University of Glasgow

Experiences of Binge Eating Among Clients Attending a Weight Management Service

AND CLINICAL RESEARCH PORTFOLIO

VOLUME I

(VOLUME II bound separately)

Mary Rosaleen Cawley
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Section of Psychological Medicine
Division of Community Based Sciences

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ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

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A Systematic Review of the Effectiveness of Therapist-Delivered Psychological Interventions for Obese Individuals with Binge Eating Disorder

Mary R. Cawley[1*]

[1]Section of Psychological Medicine, University of Glasgow

*Address for Correspondence
Section of Psychological Medicine
Division of Community Based Sciences
University of Glasgow
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow
G12 0XH
E-mail: marycawley@nhs.net

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Abstract

Binge Eating Disorder (BED) is a common phenomenon among obese individuals seeking weight loss treatment. Individuals who binge eat are more likely to drop out of weight loss treatment and are at an increased risk of developing obesity-related co-morbidities. This systematic review aimed to synthesise the peer-reviewed evidence for therapist-delivered psychological interventions for BED. The literature from 1990-2008 was reviewed and the results were screened against *a priori* inclusion/exclusion criteria. The review focused on two specific outcome measures: binge eating abstinence and clinically significant weight loss. Eleven studies were identified as suitable for inclusion in the review. The review included studies comparing psychological interventions with waiting list control groups, another active psychological treatment, behavioural weight loss treatments or pharmacological studies. The main findings of the review suggested that Cognitive Behavioural Therapy (CBT) is effective at reducing binge eating in the short-term but it does not produce weight loss. The long term evidence for CBT is currently unclear due to insufficient follow-up studies. The evidence for psychological interventions other than CBT is limited due to the small number of studies. A number of implications for future research and clinical practice are outlined.

Introduction

Binge Eating Disorder (BED) is regarded as a specific example of the atypical eating disorders or eating disorder not otherwise specified (EDNOS). The criteria for BED are included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) as a diagnostic category in need of further study (1). BED is characterised by recurrent binge eating (overeating accompanied by a perceived loss of control, occurring on average at least twice weekly for 6 months) and marked distress in the absence of regular compensatory behaviours such as purging, fasting or excessive exercise that are the defining features of bulimia nervosa (BN). Binge episodes may be associated with eating rapidly, eating until uncomfortably full, eating large amounts in the absence of hunger, eating alone due to embarrassment and feeling disgusted, depressed or guilty after overeating (2). Although there is controversy as to whether BED should be recognised as a psychiatric disorder in its own right, it is a prevalent and clinically significant health problem (3).

There is relatively little information regarding the prevalence of BED in the UK. However, a recent audit of a weight management service in Wales found that 26% of patients met DSM-IV criteria for BED (4). Population-based studies in Australia and Austria previously estimated that the prevalence of BED was between 1% and 3% (5,6). However, a recent study conducted in the USA estimated the prevalence of BED to be 6.6% (7). In addition, a nationally representative survey carried out in the USA found that the lifetime prevalence estimate of BED was 1.2% and it was more common than both anorexia nervosa and BN (8). Furthermore, BED is more common among obese individuals seeking weight loss treatment with an estimated prevalence of 30% within this population (9).

Although most obese individuals do not have BED, there is an association between BED and obesity as the prevalence of BED rises with increasing adiposity (10). BED is

associated with older age and it has been proposed that it may be a risk factor for future obesity (11) with the consequent risk of developing the associated medical complications. Obesity is an increasingly prevalent public health problem and is associated with increased mortality (12). Obesity has a profound effect on morbidity and is a risk factor for conditions such as cardiovascular disease and type II diabetes (13,14). Research has shown that obese individuals are more likely to visit health care professionals and take medication compared to their non-obese counterparts (15). There is also some evidence that individuals with BED utilise high levels of health care services but do not receive appropriate treatments for BED (16).

With regard to psychological co-morbidity, it has been found that anxiety and depression are common in obese individuals attending specialist weight management clinics (17). Depression is regarded as a significant co-morbidity of severe obesity and it has been shown that the presence of depression and BED in obese patients seeking weight loss treatment is associated with worse treatment outcomes (18,19). Individuals who binge eat exhibit eating and weight-related pathology such as maladaptive eating attitudes and body image disturbance. In addition, they are more likely to drop out of weight loss treatment (20).

Although research regarding the treatment of BED is still at a relatively early stage compared to treatments for BN, there has been an increase in the number of studies of interventions for the treatment of BED over the last decade. The interventions have been predominately based on the findings concerning BN as the cognitive style and behavioural experiences and manifestations of these two eating disorders are regarded as similar. However, BED has been considered as a distinct disorder since 1994 and the effectiveness of interventions for BED should be systematically examined in their own right.

A recent systematic review and meta-analysis of anti-depressant treatments for BED concluded that there was insufficient evidence to support anti-depressants as a first line treatment for BED (21). Self-help and guided self-help interventions for BED have also been systematically reviewed and there is some evidence that they could be potentially beneficial as a first step in treatment when compared to a waiting list control (22). Brownley and colleagues (23) systematically reviewed the evidence for all treatments for BED including medication, behavioural interventions and self-help interventions, as part of a wider report about eating disorders sponsored by the Agency for Healthcare Research and Quality (AHRQ). The review was limited to randomised controlled trials (RCTs) and reviewed the evidence for the efficacy of treatments and the harms associated with treatments. It did not address specific outcome measures and was not limited to overweight/obese populations.

The National Institute for Health and Clinical Excellence (NICE) recommends self-help as a possible first step for binge eating disorder but does not provide any specific guidance regarding obese patients in its recommendations (24). Obese patients are unlikely to lose weight as a result of cognitive behavioural self-help and behavioural weight loss treatment (BWLT) has been suggested as a more suitable treatment (25). As research has demonstrated an association between BED and obesity, it is important to compare psychological interventions to other interventions such as BWLT. Therefore, the present systematic review aims to synthesise the current available peer-reviewed evidence for such interventions for obese participants with BED and focuses on two main outcome measures; binge eating abstinence and weight loss.

Methods

Search strategy for identification of studies

A review of the literature from 1990-2008 was conducted and studies were sought from a wide variety of sources. The search strategy for the systematic review was generated using the OVID "Medical Subject Headings" (MeSH) search function and keyword searches. The unlimited right truncation command ($) was used to identify all words beginning with a common term. The results of the searches were combined using the Boolean operator 'AND'. The following search terms were used: [binge eating] or [binge eating disorder] AND [therap$] or [interven$] or [treat$] AND [research design MeSH] or [clinical trial MeSH] or [random allocation MeSH]. The results of the search were then subjected to the inclusion and exclusion criteria described below.

The following electronic databases were searched in order to find relevant articles: CENTRAL – Cochrane Central Register of Controlled Trials (2nd Quarter, 2008), OVID MEDLINE [1950 – 2008], British Nursing Index [1994 –2008], CINAHL [1982 – 2008], EMBASE [1988 – 2008] & PsycINFO [1985 – 2008]. Database searches were limited to years 1990-2008, English Language and humans where limits were allowed and duplicates were removed. The Google Scholar database was searched using the same terms and a sensitivity search was also carried out using the cited by function in the Web of Knowledge database.

Full-text searches of relevant journals (International Journal of Eating Disorders, Behavior Therapy and Journal of Consulting & Clinical Psychology) were also undertaken as the majority of studies found using the computerised search were published in these journals. In addition, the reference lists of included studies were reviewed in order to identify further relevant publications.

Titles and abstracts of papers identified by the searches were screened against inclusion and exclusion criteria (see Table 1). As mentioned in the introduction, systematic reviews of pharmacological and self-help treatments for BED have been conducted and as a result these types of interventions were excluded from the review. To be eligible for inclusion in the review, studies had to incorporate a psychological intervention as a treatment group and include samples of obese participants with a diagnosis of BED. Prior to the inclusion of BED in the DSM-IV, some studies investigated the effectiveness of treatments for 'non-purging bulimia.' Although there is some overlap between BED and non-purging bulimia, the DSM-IV categorises them as distinct disorders (26). As a result, studies which focused on non-purging bulimia were excluded from the review. Studies which were conducted prior to 1994 were considered appropriate if they used the proposed diagnostic criteria for BED (27). The definition of obesity was based on the World Health Organization (WHO) categorisation system and a body mass index (BMI) of $\geq 30kg/m^2$ was used whenever possible (28). However, some variability in the definition of obesity exists as a BMI $\geq 27kg/m^2$ was previously regarded as obese in the USA and studies using this definition were considered (29).

With regard to the outcome measures, these were specifically chosen as indicators of a successful intervention i.e. binge eating abstinence and clinically significant weight loss. A weight loss of 5% or more of initial body weight is regarded as clinically significant as research has shown that this can significantly improve risk factors for obesity related co-morbidities (30). Binge eating abstinence was defined as 'zero objective binges in the preceding 4 weeks' (31).

[INSERT TABLE 1 ABOUT HERE]

Quality assessment of studies

The quality of the studies was systematically examined using a scoring system designed specifically for this review. The scoring system was devised using existing quality instruments created by the Cochrane Collaboration (32) and the Scottish Intercollegiate Guidelines Network (SIGN) (33). These quality instruments were previously used for assessing the quality of RCTs and as this review question did not focus solely on RCTs, the quality instruments were subsequently adapted. The scoring system used for the current review consisted of 6 sections and examined the rationale, sample, procedures, assessment, treatment method and statistical analysis of each study. The appropriate duration of a psychological intervention was defined as ≥16 sessions on the basis of the recommendations for CBT for BN (24). A copy of the quality criteria assessment data collection sheet can be found in Appendix 1.2.

The studies included in the review were evaluated independently by two reviewers, agreement was high and minor discrepancies were resolved through discussions between the reviewers. An overall quality rating was given to each paper and each paper could achieve a maximum 32 points. In order to give a general indication of the quality of the studies the total scores were converted into a percentage and the percentages were arbitrarily classed as good (≥ 75%), moderate (50-74%) and poor quality (< 50%).

Results

Results of the search strategy

A total of 343 studies were retrieved using the search strategy (Figure 1). The titles were screened against the inclusion criteria and this resulted in 67 potentially relevant abstracts. Searching relevant journals resulted in 1 further potential paper. The 68 abstracts were screened and 27 full-text articles were retrieved for a detailed evaluation. After reading the full-text articles, 16 studies were excluded on the basis that BED was not defined using

diagnostic criteria or outcome measures were not binge eating abstinence or weight loss. Eleven studies were identified as suitable as they met the inclusion criteria and were subsequently included in the review. No further studies were identified by reviewing the reference lists of included publications.

[INSERT FIGURE 1 ABOUT HERE]

Quality of included studies

The studies included in the review varied in quality and out of the 11 included studies, 3 were rated as good quality and the remaining 8 were rated as moderate quality (see Table 2). However, the quality of the studies in the moderate category fluctuated as percentages ranged from 71% to 50%. The strengths and weaknesses of each study, according to the quality criteria are outlined in Appendix 1.3.

[INSERT TABLE 2 ABOUT HERE]

The sample size of the studies included in the review varied, ranging from 44 to 162 participants. Power calculations were only reported for 4 studies and these were performed post-hoc (rather than *a priori*) and provided at least 80% power to detect clinically significant differences in binge eating frequency (34-37). All of the studies reported that participants were randomly allocated to groups. However, in the majority of studies randomisation was inadequately described and only 5 studies described specific procedures which tended to be permuted block randomisation (34,35,37-39). Furthermore, the

concealment of allocation was only demonstrated in two studies which involved double-blind medication assignment (35,36).

