantly at post-treatment ($p < .001$). Anxiety levels had deteriorated slightly by 6-month follow-up, such that they were no longer significantly different from pre-treatment levels ($p = .054$), although anxiety levels at post-treatment and 6-month follow-up remained similar ($p = .267$).

3.3.6 Effectiveness at facilitating sustained reductions in attachment anxiety

There was a significant main effect of time-point (F (2, 44) = 7.38, p = .002). Effect size was large (η_p^2 = 0.251). When compared to pre-treatment, participants' levels of attachment anxiety were reduced significantly at post-treatment and 6-month follow-up ($p \leq$ .020 for both). Attachment anxiety was similar at post-treatment and 6-month follow-up ($p <$ .001).

3.3.7 Effectiveness at facilitating sustained reductions in attachment avoidance

There was no significant difference between participants' levels of attachment avoidance at pre-treatment, post-treatment and 6-month review ($p \geq$ .13 for all).

3.3.8 Compensatory behaviours

On assessment at 6-month review, one participant reported having self-induced vomiting on five occasions in the previous 28 days, in order to compensate for binge-eating on the same number of occasions. This participant had not reported any self-induced vomiting at any other time during their involvement with the study. The participant was given harm reduction advice and offered the opportunity to engage in further treatment for their eating disorder. None of the other participants reported any compensatory behaviours at any stage of the study in response to the relevant screening questions at each time-point.

3.3.9 Remission from binge eating (past month)

Eight per cent of participants were abstinent from binge eating for the previous 28 days by the time of the mid-treatment review. This had risen to 17% by end of treatment and 25% by 6-month follow-up.

Discussion

This study aimed to evaluate the effectiveness of an adaptation of IPT-G delivered within an NHS service in England, in facilitating short- and longer-term improvements in BED symptomology, psychosocial impairment, anxiety, depression and attachment difficulties among adults living with overweight and a diagnosis of BED. It was hypothesized that post-treatment reductions would be achieved in binge eating frequency, psychosocial impairment, attachment difficulties and comorbid anxiety and depression, that BMI would stabilise by post-treatment, and that these post-treatment levels would be maintained for all variables at 6-month review.

Data analysis relating to the sample of 24 participants revealed that significant improvements in frequency of binge-eating, psychosocial impairment and depression were achieved at mid-treatment and maintained at post-treatment and 6-month follow-up, and with large effect sizes. Attachment anxiety had reduced significantly at post-treatment and was maintained at 6-month review. BMI had stabilised by mid-treatment and was maintained at post-treatment and 6-month follow-up. All hypotheses were supported, with the exception that attachment avoidance did not improve significantly and following a post-treatment significant reduction, anxiety symptoms deteriorated slightly by 6-month follow-up, such that they were no longer significantly different from pre-treatment levels (despite remaining similar at post-treatment and 6-month follow-up). The finding that attachment avoidance remained unchanged across the time-points reflects similar outcomes from a brief group psychotherapy study (Kinley and Reyno, 2013) and possibly supports the suggestion that people with more dismissing (avoidant) attachment styles are less likely to benefit from a treatment reliant on group reflection and self-disclosure, such as IPT-G (Dozier, 1990; Horowitz *et al*., 1993; Tasca *et al*., 2004).

At the end of treatment, 17% of participants were abstinent from binge eating for the previous 28 days. This abstinence rate increased to 25% at 6-month follow-up, reflecting outcomes from previous studies showing that individuals continue experiencing improvements in symptomatology after completing IPT (Agras *et al.,* 2000; Fairburn *et al.,* 2015; Fairburn, Jones, *et al*., 1993; Fairburn, Marcus, *et al*., 1993). It has been suggested that symptom reduction takes place more gradually with IPT than with CBT-ED because IPT is likely to facilitate change indirectly via improvements in interpersonal functioning, whereas CBT-ED targets eating disorder psychopathology directly (Fairburn *et al.,* 2015).

The abstinence rates for this study are lower than those reported in the literature in relation to the treatment of BED with IPT (Wilfley *et al*., 1993, 2002; Wilson *et al*., 2010), though in the case of the 1993 paper, reported abstinence related only to the 7-day period prior to assessment, rather than the 28-day period analysed in this study and the others listed. This discrepancy in abstinence rates raises questions, some possible answers to which can be identified by examining clinical and demographic differences between the sample recruited to this study and the samples described in previous studies. For example, among the participants of this study, psychiatric comorbidity was the norm, with 100% of participants scoring above the clinical threshold for depression and/or anxiety (as measured by the PHQ-9 and GAD-7 questionnaires respectively) and 67% of participants of this study taking prescribed anti-depressant medication. By contrast, other studies have specified use of anti-depressant medication and/or psychiatric comorbidity as exclusion criteria (Wilfley *et al*., 1993, 2002), despite psychiatric comorbidities being common amongst those affected by BED (Brownley *et al*., 2016; Grilo *et al*., 2009; Hilbert, 2019).

Similarly, for participants of this study, BMI ranged between 29 and 70kg/m^2, with a mean of 44kg/m^2; yet the majority of trials from a systematic review and meta-analysis studying psychological and pharmacological treatments of binge eating disorder found BMI ranged between 28.8 and 41.1kg/m^2 (Brownley *et al*., 2016). For example, Wilfley *et al*., (2002), specified inclusion criteria within BMI range 27 – 48 kg/m^2 and Wilson *et al*., (2010) between 27 - 45 kg/m^2. Equally, the mean age range of BED study participants has been found to be between 36 to 47 years (Brownley *et al*., 2016), with some studies excluding people older than 65 years (for example, Wilfley *et al*., 1993; Wilfley *et al*., 2002). By contrast, the current study (which had no upper age limit) had a sample which included three people above 65 years, with the eldest participant at 76 years old. Likewise, whilst an average illness duration of 16 years has been suggested in the literature (Udo and Grilo, 2018), the illness duration of the present sample was 29 years. Since earlier onset and longer illness duration have been associated with poorer treatment outcomes among patients with a diagnosis of BN and BED (Vall and Wade, 2015), these characteristics of the current sample could have implications for the abstinence rates of the current study. However, this study is limited by its small sample (raising questions about the generalisability of findings) and lack of control group (leaving uncertainty about whether treatment effects are due to the intervention). Future research is needed, utilising larger naturalistic samples and control groups, to investigate the clinical and demographic characteristics of individuals presenting to NHS services with a diagnosis of BED and the effectiveness of the treatment provided to them. Due to the improvements in accessibility that delivering treatments digitally can bring (Bauer and Moessner, 2013) and especially during the COVID-19 crisis (Weissman *et al*., 2020), an investigation into the acceptability and effectiveness of delivering IPT-G digitally for the treatment of BED could also be worthwhile, and with and without the inclusion of CBT-based guided self-help, in order to test the effects associated with this component.

However, the fact that in the UK, IPT is no longer a NICE-recommended intervention for eating disorders may prove a barrier to further naturalistic studies in this field or funding to train eating disorder specialists in the IPT approach.

This is the first UK study to investigate the effectiveness of IPT-G for individuals with a diagnosis of BED. One of the strengths of this study is its naturalistic design and emphasis on inclusivity. Though small, the sample was an exact reflection of all those presenting to the service with a diagnosis of BED for the duration of the study, and 100% treatment retention was achieved. Unlike other studies in the field, this study did not exclude participants on the basis of age, BMI or psychiatric comorbidity, therefore appears to have focused on a sample drawn from a wider population that was experiencing greater clinical impairment.

Inclusivity is a particularly important principle to apply in relation to BED, since individuals living with this condition tend not only to be stigmatised by society (Hepworth and Paxton, 2007; Herman *et al*., 2014; Reas, 2017) but also to be marginalised by eating disorder services, many of which do not offer psychological treatments for BED (NICE, 2017b). Furthermore, in addition to the lack of provision of treatment for BED generally when compared to the other eating disorder diagnoses, it appears that there are also major inequalities in terms of how treatment for BED is sought and accessed among different racial and ethnic groups. Despite research suggesting that BED is similarly prevalent among diverse racial and ethnic groups (Goode *et al*., 2020; Hudson *et al*., 2007; Kessler *et al*., 2013; Marques *et al*., 2011), differences have been identified in the way that treatment for BED is accessed. For example, Black females affected by BED have been found less likely to have received treatment for an eating disorder than White females (Pike *et al*., 2001; Striegel-Moore *et al*., 2003). It is likely that differences in help-seeking behaviours between ethnic

and racial groups contribute to this disparity, for instance, Latino, Asian and African American individuals with a diagnosis of BED have been found to be less likely to seek treatment from mental health services compared to non-Latino White individuals (Marques *et al*., 2011), and non-Hispanic Black individuals and Hispanic individuals less likely to seek help for BED compared to non-Hispanic White individuals (Coffino *et al*., 2019). It is also probable that health professionals are failing to identify BED among certain minority ethnic and racial groups, with these individuals less likely to be referred for specialist eating disorder treatment compared to White people, irrespective of symptom severity (Becker *et al*., 2003; Gordon *et al*., 2006). Added to these disparities in treatment accessibility for BED, in the current context of a global pandemic, people diagnosed with BED are more likely to be living with obesity (Brownley *et al*., 2016; de Zwaan, 2001), which increases the risk of experiencing worse outcomes and a higher rate of mortality in relation to COVID-19 (Public Health England, 2020; Valerio *et al*., 2020).

The importance of this study lies in pioneering IPT-G in the UK and evidencing its effectiveness at improving eating disorder and comorbid symptomology among a naturalistic sample diagnosed with BED and living with overweight. Despite BED being the most prevalent eating disorder when compared to AN and BED, individuals experiencing BED are consistently overlooked, denied access to treatment and stigmatised. It is therefore imperative that health professionals and commissioners address the inequality and institutional prejudice that has long been applied to BED.

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