Binge abstinence was defined as 'zero objective binges in the preceding 4 weeks' there was, however, variability in the methods used to record binge eating episodes. Six studies used self-monitoring to measure the frequency of objective binges. The number of days on which binges occurred, rather than the number of binges *per se* were used for all studies. Four studies used the Eating Disorder Examination (EDE) 28 day method, which is regarded as the 'gold standard' (34,36,40,41) and one study used the German version of the EDE (38). Two studies used the EDE-Questionnaire (35,37) and one study used the 7 day recall calendar method as a confirmatory measure of binge eating frequency in addition to the EDE-Questionnaire (37).

The psychological interventions will be discussed in more detail below but the length of treatment ranged from 12 to 24 sessions. Nine studies examined the effectiveness of group interventions and 2 studies (35,36) evaluated individual CBT although the results for individual and group CBT for both outcome measures were comparable. Four studies had no follow-up period (35,36,39,42) and in the remaining studies follow-up periods ranged from 3 months to 12 months. Due to the heterogeneity of sample sizes, study design, intervention types and follow-up periods, it was inappropriate to conduct a meta-analysis as it would have had little practical meaning (43).

Description of included studies

The majority of studies were conducted in the USA and 3 studies were conducted in Europe; the Netherlands, Germany & Switzerland (38,40,44). Three studies were conducted in the 1990s (39,42,45) and the remaining 8 studies were conducted within the last 8 years. The source of recruitment of participants was not clear in 2 studies (35,42).

Participants for the remaining studies were recruited through media advertisements, suggesting that they may have had higher levels of motivation to lose weight. Furthermore, one study (44) charged participants $1000 to take part in the study and 62% of participants in this study were from a higher socio-economic status and therefore more able to pay the $1000 for the cost of the very low calorie diet product.

Five studies recruited solely female participants (37,40,41,44,45) and in the remaining studies men were under-represented as a higher proportion of females participated in the studies. The mean age of participants in the studies ranged from 38.3 to 50 years. Mean BMI ranged from 33.1 to 40, indicating that in one study the participants were morbidly obese (36). Information about ethnicity was given for 6 studies; all of which had 70% or more white participants (34-37,41,44). Five studies gave information about educational level with proportions of participants who had attended college ranging from 55% to 75%, indicating that those involved in the studies were of a higher socio-economic status (35,37,41,44,45).

Description of psychological interventions for BED

Three short-term structured psychological approaches have been used for the treatment of BED; Cognitive Behavioural Therapy (CBT), Interpersonal Therapy (IPT) and Dialectical Behaviour Therapy (DBT). CBT for BED usually has 3 phases and involves establishing regular eating, self-monitoring of food intake, cognitive restructuring and relapse prevention techniques (e.g. problem solving and coping with high risk situations) (46). IPT involves identifying interpersonal problem areas associated with BED onset and maintenance and helping the client to work on problem areas within 4 social domains: grief, interpersonal role disputes, role transitions and interpersonal deficits (34). DBT was originally developed as a treatment for borderline personality disorder (47). DBT for BED

is based on the affect regulation model, which proposes that binge eating occurs in response to negative affect (48). The main aim of DBT for BED is to develop emotional regulation and distress tolerance skills in an attempt to regulate emotions rather than binge eat. Mindfulness skills are also taught as part of treatment to enable participants to non-judgementally observe and describe their moment-to-moment emotional experiences and thoughts (41).

Four studies that compared psychological interventions to a waiting list control group or another active psychological treatment were identified as suitable for inclusion in the review (see Table 3).

[INSERT TABLE 3 ABOUT HERE]

Two of these studies compared group CBT to a waiting list control group and were both based on the same CBT for BED manual (37,42). However, one of the studies investigated whether extending group CBT to 24 weeks for initial treatment non-responders would have a significant impact on binge eating (42). In addition to investigating the effectiveness of a 12 session group CBT treatment compared to waiting list control, one of the studies examined whether involving a spouse would enhance the treatment outcome (37). The remaining two studies compared 20 sessions of DBT to waiting list control (41) and a large randomised controlled study compared 20 sessions of group CBT and group IPT for BED (34). The CBT/IPT treatments were 90 minutes weekly and the DBT treatment was for 2 hours weekly. In addition to the group CBT and IPT sessions, one study incorporated 3 individual therapy sessions which addressed goals and progress and were held pre-treatment, mid-treatment and post-treatment (34).

Description of studies comparing psychological interventions with BWLT

Three studies that compared a psychological intervention to BWLT (38-40) were included in the review (see Table 4).

[INSERT TABLE 4 ABOUT HERE]

Two of these studies compared group CBT to BWLT and one study used a 15 week cognitive treatment which aimed to change dysfunctional cognitions regarding shape, weight, dieting, eating and underlying self-schemas (40). In addition to comparing CBT to BWLT, one study examined the effectiveness of an adjunctive IPT treatment for participants who did not respond to CBT within 12 weeks. The participants who responded to the CBT treatment received BWLT (39). This study used a modified version of the Lifestyle, Exercise, Attitudes, Relationships and Nutrition (LEARN) Program for weight management (49). One of the other studies used a BWLT manual produced by a pharmaceutical company (38). The remaining study was not manual-based and the aim of the behavioural treatment was to establish a regular eating pattern of 3 meals a day with snacks, to reduce fat intake and eat between 1500-1800 calories a day (40).

Description of studies combining psychological interventions with other treatments

The remaining four studies included in the review combined psychological interventions with another treatment (see Table 5). All of these studies combined CBT with another treatment that was either a very low calorie diet (VLCD), pharmacological treatment or BWLT.

[INSERT TABLE 5 ABOUT HERE]

Three studies used a sequential design whereby all participants firstly engaged in a weight loss programme and were then randomised to receive CBT (36,44,45). In one study all participants received a VLCD and participated in a dietician-led group which focused on nutritional education, weight loss behavioural strategies and increasing exercise. During the last 10 weeks of this 24 week programme, participants were randomly allocated to receive group CBT for 10 sessions (44). In the remaining two sequential designs all participants received BWLT, which was based on the LEARN programme (49). They were then randomised to receive CBT and an anti-depressant treatment or CBT with placebo/no anti-depressant treatment. Agras and colleagues randomly assigned participants to receive group CBT or group CBT with desipramine, a tricyclic anti-depressant (45). Devlin *et al.* (36) randomised participants to 20 sessions of individual CBT or no individual CBT with fluoxetine or placebo following 16 sessions of BWLT. The final study included in this category was a double-blind RCT. It compared the effectiveness of 16 sessions of individual CBT with fluoxetine or placebo (35). The two studies comparing CBT and fluoxetine (35-36) used the same treatment manual for individual CBT (46).

Impact of treatments on abstinence rates for binge eating

As previously mentioned in the methods section, binge eating abstinence was defined as 'zero objective binges in the preceding 4 weeks'. The abstinence rates for each study were expressed as percentages within the papers and are presented in Tables 3, 4 and 5.

Overall the studies indicated that CBT was effective in the short-term for reducing binge eating and abstinence rates ranged from 37% (37) to 79% (34) and produced average abstinence rates of approximately 50%. No significant differences were found by involving the spouse in treatment or extending group CBT to 24 weeks (37,42). The studies mainly

demonstrated that CBT was effective compared to waiting list control. Agras *et al.* (45) found that CBT was superior to BWLT at 12 weeks as more participants who received CBT were abstinent (67% versus 44% respectively) but this was not maintained at end of treatment. Two studies comparing CBT and fluoxetine found that individual CBT improved binge abstinence more than no CBT and medication (35,36). In contrast, one study demonstrated that a VLCD produced a reduction in binge eating and that 10 sessions of CBT did not improve binge eating abstinence rates (44).

The long term effectiveness of CBT on abstinence rates varied and 4 studies did not include a follow-up period (35,36,39,42). The proportion of participants who received CBT and remained abstinent at follow-up decreased in 3 studies (34,44,45). However, 2 studies indicated that abstinence rates at follow-up increased for participants who completed treatment (37,38). Munsch *et al.* (38) found that CBT was more effective than BWLT at reducing binge eating and this was maintained at 12 month follow-up for individuals who completed treatment. However, the Intention To Treat (ITT) analysis for this study indicted that abstinence levels would have decreased by the follow-up period. Similarly, a study comparing a behavioural treatment with a cognitive treatment found that both treatments resulted in binge abstinence but participants who received the cognitive treatment were more likely to be abstinent at the 6 month follow-up (40).

Two studies included in the review examined the impact of IPT on abstinence rates (34,39). One study examined the effectiveness of adding an additional 12 weeks of group IPT onto a CBT intervention for participants who did not respond to 12 weeks of CBT (39). This study concluded that IPT following 12 weeks of CBT did not improve abstinence rates. In contrast, a larger study directly compared 20 weeks of group CBT with 20 weeks of group IPT and found that IPT and CBT were equally effective at eliminating

binge eating. Furthermore, the abstinence rates for IPT at follow-up were higher than for CBT. However, the difference between the abstinence rates at follow-up was not statistically significant (34).

The review included one study investigating the efficacy of DBT on abstinence rates and found that group DBT was better at reducing binge eating compared to a waiting list control. The DBT treatment produced an abstinence rate of 89% at the end of treatment, which decreased to 56% at the 6 month follow-up.

Impact of treatments for producing clinically significant weight loss

Psychological interventions for BED did not result in statistically or clinically significant weight change during treatment. However, weight loss interventions were more likely to produce statistically significant weight loss. Two studies found that behavioural weight loss treatments produced statistically significant weight loss or significantly reduced BMI (38,40). However, Nauta and colleagues (40) found that weight loss was not maintained at 6 months and participants who had lost weight had regained weight whereas Munsch *et al.* found that weight loss was maintained at 12 months (38).

One study combining CBT with BWLT and an antidepressant medication found that at follow up participants in this condition lost 4.8kg compared to participants in the CBT and BWLT group and although this weight loss was statistically significant it was not clinically significant (45). Only one study produced a clinically significant reduction in body weight post-treatment (44). This study found that participants lost an average of 16kg or 16% of their initial body weight but there were no differences between the group who received a VLCD and group CBT and those participants who received a VLCD only. However, participants regained weight during follow-up and at one year follow-up participants had only maintained an average weight loss of 5.5%. In addition, one study found that by the

12 month follow-up around 20% of participants who received either CBT or IPT had lost more than 5% of their initial body weight by follow-up (34).

Abstinence and clinically significant weight loss

Five studies indicated that abstinence from binge eating was associated with weight loss (34-36,39,45). Four studies demonstrated that abstinence resulted in a statistically, but not clinically significant reduction in weight and participants lost between 4.1kg and 6.2kg. In one study abstinence from binge eating was associated with a 92% probability of weight loss and early abstinence facilitated weight loss (45). Furthermore, one study showed that participants who did not abstain from binge eating gained an average of 2.1kg by 12 month follow-up (34). Similarly, an interesting finding was that weight increased by 4.1kg in the a control group over 24 weeks, suggesting that BED, if left untreated will lead to continued weight gain (39).

Discussion

The present systematic review aimed to synthesise the current available evidence regarding therapist-delivered psychological interventions for obese participants with BED. The main findings, implications for future research and clinical practice and the limitations of the review will be discussed in this section.

Main findings of the review

The main findings of this review suggest that there is some evidence for the efficacy of CBT in reducing binge eating in obese participants. The evidence suggests that CBT in the short-term is effective at reducing binge eating. Nevertheless, the long-term evidence is conflicting but suggests that abstinence rates decrease by follow-up, in studies that include a follow-up period. There is no evidence that CBT in itself produces statistically

significant or clinically significant weight loss post-treatment, although those who become abstinent achieve statistically significant weight loss. Unsurprisingly, behavioural weight loss interventions were more likely to result in weight loss. However, it was disappointing that none of the BWLT studies reviewed produced a clinically significant weight loss. The only study which resulted in a clinically significant weight loss was a VLCD study and participants had re-gained most of the weight that they had lost by the one year follow-up. Unfortunately this is quite common as the evidence consistently shows that despite initial successful weight loss, participants often fail to achieve long-term maintenance and begin to re-gain some of the weight lost within 1 year (50).

The evidence for psychological interventions other than CBT, specifically IPT and DBT is limited due to the small number of studies. However, it would appear that they are both promising treatments for BED as they achieved high abstinence rates (73% and 89% respectively) post-treatment. Furthermore, one study did demonstrate that IPT was equally effective as CBT and produced a clinically significant weight loss by the 12 month follow-up (34).

The CBT studies reviewed suggest that only around 50% of participants benefit from the intervention and it may be worthwhile considering alternative interventions even though CBT is regarded as the treatment of choice for BED (24). Furthermore, CBT for BED may not be appropriate for obese persons as it does not produce weight loss. Clinically significant weight loss of at least 5% can have health benefits and it is essential for treatments to be effective at reducing weight in order to reduce obesity related co-morbidities and the impact on the National Health Service. It has been estimated that in 1998 around £9.5 million was spent on treating obesity itself and a further £386 million was spent treating diseases attributable to obesity such as hypertension, coronary heart disease and type II diabetes (51).

Howard & Porzelius (52) proposed that obese binge eaters overeat because they have lost their sensitivity to internal hunger cues. It is possible that mindfulness based approaches such as those incorporated into DBT treatments may be beneficial for BED. However, the empirical support for Mindfulness-Based Cognitive Therapy (MBCT) adapted for BED such as Mindfulness-Based Eating Awareness Training (MB-EAT) is preliminary and tends to be case studies/uncontrolled research (53).

Limitations of the systematic review

The current review has a number of limitations. Firstly, the study focused on two outcomes, specifically abstinence from binge eating and clinically significant weight change. These were chosen as markers of successful treatments for obese participants with BED. However, it is acknowledged that BED treatments can also improve eating and weight related pathology and psychological distress. Secondly, the review relied on obese samples which limit the generalisability of the findings to non-obese individuals with BED. However, Brownley *et al.* (23) did not limit the literature reviewed to individuals with BED who were overweight or obese and found that the majority of studies about BED investigated this population. Thirdly, the quality assessment instrument was designed for the purpose of the review and although it was based on existing quality instruments, its reliability and validity was not assessed. Finally, the review could be left susceptible to publication bias as only published studies in the English language were reviewed. Despite these limitations, the review provides a number of implications for future research and clinical practice.

Implications for future research

There is a need for an increased number of well-designed studies and larger scale randomised controlled trials comparing the effectiveness of CBT, IPT, DBT and

mindfulness-based approaches to each other in addition to waiting list controls in order to investigate treatment specificity.

The review highlighted that it remains unclear in the literature as to how to best define an objective binge because 'an unusually large amount of food' would be based on an individual's interpretation of social norms. It may be that labelling binge episodes in BED is problematic as the binge episodes are not terminated by purging as in BN. Therefore, it may be appropriate for future studies to use multiple methods to assess binge frequency and incorporate the 'gold standard' EDE and a self-monitoring daily record of eating behaviours.

The systematic review indicated that the quality of studies included was variable and the studies had a number of strengths and weaknesses (presented in Appendix 1.3). Any new studies in this area should pay particular attention to the following aspects of study design:

- power calculations to ensure sufficient power;
- appropriate recruitment e.g. consecutive referrals rather than use of volunteers recruited through media advertisements;
- clarification of the method of randomisation for RCTs;
- classification of obesity using the WHO categorisation (i.e. BMI $\geq$ 30);
- emphasis on clinically significant weight loss ($\geq$ 5% baseline weight);
- standardisation of length of treatment/number of sessions;
- appropriate intention-to-treat analysis;
- adequate follow-up, both in terms of the numbers of recruited participants and the duration of follow-up.

The review raises a number of interesting implications for clinical practice and indicates that BED is a prevalent clinical problem which should be recognised in obesity treatment guidelines (i.e. SIGN and NICE). The findings of the review suggest that treating binge eating alone is not a sufficient treatment for obese individuals with BED. Although CBT is perceived as the treatment of choice for BED, less than 50% of participants achieve binge abstinence, which suggests that CBT is not sufficient for breaking the binge eating cycle for most obese participants. Furthermore, the review raises the question of whether the most appropriate clinical management is to treat BED first and then address weight loss (39) or whether treating obesity will consequently reduce binge eating (44). Previous research has indicated that obese binge eaters respond equally as well as non-binge eaters to a low calorie diet in combination with a structured behavioural treatment (54).

It may also be appropriate to assess for the severity of binge eating and to tailor the intervention accordingly (55). Furthermore, Douketis and colleagues (56) argue that there is insufficient evidence to recommend weight loss therapy for obese individuals without obesity-related co-morbidities. It may therefore be beneficial to assess for the presence of obesity-related co-morbidities when treating obese individuals with BED and decide on the basis of the above evidence whether a weight loss or a BED intervention would be most appropriate.

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Table 1 Inclusion & exclusion criteria

Category	Inclusion Criteria	Exclusion Criteria
Study Population	Adults (18 years and over)	Participants aged under 18 years old
	Obese participants meeting diagnosis of BED defined by diagnostic criteria	Non-overweight/obese participants with diagnosis of non-purging bulimia, bulimia nervosa, anorexia nervosa or EDNOS
Type of Study	Randomised controlled trials, controlled clinical trials, non-randomised trials, controlled before-and-after studies	Study designs lacking a control/comparison group, cohort studies, observational studies, cross-sectional studies, case studies, qualitative studies
Intervention	Psychological intervention or behavioural weight loss treatment/pharmacological treatment compared with a psychological intervention	Diet-only or behavioural weight loss-only or pharmacological-only interventions
		Self-help/guided self help interventions
Publications	Journal articles published between 1990-2008	Articles published before 1990
	English Language	Reviews, dissertation abstracts, conference abstracts, poster presentations/abstracts, expert opinions or grey literature
Outcome measures	Binge eating abstinence Weight	All other outcome measures

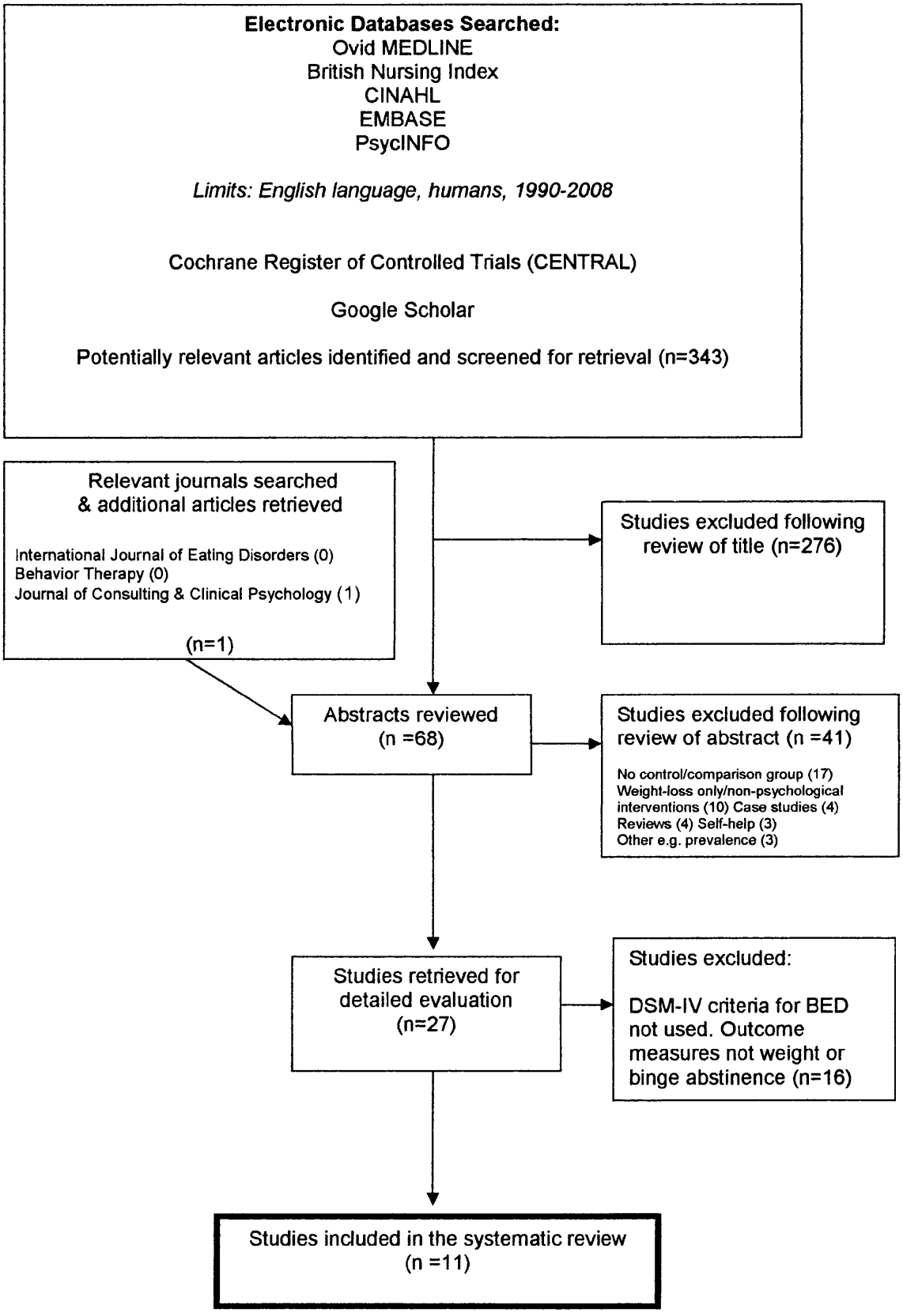

Figure 1: Article Selection Process

Table 2 Quality Criteria Ratings of the Included Studies

	Wilfley *et al.* (2002)	Grilo *et al.* (2005)	Devlin *et al.* (2005)	Munsch *et al.* (2007)	Gorin *et al.* (2003)	Telch *et al.* (2001)	De Zwaan *et al.* (2005)	Agras *et al.* (1995)	Agras *et al.* (1994)	Nauta *et al.* (2000)	Eldredge *et al.* (1997)
Rationale	2	2	2	2	2	2	2	2	2	2	2
Sample	8	7	6	6	7	6	6	5	6	5	3
Procedures	3	5	3	3	3	2	1	3	2	1	3
Assessment	4	3	4	3	3	3	4	3	3	4	3
Treatment	5	4	5	5	3	4	2	2	3	2	2
Analysis	4	4	4	4	5	3	5	4	2	3	3
Total	26 (81%)	25 (78%)	24 (75%)	23 (71%)	23 (71%)	20 (62%)	20 (62%)	19 (59%)	18 (56%)	17 (53%)	16 (50%)
Quality Rating	Good	Good	Good	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate

Table 3 Psychological Interventions for Binge Eating Disorder

Study	Sample Characteristics	Intervention	% Drop-out	% BED Subjects Abstinent after Treatment (0 binges in preceding 4 weeks)		Key Findings
				Post-treatment	Follow-up	
Eldredge *et al.* (1997) USA	46 participants (44 female, 2 male) Mean age 45.2±9.8 Obese (mean BMI 38.4±9.5)	Group CBT 12 weeks & CBT (initial treatment non-responders) 24 weeks (treatment n=36)	19.4% (n=7)	66% (n=24)	---	Following 12 weeks of CBT 50% of participants were abstinent. Extending CBT to 24 weeks did not produce a statistically significant reduction in binge eating. Overall 66% participants were abstinent following CBT treatment compared to waiting list control. CBT treatment did not produce any statistically significant changes in BMI.
		Waiting-list control (n=10)	20% (n=2)	---	---	
Telch *et al.* (2001) USA	44 female participants 18-65 (mean 50±9.1) Obese (mean BMI 36.4±6.6)	Group DBT (n=22) 20 weeks	18% (n=4)	89% (n=16)	56% (6 months)	Group DBT was better at eliminating binge eating compared to no treatment and 56% of DBT participants remained abstinent at 6 month follow-up. Weight loss during treatment was not statistically significant (2.5kg).
		Waiting-list control (n=22)	27% (n=6)	12.5% (n=2)	---	
Wilfley *et al.* (2002) USA	162 participants (134 female, 28 male) Aged 18-65 (mean 45.6±9.6) Obese (mean 37.4±5.1)	Group CBT (n=81) 20 weeks	11.1% (n=9)	79% (n=64)	59% (12 months)	IPT & CBT were equally effective at eliminating binge eating. Statistically significant weight loss by 12 month follow-up for abstainers. Abstainers lost 2.4kg by 12 month follow-up. Non-abstainers gained 2.1kg by follow-up.
		Group IPT (n=81) 20 weeks	8.6% (n=7)	73% (n=59)	62% (12 months)	
Gorin *et al.* (2003) USA	94 female participants 18-65 (mean 45.20±10.03) Obese (mean 39.42±7.72)	Waiting-list control (n=31)	34% (n=32) total sample	9% (n=3)	---	CBT was more effective at reducing binge eating compared to waiting list control (37% receiving CBT were abstinent post-treatment). No significant difference found by involving spouse in treatment. BMI reduced for participants (CBT 0.89kg/m^2) (CBT Spouse 0.77kg/m^2) but this reduction was not statistically significant.
		Group CBT (n=32) 12 weeks		29% (n=9)	47% (6 months)	
		Group CBT with spouse (n=31) 12 weeks		46% (n=14)	52% (6 months)	

Table 4 Psychological Interventions Compared with Behavioural Weight Loss Treatment (BWLT)

Study	Sample Characteristics	Intervention	% Drop-out of Active Treatment	% BED Subjects Abstinent after Treatment (0 binges in preceding 4 weeks)		Key Findings
				Post-treatment	Follow-up	
Agras *et al.* (1995) USA	50 participants (43 female, 7 male) Aged 24-65 (mean 47.6±10.1) Obese (mean BMI 37.1±7.3)	Group CBT + BWLT 24 weeks Group CBT + IPT (initial treatment non-responders) 24 weeks (treatment n=39) Waiting-list control (n=11)	14.3 (n=5) 9% (n=1)	55% (n=21) 9% (n=1)	--- --- ---	Following 12 weeks of CBT 55% of participants were abstinent and received BWLT. By the end of 24 weeks treatment no participant in this group met criteria for BED and had lost 4.1kg. Participants who did not respond to CBT received 12 weeks IPT. Binge eating and weight increased (0.6kg) in this group but changes were not significant. IPT following CBT did not produce any significant change in abstinence or weight loss.
Nauta *et al.* (2000) The Netherlands	74 female participants (37 binge eaters) Aged 21-49 (mean 38.3±7.1) Obese (mean BMI 33.1±4.3)	Behavioural Treatment (BT) Group (binge eaters n=16) 15 weeks Cognitive Treatment (CT) Group (binge eaters n=21) 15 weeks	19% (n=3) 14.% (n=3)	44% (n=7) 67% (n=14)	44% (6 months) 86% (6 months)	Both treatments resulted in binge abstinence but participants who received CT were more likely to be abstinent at 6 months follow-up. BT was more effective for weight loss as participants lost 5.5kg (CT = 0.8kg). Weight loss was not maintained at 6 months and participants who lost weight had gained weight.
Munsch *et al.* (2007) Switzerland	80 participants (71 female, 9 male) Aged 18-70 (mean age 46.1±11.6) Obese (mean BMI 34±3.7)	Group CBT (n=44) 16 weeks Group BWLT (n=36) 16 weeks	29.5% (n=13) 25% (n=9)	Completer 80% (n=25) ITT 41% (n=18) Completer 36% (n=22) ITT 58% (n=21)	Completer 94% ITT 52% (12 months) Completer 89% ITT 50% (12 months)	CBT and BWLT were both effective at reducing binge eating and this was maintained at 12 month follow-up. CBT was more effective for those who completed treatment compared to BWLT. BWLT significantly reduced BMI post-treatment (1.28kg/m^2) compared to CBT (0.04kg/m^2). Weight loss was maintained at 12 months.

Table 5 Psychological Interventions Combined with Other Treatments

Study	Sample Characteristics	Intervention	% Drop-out of Active Treatment	% BED Subjects Abstinent after Treatment (0 binges in preceding 4 weeks)		Key Findings
				Post-treatment	Follow-up	
De Zwaan *et al.*(2005) Germany	71 females Aged 22-55 (mean age 39.3) Obese (mean BMI 36.1)	VLCD + Group BT+ Group CBT 24 weeks (n=36)	5.5% (n=2)	58.3% (n=21)	33.4% (12 months)	10 sessions of CBT added to VLCD did not improve binge eating abstinence rates. VLCD produced a reduction in binge eating and weight. Participants lost average 16kg/ 16% of initial body weight.
		VLCD+ Group BT 24 weeks (n=35)	20% (n=7)	74.3% (n=26)	32.3% (12 months)	
Agras *et al.* (1994) USA	109 females Aged 25-65 (mean 45±10) Obese (mean BMI 38.6±6.6)	Group BWLT (n=37)	27% (n=10)	19% (n=5)	14% (3 months)	Weight loss for 3 groups was not statistically significant post-treatment. At 3 month follow-up CBT+BWLT+D group had lost more weight than CBT+BWLT group (4.8kg). Abstinence from binge eating associated with weight loss (mean 6.2kg) but was not maintained at follow-up.
		Group CBT + Group BWLT (n=36)	17% (n=6)	37% (n=11)	28% (3 months)	
		Group CBT+ Group BWLT+ desipramine (n=36) (CBT+BWLT+D)	23% (n=8)	41% (n=12)	32% (3 months)	
Devlin *et al.* (2005) USA	116 participants (90 female, 26 male) Mean age 43±12 Obese (mean BMI40±7	CBT+ Fluoxetine (n=28)	32% (n=17) CBT treatment	CBT 62% (n=33)	---	All participants received 16 sessions BWLT prior to randomisation to 20 weeks individual CBT or medication only group. CBT significantly improved binge abstinence rates compared to no CBT. Abstinence was associated with weight loss (mean 6.2kg).
		CBT + placebo (n=25)				
		Fluoxetine (n=32)	40% (n=25) medication/placebo	No CBT 33% (n=21)	---	
		Placebo (n=31)			---	
Grilo *et al.* (2005) USA	108 participants (84 female, 24 male) Aged 21-59 (mean 44.0±8.6) Obese (mean BMI 36.3±7.9)	Fluoxetine (n=27) 16 weeks	22.2% (n=6)	29% (n=6)	---	Individual CBT plus placebo and CBT plus fluoxetine were not statistically different. CBT was found to be superior to both fluoxetine and placebo at reducing binge eating. Participants who received individual CBT and became abstinent achieved statistically significant reductions in BMI (1.3kg/m^2).
		Placebo (n=27) 16 weeks	14.8% (n=4)	30% (n=7)	---	
		CBT + Fluoxetine (n=26) 16 weeks	23% (n=6)	55% (n=11)	---	
		CBT +Placebo (n=28) 16 weeks	21.4% (n=6)	73% (n=16)	---	

CHAPTER TWO: MAJOR RESEARCH PROJECT PAPER

Experiences of Binge Eating Among Clients Attending a Weight Management Service

Mary R. Cawley[1*]

[1]University of Glasgow, Section of Psychological Medicine

*Address for Correspondence
Section of Psychological Medicine
Division of Community Based Sciences
University of Glasgow
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow
G12 0XH
E-mail: marycawley@nhs.net

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Prepared in accordance with the requirements for submission to the *British Journal of Health Psychology* (see Appendix 2.1)

Objectives: Binge Eating Disorder (BED) is prevalent in individuals with morbid obesity and it can impact on weight loss treatment outcomes. This study used Leventhal's self-regulatory model of illness behaviour as a framework for eight semi-structured interviews in order to gain an insight into participants' experiences of obesity and binge eating.

Design: Interpretative Phenomenological Analysis (IPA) was used to explore participants' experiences of obesity and binge eating in a small sample of participants attending a weight managment service.

Methods: Semi-structured interviews were conducted with eight participants who had BED and were attending a specialist weight management service for weight loss treatment. The interview transcripts were analysed using IPA.

Results: Two superordinate themes emerged from the analysis and an analytic narrative was constructed under the headings 'struggle with weight loss' and 'standing in the way of control.' The concept of control was central to both of the emergent themes as the participants perceived a lack of control over their eating and their ability to lose weight.

Conclusions: The results revealed that there was a complex and cyclical relationship between weight loss attempts and binge eating. A number of implications for clinical practice and future research are outlined.

Obesity is a major cause of morbidity and mortality and is regarded as a significant public health problem. It is characterised by excess adipose tissue and is defined by a Body Mass Index (BMI) of at least 30kg/m^2 (World Health Organization, 2000). Research has demonstrated that obesity is associated with increased mortality from cardiovascular disease and obesity-related cancers such as breast, oesophageal, ovarian, kidney and pancreatic cancers (Flegal, Graubard, Williamson & Gail, 2007). Obesity has a profound effect on morbidity and there is strong evidence of its association with co-morbidities such as cardiovascular disease and type II diabetes (Visscher & Seidell, 2001). Furthermore, obesity is associated with Binge Eating Disorder (Yanovski, 2003).

Binge eating was first observed as a distinct eating pattern in some obese individuals by Albert Stunkard in 1959 and the criteria for Binge Eating Disorder (BED) are included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) as a diagnostic category in need of further study (Allison, Grilo, Masheb & Stunkard, 2005). BED is characterised by recurrent binge eating (overeating accompanied by a perceived loss of control, occurring on average at least twice weekly for 6 months) and marked distress. Binge episodes may be associated with eating rapidly, eating until uncomfortably full, eating large amounts in the absence of hunger, eating alone due to embarrassment and feeling disgusted, depressed or guilty after overeating (American Psychiatric Association, 2000). The severity of binge eating is positively associated with BMI and it is more prevalent in individuals with severe or morbid obesity (BMI $\geq$ 40kg/m^2) (Picot & Lilenfeld, 2003).

It is estimated that approximately 30% of people attending a specialist obesity clinic for treatment will meet diagnostic criteria for BED (Spitzer *et al.*, 1993). BED can impact

upon quality of life in obese individuals seeking weight loss treatment (Rieger, Wilfley, Stein, & Crow, 2005). It has been shown that anxiety and depression are common in obese individuals attending specialist weight management clinics (Tuthill, Slawik, O'Rahilly & Finer, 2006). In addition, a recent study found that 17% of obese individuals seeking weight loss treatment met diagnostic criteria for both BED and major depressive disorder and that the presence of both of these conditions resulted in worse treatment outcomes (Pagoto *et al.,* 2007).

Two main theories have been proposed regarding the aetiology and maintenance of binge eating; dietary restraint and negative affect. Dietary restraint models suggest that binge eating occurs in response to over-concern about weight and shape, which leads to attempts to restrict food or "diet" (Fairburn & Cooper, 1989). Polivy & Herman (1991) defined dieting as "the act of replacing internally regulated (hunger-driven) eating with planned, cognitively determined diet-approved eating or dietary restraint" (p97). Affect models of binge eating suggest that negative affect is a trigger for binge eating and that it acts as a maladaptive strategy for reducing distress (Telch, Agras & Linehan, 2000). There is some empirical support for the association between negative affect and binge eating (Henderson & Huon, 2002; Whiteside *et al.,* 2007).

Weight loss interventions for obesity encourage a self-management approach and tend to focus on changing health-related behaviours such as diet and physical activity levels (Ogden & Sidhu, 2006). Illness perceptions can predict health-related behaviours and it has been shown that obesity-related beliefs at the start of a dietary intervention are predictive of weight loss (Wamsteker *et al.,* 2005). Leventhal, Meyer & Nerenz (1980) conducted interviews with patients with a chronic illness to understand how they made sense of their

illness. These illness cognitions were incorporated into Leventhal's self-regulatory model of illness behaviour.

Social cognitive models such as Leventhal's self-regulatory model of illness behaviour provide a theoretical framework for understanding illness behaviour and adherence to self-management approaches (Hagger & Orbell, 2003). Leventhal's self-regulatory model of illness behaviour proposes that people construct cognitive representations of an illness or disease in order to understand and cope with it. The coping strategies that people select and carry out are chosen on the basis of the individual's representation of the problem and their appraisals of coping (Leventhal, Leventhal & Contrada, 1998).

The model has previously been used as a framework to understand self-management behaviour in studies about a number of chronic illnesses including diabetes, coronary heart disease, breast cancer and rhuematoid arthritis (Byrne, Walsh & Murphy, 2005; Michie, O'Connor, Bath, Giles & Earll, 2005; Hunter, Grunfeld & Ramirez, 2003; Carlisle, Fife-Schaw & Lloyd, 2005). In addition, a handful of qualitative studies employing Interpretative Phenomenological Analysis (IPA) have used Leventhal's self-regulatory model of illness behaviour as a framework for exploring illness representations about cardiac rehabilitation, cystic fibrosis, brain injury and non-epileptic seizures (Wyer, Earll, Jospeh & Harrison, 2001; Swift & Wilson, 2001; Chapman & Bilton, 2004; Green, Payne & Barnitt, 2004).

There is insufficient qualitative research exploring the psychological aspects of binge eating and obesity (Seamoore, Buckroyd & Stott, 2006). Qualitative methods are useful when the research is novel or when the issues being studied are complex (Smith, Michie, Stephenson & Quarrell, 2002). Qualitative methods are concerned with meaning, sense-

making and subjective experience rather than pre-conceived variables (Willig, 2001). The small number of qualitative studies about obesity that have been conducted have explored triggers for weight loss, barriers to weight loss, experiences of weight gain in middle age, experiences of surgery and taking obesity medication (Tod, 2004; Murtagh, Dixey & Rudolf, 2006; Ziebland, Robertson, Jay & Neil, 2002; Ogden, Clementi & Aylwin, 2006; Ogden & Sidhu, 2006). Furthermore, there is a dearth of qualitative studies about binge eating disorder in the literature. Studies that have been conducted have explored GPs' awareness and knowledge of BED (Henderson, May & Chew-Graham, 2003) and changes in eating behaviour following group therapy (Seamoore *et al.*, 2006).

IPA involves an inductive approach and as a result the study had no predetermined hypothesis (Smith & Osborn, 2003). The current study used Leventhal's self-regulatory model of illness behaviour to inform the content of the inteview topic guide for the semi-structured interviews. Although a number of possible interpretative frameworks exist, the model was employed as one potential interpretative framework and the study aimed to gain a deeper understanding of participants' experiences of obesity and binge eating and to explore the meanings that they attach to these two conditions. IPA was used to analyse the experiences of eight individuals with binge eating disorder who were attending for treatment at a weight management service.

Method

Rationale

The study aimed to explore participants' experiences of obesity and binge eating and as such it was appropriate to use a qualitative approach. Hakim (2000) describes qualitative research as "a direct window on the lives of the participants" because it is concerned with individuals' accounts of their experiences (p34). Although qualitative data can be generated in a number of ways including case studies, in-depth interviews and focus groups (Pope &

Mays, 2000), semi-structured interviews were chosen as the method of data generation for the current study. Semi-structured interviews are commonly used in health care settings and are an effective way to elicit individuals' accounts of their experiences. In addition, they enable the researcher to follow up on interesting and important issues that arise during the interview (Smith, 2004).

The study used Leventhal's self-regulatory model of illness behaviour as a framework for the semi-structured interviews. A variety of qualitative approaches exist including grounded theory, discourse analysis & IPA. These qualitative approaches are underpinned by different, yet overlapping, epistemological, theoretical and methodological standpoints (Smith, 2004). Although IPA and grounded theory share many features in the sense that both aim to explore participants' experiences and have a similar systematic data analysis process, grounded theory was developed to explore social processes and it is best suited to addressing sociological research questions and as a result it was not deemed appropriate (Willig, 2001). In contrast, IPA is specifically a psychological method and aims to contribute to the existing psychological literature (Smith, 2004). IPA and discourse analysis (DA) are both psychological methods which involve qualitative analysis. However, DA was not chosen for the study as it focuses on how language is constructed and is grounded within social constructionism. It is not concerned with attempting to understand the meanings that individuals attach to their experiences (Smith, 1996).

IPA was chosen as the most suitable qualitative approach for the study as it is concerned with understanding what participants think or believe about a particular topic (Smith, Jarman & Osborn, 1999). Accessing cognitions and meaning is central to IPA and it is epistemologically rooted in phenomenology, hermeneutics and idiography (Smith & Eatough, 2007). IPA aims to explore in depth how people make sense of their personal and social world and the meanings that they attach to their experiences. At the same time

IPA recognises the role of the researcher and acknowledges that the interpretation of the participant's experience is dependent on the researcher's own conceptions and experiences; thus, IPA is also underpinned by symbolic interactionism (Smith, 1996).

IPA has been criticised for its focus on cognition and it has been argued that it is not truly phenomenological for this reason and that it should remain focused on understanding the meaning of experience rather than cognition (Langdridge, 2007). However, IPA was chosen for the current study as it is commonly used within Health Psychology and it is suited to exploring participants' experiences and the meanings they attach to these experiences.

Ethical Issues

Prior to the study commencing, ethical approval was gained from a Local Research Ethics Committee (see Appendix 2.2) and ethical practice was informed by The British Psychological Society (BPS) Code of Ethics & Conduct (2006). Issues which were pertinent to the study included informed consent, participants' right to withdraw from the interview at any stage, anonymity and protecting confidentiality. All of the participants were provided with an information sheet, which informed them of the purpose of the study and what would be involved if they decided to take part (see Appendix 2.3). Participants were informed that the interview would be recorded and transcribed and consent was obtained prior to the start of the interview. Throughout the interview it was emphasised that questions did not have to be answered and participants' non-verbal cues (e.g. tone of voice and body language) were used to assess their reactions to questions. The study was emotive for some participants and one interview was terminated early by the researcher as the participant was tearful throughout the interview, although she acknowledged that she had found it cathartic to speak to a stranger about her experiences. With the participant's

consent, her clinical psychologist was informed and care was taken to ensure that she was in a positive frame of mind before leaving the clinic to meet a friend.

Participants

IPA is an idiographic method and as a result small samples are the norm within IPA studies (Smith & Osborn, 2003). The sample was purposively selected and was broadly homogeneous as all participants were obese, attending the weight management service for treatment and met criteria for BED. BED is assessed as part of routine clinical practice within the weight management service (see Appendix 2.4 for the service referral criteria). The clinical psychologists were best placed and the most suitably qualified to identify potential participants. Potential participants meeting criteria for BED were given information about the study in a sealed envelope following their appointment with a clinical psychologist. They were then invited to read the information and return their contact details to the researcher who contacted them to arrange an interview. Ten participants were recruited from the weight management service, although 2 possible interviewees were unable to attend due to work commitments. As a result, eight interviews were conducted. All of the participants were morbidly obese and were attending for weight loss treatment at the hospital outpatient clinic. Seven females and 1 male, who were all White Scottish and aged approximately 35-60 years old, took part in the study, which broadly reflects the demographics of clients attending the weight management service. There is limited information about the participants' demographics as this data was not available due to the recruitment process, as the clinical psychologists identified potential interview participants.

Interview Procedure

Leventhal's self-regulatory model was used as a framework for the semi-structured interview schedule. Open-ended questions were used to elicit participants' reasons for attending the weight management service, previous attempts at weight loss and whether they had previously sought help for difficulties with eating. The semi-structured interview schedule was flexible and its main purpose was to guide the interview and it did not control the direction of the discussion. The participants were involved in directing the content of the interview and discussed their own salient concerns, which introduced the researcher to a number of new issues (Smith & Osborn, 2003).

The interviews took place in a private room within the weight management service. This location was chosen as participants were familiar with the environment as they had all previously attended for an appointment with a clinical psychologist. The participants were invited to attend for an interview during the afternoon or evening. Five interviews were conducted during the evening to ensure as much flexibility as possible for participants who were working during the day. The evening interviews took place whilst weight management clinics were running in order to comply with health and safety requirements. The interviews lasted for around 1 hour except for one interview which lasted for 38 minutes. All of the interviews were recorded using a digital recorder and were transcribed by the researcher. Identifying information was removed from the transcripts and participants were assigned a pseudonym to maintain anonymity.

Analysis

The analysis was guided by the emergent interview themes rather than by Leventhal's model in order to avoid imposing constraints on the analysis. Although IPA is not a prescriptive approach, a method of analysis has been outlined by Smith *et al.* (1999). In

accordance with this method, individual transcripts were repeatedly read and comments, notes and emerging themes were documented in the margins of the transcripts. Each transcript was analysed individually and connections were sought between the emerging themes. Analysis was an iterative and cyclical process and some emergent themes were dropped as the analysis continued whereas others were grouped into clusters to form superordinate themes. The analysis also involved looking for shared themes between the transcripts and searching for patterns, connections and tensions.

An individual summary sheet was constructed for each interview which summarised the main superordinate themes and sub-themes. These summary sheets were used to generate a master table of themes and the table contained instances of where the themes occured in the transcripts and relevant information such as key words, page and line numbers (Smith *et al.*, 1999).

Analysis was a systematic and rigorous process and notes were kept to aid the conceptual development of the themes. In keeping with IPA, no formal inter-rater reliability checks were carried out but an 'independent audit' was used (Hunt & Smith, 2004; Eatough & Smith, 2006). An independent researcher coded a sub-set of transcripts and the themes were discussed to ensure that the analysis was supported by the data and that the themes represented the participants' accounts.

Results

Participants were able to articulate and reflect on their experiences during the interviews and several recurrent themes emerged from the analysis. Two discrete but inter-related superordinate themes, which encapsulated the participants lived experiences of attempting to lose weight and binge eating, are presented. The findings are discussed and presented under the main themes: 'Struggle with weight loss' and 'Standing in the way of control.'

An analytic narrative was constructed and extracts from the transcripts are presented to illustrate the themes (Storey, 2007). All of the participants were given a pseudonym to protect their anonymity. Extracts taken from the interviews are clearly labelled and the page and line numbers are given in square brackets.

Struggle with Weight Loss

This superordinate theme comprised of three sub-themes, which were consistent with the struggle to lose weight. These sub-themes were *'I'm just fed up being fat,' 'I know how to diet, I just can't keep it off'* and *'I just seem to be stuck and I need somebody's help.'*

The experience of trying to lose weight was a shared experience for the participants and weight cycling – losing and regaining weight – was a common occurrence. The majority of the participants had been overweight for most of their lives and they generally perceived that losing weight became more difficult as they aged. A number of the female participants had vivid memories of attending slimming clubs with their mothers prior to starting primary school, as illustrated by Daniella's account below:

"My mum is the diet queen and always has been. I mean I remember going to Weight Watchers before I was even at school. I was Scotland's youngest slimmer when I was four. I was in the Sunday Post and I can't remember anything about it but we've got the clipping so I've always been on a diet for as long as I can remember. My sister and brother were just super-skinny so they could eat what they liked erm and she was always watching what I ate and being on diets and restricting my sweetie intake" [Daniella, Pg 3, Ln 87].

Daniella was almost 40 years old and had been attempting to lose weight for over 30 years. She appeared to perceive her mother as an expert at dieting by referring to her as 'the diet queen.' During the interview, Daniella revealed that her mother also had a history of

weight cycling and it could be that her mother's preoccupation with weight and dieting resulted in her restricting Daniella's food intake and encouraging her to become a successful slimmer at such a young age. Alternatively, it could interpreted that as an overweight mother she wanted to protect Daniella from also becoming an overweight adult, which is why she may have monitored her food intake.

All of the participants described a desire to be healthy as their main motivation for losing weight and they were knowledgeable about the health implications of obesity. For example, Colin's comment demonstrates that he is aware that being obese is unhealthy and that it can impact upon longevity:

"People keep kidding themselves on that fat is healthy but it isnae. If you're fat you're unhealthy... When I read about these people who talk about fat rights I think what fat rights? If you don't lose the weight you're going to die young" [Colin, Pg 2, Ln 32].

Gillian described both her own fears and her parents' worries that she may develop diabetes or die within the next 5 years as a result of being obese:

"The only thing I've not took yet is diabetes well so far so I'm getting kinda oh God I'll need tae do something quick or as that wee book [weight management service book] says 5 years time I might no be here.....it terrifies me, that's how my mum and dad don't understand why I don't control my eating because it terrifies me the thought of dying through illness or something and they cannae understand why I don't lose weight" [Gillian, Pg 4, Ln 106].

The participants often conveyed a sense of disappointment that weight loss was something that they were constantly pre-occupied with striving to achieve but it was unobtainable:

"I think it's the amount [of weight] that has to be lost and that's the depressing thing, the struggle and it's always there. It's a problem that you look at first thing in the morning when you go into the shower and go onto the scales and it kind of takes over and I think it becomes a major part of your life as it's always there and it's like I need to get this weight down" [Eleanor, Pg 14, Ln 438].

'I'm just fed up being fat'

The sense of disappointment expressed by Eleanor above was at the core of the sub-theme *'I'm just fed up being fat.'* The participants frequently articulated it as a reason for their decision to attend the weight management service and approaching age milestones often acted as a motivating factor:

"I'm getting to middle age and I'm nearly 40 and I don't want to be 40 and fat... I don't want to be fat all my life because I've always been heavy and I just think oh (sighs) and at some point I need to lose it you know because I'm just fed up being fat"
[Daniella, Pg 2, Ln 32].

Hazel, one of the female participants who attended slimming clubs with her mother before primary school age, experienced a number of health problems including polycystic ovary syndrome and type II diabetes. She expressed her frustration and a sense of loss about spending many years trying to lose weight. In addition, she wanted to lose weight to improve her health problems:

"I'm at the end of my tether with the whole being fat thing. I'm done. I've wasted my whole youth doing this, waiting for the day where there's this great revelation and people do lose weight and their problems are still there...My problem is I'm fat and it's having an effect

*on **everything** (her emphasis) and my problems will be solved mostly by losing weight" [Hazel, Pg 14, Ln 433].*

'I know how to diet, I just can't keep it off...'

Weight cycling was a common experience for the participants and they had used a number of 'quick fix' strategies including slimming pills, 'fad' diets and slimming clubs. On the whole, it appeared that large amounts of weight were lost in short time periods and the participants experienced difficulties attempting to maintain the weight that they lost. For example, Freya acknowledged that she had spent a lot of money on diet paraphernalia whilst attempting to lose weight and viewed her main difficulty as being unable to maintain the weight loss:

"They all keep saying to me you know how to diet erm but I don't know how to keep it off you know a diet doesn't work anymore erm I could run a slimming club with what I've spent on books and magazines and diets" [Freya, Pg 1, Ln 9].

Participants often described losing weight and subsequently re-gaining more weight. There was a sense from the participants that weight loss attempts were futile and resulted in a feeling of exasperation:

"I'm heavier now than I was. I lost a lot of weight on the Atkins diet which was about 4 years ago and I lost about 5, $5^{1}/_{2}$ stone and I did I lost a lot of weight but then it all went back on and I'm heavier now than before I bloody started" [Hazel, Pg 3, Ln 80].

Alice's experience was in contrast to the other participants as she had previously lost 7 ½ stones over a 3 year period whilst attending a slimming club regularly. However, despite

losing the weight gradually she had also been unable to maintain the weight loss. She expressed her regret at having to start the process again and conveyed a sense of hopelessness regarding the prospect of trying to lose weight:

"I lost a lot of weight and then I started putting it all back on again ehm and then before I knew it, it's all back to square one again. I feel that it was someone different, that it wasn't actually me that lost the weight (voice starts to quiver)...It seems now that it all came off without me even really trying but I know at the time I worked really hard but now I look back and think it seemed so easy and I just can't seem to get that motivation"
[Alice, Pg 4, Ln 118].

Alice's reflection appears to suggest that she perceived her previous weight loss attempt as effortless and the weight re-gain as something that she had no control over. The participants often appeared to view the weight re-gain as instantaneous. For example, Colin's use of the word 'bang' and clicking his fingers suggests that he re-gained the weight quickly and that it was instant. However, there is a tension within his narrative as he simultaneously acknowledges that he re-gained weight because he reduced his activity levels and increased his food intake:

"Five years ago I weighed the same as I am just now. I then lost 5 stones in 6 months and then kept it at around 14 stone right, well 13 stone 8, then 14 stone. And it was great and I was going to the gym and all that sort of thing and then I just got lazy and cocky and bang (clicks fingers) I put it all back on again. I stopped going to the gym for a while and all that but I started eating the same amount of food as I was before and it all just went back on again and basically it just went downhill from there" [Colin, Pg 1, Ln 5].

'I just seem to be stuck and I need somebody's help'

From their accounts, all of the participants appeared to be knowledgeable and experienced at losing weight. However, it seemed that their constant struggle to try and lose weight resulted in an overwhelming feeling of being 'stuck.' Alice expressed a sense of helplessness that she was unable to lose weight without specialist input from the weight management service:

"I just got to the point where I just couldn't do it for myself and I knew that I needed to lose weight but I really just needed some help doing it" [Alice, Pg 1, Ln 4].

In contrast, Colin acknowledges that he is finding losing weight more difficult but appears to know what he needs to do to lose weight and wanted to attend the weight management service to receive some additional support. He appeared to have absorbed the health promotion information about 'healthy eating' and gave examples of his diet:

"I find it harder now to lose it when I did the first time. I just seem to be stuck and I need somebody's help... This second time it's very very hard and I'd lose a pound and then the next day I've put it on again or I've put on 2 pounds and I'm like how did that happen? Obviously I'm eating all this stuff and not even noticing that I'm doing it. I do actually eat quite healthy but it's the portion size that I find hard to cut down. I eat lots of fruit and vegetables, muesli, porridge, high bran fibre all that kind of stuff. I have stir fries but I very rarely fry things on the frying pan, I'll just have grilled bacon and all that sort of thing. But I feel stuck and I need some help or some encouragement or whatever" [Colin, Pg 2, Ln 40].

Although Colin seemed to be knowledgeable about what he needed to eat in order to lose weight he acknowledged that he was continuing to over-eat and gave the impression that this was beyond his control.

Standing in the Way of Control

The meanings the participants attached to their experiences of weight loss appeared to be related to their perceived sense of control over their eating behaviour. Four sub-themes emerged from this superordinate theme, which were interconnected to the experience of binge eating. These sub-themes were: *'I know I want to binge and I'm going to do it,' 'I've started so I'll finish,' 'I wish I hadnae done that'* and *'you eat in secret and hide it.'*

All of the participants recognised that binge eating had an impact on weight loss and Eleanor expressed her perceived lack of control over her eating. Her frustration at being unable to control her eating impacted upon the weight loss and contributed to how she felt emotionally about the situation:

"It's standing in the way of me losing weight and I'm annoyed that I can't keep it under control... I suppose there's a real sadness there as coming back to it I can't control it" [Eleanor, Pg 12, Ln 367].

Similarly, Alice conveyed a sense of unhappiness about her current situation and appeared to feel overwhelmed by her inability to control her eating. The distress that Alice experienced was evidenced by her crying when she was describing how she felt about her perceived lack of control:

"I just feel that I can't control my eating and I know that if I was able to do that I'd be able to lose weight and I'd be happier I guess. I knew that I just had to come here [weight

management service] because I couldn't go on doing what I was doing anymore. I just felt that I couldn't control my eating at all (becoming tearful) and it was just like I had this big secret where I would just eat in secret and couldn't control it and I just wanted help to control it and feel better about being able to eat things" [Alice, Pg 1, Ln 20].

In contrast to Alice's feelings of hopelessness, Barbara portrayed the impression that she was aware that she had to accept responsibility for her eating:

"The only person who can stop me putting stuff in my mouth is me erm and I have to accept the fact that I am the only one that can control this" [Barbara, Pg 19, Ln 597].

The participants frequently described a 'paradox of control' where they attempted to control many areas of their life but felt that they were unable to gain control over their eating:

"I'm a very organised person erm and I'm very organised at work, I've got great time management and the only part of my life that I can't seem to organise is my eating. I'm probably a control freak with everything else like I do all our finances and I plan everything and I hate being unprepared for anything apart from my eating and it's the only part of my life that I really have got no control over, everything else is so organised apart from that as I control everything apart from my eating" [Daniella, Pg 14, Ln 392].

The participants' accounts demonstrated shared experiences about binge eating and the reasons why binge eating occurred. For example, Daniella refers to her 'diet cycle' which suggested the cyclical nature of her experience of bingeing in response to dietary restriction:

"When I stop bingeing tends to be when I go on my diet cycle but then it can be anything that knocks me off the diet erm sometimes it can be a night out and then you're hungover the next day and you eat a lot of rubbish and that sort of knocks you off it erm it tends to be when you've not been good on your diet and the bingeing can start quite soon after I've been knocked off the diet" [Daniella, Pg 8, Ln 21].

Hazel reflected on her reasons for bingeing and described using bingeing as a way of managing her affect. However, like Daniella, bingeing also occurred in response to dietary restriction and the pressure she placed upon herself to lose weight:

"I use food when I'm sad, when I'm happy, when I'm bored, when I'm lonely erm I'm always thinking about the next thing I'm going to have to eat...Food is very important in my life if I'm honest and I use it to make myself feel better about a lot of things but then that comes with the not feeling better later on because you've just eaten a lot of shite...Bingeing comes from the pressure I put on myself to stop eating so my whole life is what I shouldn't be eating. I think about it an awful, awful lot and give myself a hard time about it" [Hazel, Pg 13, Ln 376].

'I know I want to binge and I'm going to do it'

The participants' experiences of bingeing appeared to occur in response to dietary restriction or attempts to manage affect. This sub-theme emerged as it appeared that participants were able to identify when they were likely to engage in binge eating. Eleanor described the evening as being her 'weakest point' where she was mostly likely to binge:

"When I go home at night that is my weakest point, that is it and I have seen me so tired that I want to go home but no I'll go via Marks & Spencers or Morrisons because I know I want to binge and I'm going to do it and then tomorrow is a new day and I'll start the diet all over again (laughs)" [Eleanor, Pg 4, Ln 109].

Eleanor implied that dietary restriction would recommence the day following a binge and she later described how she experienced a desire to binge and at times felt powerless to control it:

"I will shop and I say next time I'm not going to do that, that's terrible but the urge, the need to do it is just sometimes overpowering and the more tired you are the more difficult it is to say no I'm not going to do it" [Eleanor, Pg 5, Ln 148].

The urge to binge appeared to make the participants restless and during this process they appeared to be pre-occupied by thoughts about food. Barbara described a continual process of searching for food in order to satisfy the craving:

"If you are in binge mode, you start what I call mooching and I'm just in and out of the cupboards and thinking what have I got in? I'll be looking in the freezer and can't find anything sweet in there as it's always meats and dinners... You're nosing in the cupboards thinking what can I eat? What can I eat? [Barbara, Pg 3, Ln 73].

Gillian described her experience of attempting to resist the urge to binge and the conflict that she was aware that the binge eating was impacting on her ability to lose weight:

"*I could be coming haim at night and I'll go into the shop for bread and milk and there's something, I don't know, just crisps and nuts and I know I'm just gonnae take them and I'm going, no don't do it, right, och I'll just go and then I'll just go back and get them. So you dae, you can tell, aye, you know you're going to do it but I don't know what makes me do it and that's the annoying bit cos I know I've so much weight to lose and that's years I've been trying to do it" [Gillian, Pg 10, Ln 277].*

All of the participants perceived the evening as the most likely time of day for bingeing and this tended to be when they were alone. Freya's narrative alludes to the idea that bingeing is like an illicit thrill:

"The worst time though is the night-time and I don't do it when my husband is there and he works shifts and when he's on night-shift oh it's like a kid left in a sweet shop. I love the taste and it makes me feel good...I would say it's because it makes me feel good you know, it's like ***my treat*** *(her emphasis)" [Freya, Pg 3, Ln 88].*

Although the desire to binge was often perceived as uncontrollable, there appeared to be active choices related to planning and shopping for a binge. As previously mentioned Daniella acknowledged that she was an organised person but perceived that she was unable to control her eating. There appeared to be a contradiction between her perceived lack of control and her active choice to binge as she described planning and shopping for a binge:

"My boyfriend works shifts so he maybe does like 3 late nights and 4 early nights and I wouldn't do it when he was in the house but I may do it when he's working the 3 late nights erm and sometimes when I know he's working late I'll think ooh I could do a wee binge and I'll eat this and I'll buy that and I'll plan it" [Daniella, Pg 6, Ln 158].

'I've started so I'll finish...'

When the participants were in the process of bingeing, they described experiencing a lack of control and feeling that they were unable to stop eating. Alice's description implies that she was taught by her parents not to be wasteful and suggests that being unable to stop eating was a product of her upbringing:

"If I've got a portion on a plate I have to eat the whole lot and I never leave anything and it's the same if it's a bag of crisps I have to eat the whole bag and I can't leave any...it doesn't matter whether it's a small thing or a big tub of ice-cream I have to eat it all because I can't not leave any left behind. I don't know if I had just grown up that I wasn't allowed to leave the table without eating everything as that's the way my parents brought me up but I just can't leave anything on my plate at all" [Alice, Pg 8, Ln 226].

The participants described binge eating episodes involving ingesting large quantities of food in a short period of time. Hazel's narrative about feeling unable to stop eating and the use of the phrase 'horsed down' reflects that binge eating occurs rapidly and that she is not consciously aware of what she is eating:

"I'm thinking is there anything else kicking about that I could possibly shove into my big fat face and I do you know like anything if there was cheese, bread or Ritz crackers or pate or anything. I mean I've seen myself actually start cooking something, physically cooking something at 10 past 10 at night and then I'll eat that. If it's crisps and chocolate I just don't buy 1 packet of crisps, I buy 3 and I'll buy 3 bars of chocolate and 3 bars of chocolate and 3 packets of crisps will last 20 minutes you know, they've been horsed down and I've not even thought about it you know and it's not like god I really enjoyed that bar of chocolate because I've not tasted it" [Hazel, Pg 5, Ln 146].

'I wish I hadnae done that'

All of the participants perceived a lack of control regarding their eating and they all described experiencing a sense of regret following a binge eating episode. It was common for the participants to describe looking forward to bingeing and then physical sensations such as feeling uncomfortably full appeared to prompt feelings of regret:

"The pleasure, the anticipation you know it's gonna be good right and that is a pleasure thing, the anticipation and pleasure of eating it but you don't anticipate the guilt after it that happens after it you know when you're sitting and your stomach's full and you're thinking I wish I hadnae done that" [Colin, Pg 5. Ln 158].

Feelings of guilt and disgust following a binge were a common experience for the participants and it appeared to be related to their perceived inability to control their eating as illuminated by Freya:

"Oooh (sharp intake of breath) I just feel totally disgusted with myself I do and I think this is terrible and how can I control my house, my family, my work everything's like clockwork, everything is tidy and neat and I can't control my eating"
[Freya, Pg 9, Ln 268].

Hazel reflected that the feelings of guilt were potentially present prior to a binge because she felt that bingeing was viewed negatively. She conveys that there is a sense of shame attached to bingeing, which is possibly connected to societal perceptions about obesity and over-eating. She alluded to bingeing being an unconscious behaviour which was emotionally numbing:

"It's all tied in with the fact that no matter what way you look at it, it's [bingeing] seen as a bad thing...Maybe that's where the speed thing comes in you know eating it quite quickly, you ram it down your throat because when you are actually doing it you're not thinking. You're not thinking about food, you're not thinking about why you're doing it; you're not thinking...There is you and whatever the food is that you've lined up to eat and you're thinking how quickly can I get to that or when you're actually doing it you're not feeling guilty but before and after you feel guilty but in the actual process you're not feeling guilty.

It may be that's part of it that you're not feeling anything so that's the only time you're not thinking" [Hazel, Pg 11, Ln 320].

'You eat in secret and hide it'

Binge eating appeared to occur in secret and the participants often described a public façade whereby they consciously restricted their food intake for a fear of being negatively evaluated by others:

"My husband and I are going out on Friday for lunch and I know where we're going and they do the most heavenly desserts but I know I won't have any because I don't want people to say look at the size of the dessert well no wonder she's that size so you know publicly I can keep the cool but in private it's totally different funnily enough I probably wouldn't even do it when my husband was there" [Eleanor, Pg 7, Ln 237].

In addition the participants appeared to go to great lengths to hide the 'evidence' of their bingeing from others. Daniella planned binges when her boyfriend was at work and then hid the packages and removed them from the house without his knowledge:

"I hide the packages. My knicker drawer is full of empty crisp packets and then on a Monday he is on an early shift and he starts at 6am and the bin men come on a Monday so I put it all in the bin after he's gone to work so he can't see it in the bin so it's very well planned (laughs)" [Daniella, Pg 7, Ln 169].

Bingeing in secret and hiding the remnants of the binge appeared to be related to the participants' feelings of embarrassment. Hazel's reflection signifies that the reasons for

eating in secret could be connected to how obesity is negatively perceived by others, which could be related to the façade of consciously restricting food in front of others:

"I'll just put it in the bin because it makes me ill thinking about it... I find myself getting it out of the kitchen, putting it in the bin and it's probably down to hiding it as well which is a trick I picked up years ago as well, obviously associated with the fact that at a young age I'd picked up the fact that fat wasn't a good thing and it was something to hide and something to be embarrassed and ashamed of so you eat in secret and hide it. I think in a way you're probably hiding it from yourself as well and that's probably what that's about getting rid of it and putting it in the bin" [Hazel, Pg 6, Ln 185].

The two superordiante themes of 'struggle with weight loss' and 'standing in the way of control' have conveyed the essence of the participants' lived experiences of binge eating and weight loss. The themes are interconnected as bingeing appears to occur in response to the frustration of being unable to lose weight, which has been a constant objective for the participants throughout their lives. The highly complex and cyclical relationship between losing weight and binge eating is reflected in this final quote:

"It's easier to stay in and hang about with food because that doesn't call me names but then you're back onto the fact that it's not helping in any way and it's just a vicious circle and no matter what I do or where I go all these things lead back to the exact same place and I don't know how to stop it" [Hazel, Pg 9, Ln 261].

Discussion

The main aim of the study was to use Leventhal's self-regulatory model of illness behaviour as a framework for the semi-structured interviews in order to gain a deeper

understanding of the participants' experiences of obesity and binge eating. Two emergent superordinate themes 'struggle with weight loss' and 'standing in the way of control' were identified. Although they were presented as separate themes, the analytic narrative demonstrated that these themes were interconnected and revealed that there was a complex and cyclical relationship between weight loss attempts and binge eating. The concept of control was central to both of the emergent themes as the participants perceived a lack of control over their eating and their ability to lose weight. The emotional impact of the participants' attempts to lose weight conveyed the dominant narrative of a 'struggle,' as they were constantly trying to pursue their goal of weight loss. A similar theme of 'the battle' has been previously described in qualitative studies about weight maintenance. In these studies the process of losing and maintaining weight was constructed as an ongoing battle (English, 1993; Sarlio-Lähteenkorva, 2000).

In order to avoid imposing constraints on the analysis, the interviews were not analysed within the context of Leventhal's model. However, themes about the participants' illness representations are reflected in the analysis. For example, all of the participants interpreted social messages from health care professionals, family and/or friends about their weight and their main motivations for losing weight were predominantly health reasons. They were knowledgeable about the consequences of obesity and were able to articulate their reasons for attending the weight management service for weight loss treatment. From the analysis, it appeared that binge eating occurred in response to attempting to lose weight (i.e. dietary restriction) and as an attempt to manage negative affect. The participants were able to appraise binge eating as an ineffective coping strategy and were aware that it was impacting on their ability to lose weight. Further examples of the participants' illness representations about obesity are presented in Appendix 2.5. This supplementary analysis reflects the five dimensions of illness representations within the self-regulatory model; identity, cause, consequences, time-line and cure/control.

The findings of the study illustrate the cyclical nature of bingeing in response to dietary restriction. The participants' accounts demonstrated dichotomous thinking in terms of conceptualising their behaviour using such terms as 'binge mode' and 'diet cycle.' Seamoore *et al.* (2006) suggest that 'all or nothing' thinking and schemas about 'good' and 'bad' foods set up a cycle of attempted restriction and overeating. In addition it has been shown that a dichotomous thinking style is a significant predictor of weight re-gain (Byrne, Cooper & Fairburn, 2004).

Weight cycling was a common experience for the participants in the current study and they had previously used a number of weight loss strategies. This finding is in keeping with a previous qualitative study which found that participants had personal histories of weight gain, failed attempts at weight loss and a long history of weight cycling (Ogden *et al.*, 2006). On the whole it appeared that participants experienced difficulties attempting to maintain the weight that they had lost. It has been demonstrated that a history of weight cycling is associated with weight regain after treatment for obesity (Elfhag & Rössner, 2005). In addition, research has found a significant association between weight cycling and binge eating severity (Venditti, Wing, Jakicic, Butler & Marcus, 1996; Marchesini *et al.*, 2004).

Theories about the development and maintenance of binge eating suggest that it occurs in response to dietary restriction or negative affect. An innovative study where participants entered data about their mood and binge eating into a hand-held computer found that binge eating occurred in response to hunger and negative affect (Stein *et al.*, 2007). A new theory of eating regulation has recently been proposed; the Goal Conflict Model of Eating (Stroebe, Mensink, Aarts, Schut & Kruglanski, 2008). This theory suggests that the problems dieters experience in controlling their food intake are due to a conflict between

their goal to enjoy palatable food and the desire to control their weight. The findings from the current study may indicate that the participants with BED may experience difficulties because they face a conflict between their goal to lose weight and their perceptions that food makes them feel better.

The findings from the current study highlighted the hidden and secretive nature of binge eating and participants described experiences of "public" dieting and "private" bingeing. They appeared to consciously restrict their food intake in front of others due to fears of being negatively evaluated. Furthermore, bingeing evoked feelings of embarrassment and shame regarding what they were doing, which is why they chose to eat in secret. Degher & Hughes (1999) suggested that obese people can engage in 'face compliance' as they may use dietary restriction in the presence of others yet binge when they are alone and hide the evidence of the food such as empty food packets in the bin.

The secretive nature of binge eating may occur as a result of the connotation between obesity and overeating. Public opinions about obesity tend to focus on the notion that people are overweight because they eat too much and therefore the responsibility for excessive weight is attributed to the individual (Sobal, 1999). At present there is a focus on initiatives to tackle obesity and it could be argued that fatness is viewed as medically and socially unacceptable.

Research with children has consistently shown that negative attitudes are learnt and that cultural values about obesity being 'bad' stem from an early age (Stunkard & Sobal, 1995). Obese people can experience a number of stigmatising situations including teasing from children, not being able to fit into seats at restaurants, not being able to find clothes that fit and negative comments from health professionals (Myers & Rosen, 1999). It has been demonstrated that it is very obese persons (BMI >35) who are most likely to experience

day-to-day interpersonal discrimination, work-related and health-care related discrimination (Carr & Friedman, 2005). It has been suggested that as a result of experiencing stigmatising situations and interpersonal discrimination binge eating may occur (Ashmore, Friedman, Reichmann & Musante, 2008).

Dieting often occurs in response to societal messages that being fat is undesirable and obese people may wish to lose weight in an attempt to remove themselves from a stigmatised group (Puhl & Brownell, 2003). Repeated dieting attempts can have an effect on a dieter's emotions, social relationships and physical health (Polivy & Herman, 2002). In addition, as most dieting attempts result in weight re-gain, dieting is not a permanent solution to removing stigma (Jeffery *et al.*, 2000). Furthermore, Mann *et al.* (2007) argue that dieting cannot be recommended as a safe and effective treatment for obesity due to the harmful effects of weight cycling.

Using an interpretative phenomenological approach enabled the participants to talk in depth about their experiences of obesity and binge eating. However, the study has a number of limitations which are common in IPA studies. For example, it is important to acknowledge that small sample sizes are the norm in studies using IPA due to the idiographic nature of the analysis. Although the findings cannot be generalised due to the small sample size, it is important to consider theoretical generalisability and the contribution that this study makes to the existing literature about obesity and binge eating. Furthermore, it is important to recognise that the two superordinate themes presented resulted from the researcher's interpretation of the data that was generated. IPA enables the researcher to use their background knowledge in order to interpret the participants' experiences (Lyons, 2007). As such it is important to acknowledge that the analysis will

have been influenced by the researcher's pre-existing knowledge and experience of working with clients who are obese and have BED.

The findings from the current study provide some important considerations for clinical practice. For example, an in-depth assessment should involve gathering information about previous diet attempts and weight cycling history. In addition, BED, particularly the severity of BED, should be assessed when people initially attend for weight loss treatment. Obese people with BED are at an increased risk of dropping out of treatment. (Teixeira, Going, Sardinha & Lohman, 2005). This impacts on the individual and on service delivery as it can result in repeated failures and frequent unsuccessful attempts are an inefficient method of providing treatment.

In addition, the indicated link between negative affect and bingeing suggests that interventions for BED may be improved by including a component which specifically addresses negative affect. Dialectical Behaviour Therapy (DBT) addresses negative affect and it has been adapted for BED. It has also been suggested that interpersonal events commonly precipitate binge eating episodes (Fairburn, Cooper & Shafran, 2003) and the effectiveness of Interpersonal Therapy (IPT) for BED has been examined in one randomised controlled trial (Wilfley, Welch, Stein, Spurrell, Cohen *et al.*, 2002). The current evidence regarding the effectiveness of both DBT and IPT for BED is limited (see Chapter 1, Systematic Review). At present there is insufficient information regarding treatment specificity and the mechanisms which contribute to successful interventions. However, there may be some potential value to integrating DBT and IPT approaches as it would appear that both negative affect and interpersonal difficulties may be important factors in the maintenance of BED and this area deserves further exploration.

The management of obesity remains a challenge as traditional weight loss treatments have been unsuccessful at reducing the prevalence of obesity (Miller & Jacob, 2001). Treatments continue to focus on weight reduction despite poor evidence regarding the long-term effectiveness (Lang & Froelicher, 2006). The findings from the current study suggest that the management of obese individuals with BED may be further complicated when there is a history of weight cycling.

Pryke & Docherty (2008) recommend that when previous dieting attempts have consistently failed, a weight constancy approach should be used. They define weight constancy as 'avoiding further weight increase even where no weight reduction is being attempted' (p113). Although the beneficial effects of losing 5-10% of initial body weight are associated with improvements in cardiovascular risk factors, it has been argued that the benefits do not outweigh the harmful effects of weight cycling (Mann *et al.*, 2007). Therefore, it may be more appropriate to encourage weight constancy for this group of clients, particularly when simultaneously addressing BED.

The study has highlighted some potential areas for future research. For example, further research is required regarding the most beneficial way to sequence treatments for obesity and BED (see Chapter 1). In addition, more studies identifying the factors involved in long-term successful weight loss and the health consequences of weight re-gain are required. Finally, as the study indicates the role of affect regulation in binge eating, large randomised controlled trials of appropriate psychological interventions should be conducted to establish the effectiveness of these potentially viable treatments.

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Working in a Specialist Medical Setting: A Reflective Account

(bound in Volume II)

Mary Rosaleen Cawley

Section of Psychological Medicine
Division of Community Based Sciences

Submitted in partial fulfilment of the requirements for the degree of Doctorate in Clinical Psychology (D Clin Psy)

ABSTRACT:

Reflective practice is commonplace within nursing and it is now regarded as an important aspect of the role of a clinical psychologist. The opportunity to write this reflective account allowed me to consider the concept of reflective practice and how it can be used to inform and improve clinical practice. Elements of Johns' model for structured reflection (2005) were used to guide the exploration of an experience which occurred during a three month placement working in a specialist medical setting. Johns' model enabled me to reflect on my own feelings and actions following the experience and to identify a skill which was required as part of continuing professional development. In addition, wider areas including communication, training other professionals, policy and service development were considered as a result of the opportunity to reflect on the experience.

CHAPTER FOUR: ADVANCED CLINICAL PRACTICE II
CRITICAL REFLECTIVE ACCOUNT (ABSTRACT)

Loop-Holes in Service Provision? A Reflection on Service Development

(bound in Volume II)

Mary Rosaleen Cawley

Section of Psychological Medicine
Division of Community Based Sciences

Submitted in partial fulfilment of the requirements for the degree of Doctorate in Clinical Psychology (D Clin Psy)

ABSTRACT:

Clinical psychologists are increasingly expected to demonstrate reflective practice both within their initial training and continuing professional development. This reflective account enabled me to consider my own development over the last three years of clinical training and my ability to 'reflect-in-action' (Schön, 1983). Stephenson's (2000) model of reflective practice was used to facilitate my reflection of an experience which occurred during my final placement. I was aware of reflecting on my own thoughts and feelings during the experience and the model helped me to retrospectively think about the experience and to reflect further about my own skills and the wider issues. Reflecting on the experience while it was taking place enabled me to identify a potential loop-hole in the service criteria and to recognise the importance of consultation when designing new services. In addition, my aspirations for the future as a newly qualified clinical psychologist were explored.

APPENDICES

APPENDIX 1: SYSTEMATIC LITERATURE REVIEW

Obesity Reviews

Author Guidelines

Obesity Reviews will publish state of the art reviews, written by experts in the field of obesity research. The journal is published bimonthly; each issue is devoted to a highly important and timely topic in this area. Every issue will contain 5-8 authoritative, well referenced and illustrated reviews on all aspects of the specific theme of the issue.

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Text
Review articles should be divided into: (1) abstract (about 200 words), (2) introduction, (3) text subdivided in paragraphs, (4) conclusion or discussion. Authors are particularly encouraged to use tables, diagrams and figures. Personal conclusions and practical applications are welcome.

Tables
Type each table on a separate page; number tables consecutively and supply a brief title for each. Each table should have a caption. Cite each table in the text in consecutive order, using Arabic numbers.

Figures
We would like to receive your artwork in electronic form. Please save vector graphics (e.g. line artwork) in Encapsulated Postscript Format (EPS), and bitmap files (e.g. half-tones) in Tagged Image File Format (TIFF). Detailed information on our digital illustration standards is available on the Blackwell Publishing homepage at http://www.blackwellpublishing.com/authors/digill.asp. Letters, numbers and symbols should be clear and even throughout, and of sufficient size so that when reduced for publication the item will still be legible; titles and detailed explanations should be included in the legend for illustrations, not in the illustrations themselves. Cite each figure in the text in consecutive order.

If a figure has been published, acknowledge the original source and submit written permission from the copyright holder to reproduce the material. Legend for illustrations should be typed on a separate page, with Arabic numbers corresponding to the illustrations. When symbols, arrows, numbers or letters are used to identify parts of the illustrations, explain each one in the legend. Explain the internal scale and identify the method of staining in photomicrographs.

It is the policy of Obesity Reviews for authors to pay the full cost for the reproduction of their colour artwork. Therefore, please note that if there is colour artwork in your manuscript when it is accepted for publication, Blackwell Publishing require you to complete and return a colour work agreement form before your paper can be published. This form can be downloaded as a PDF* from the internet. The web address for the form is:

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http://www.adobe.com/products/acrobat/readstep2.html

References

References should be cited numerically in the order they appear in the text. Identify references in text, tables and legends by Arabic numerals in parentheses or as superscripts; authors of unpublished work which has not yet been accepted for publication must be included in the text only (e.g. J-P Després & MJ Stock - unpublished data). Please give names of all authors and editors. References should be listed and journal titles abbreviated according to the style used by Index Medicus; examples are given below.

Examples of journal references:

- Castonguay TW, Dallman MF, Stern JS. Some metabolic and behavioural effects of adrenalectomy in obese Zucker rats. *Am J Physiol* 1986; 251: R923-R933.
- Cann PA, Rovati LC, Smart H, Spiller RC, Whorwell PJ. Loxiglumide, a CCK-A antagonist, in irritable bowel syndrome: a pilot multicentre clinical study (Abstract). *Gastroent* 1993; 104: A486.
- Maher VMG, Thompson GR. Analysis of evidence from cholesterol-lowering and regression trials. *J Drug Dev* Suppl 1990; 3/1: 199-203.

Examples of book references:

- Lissner L, Bengtsson C, Lapidus L, Larson B, Bengtsson B, Brownell KD. Body weight variability and mortality in the Gothenburg Prospective Studies on men and women. In: Bjorntorp P, Rossner S (eds). *Obesity in Europe 88: Proceedings of the First European Congress on Obesity*. Libbey: London, 1989, pp 55-60.
- Paul AA, Southgate DAT (eds) *McCance and Widdowson's The composition of foods*. 4th edn. HMSO: London, 1978.
- National Research Council. *Diet and health*, National Academy Press: Washington DC 1989.

Examples of web references:

- Beckleheimer, J. (1994). How do you cite URLs in a bibliography? [WWW document]. URL http://www.nrlssc.navy.mil/meta/bibliography.html

Abbreviations

Abbreviations should be explained at the beginning of the manuscript and listed in the order in which they appear. Avoid abbreviations in the title and in the abstract.

Drug Names

Generic names should, in general, be used. If an author so desires, brand names may be inserted in parentheses.

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Supplementary web-only information is accepted by the journal. Guidelines and acceptable file formats may be found at http://www.blackwellpublishing.com/bauthor/suppmat.asp.

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http://www.adobe.com/products/acrobat/readstep2.html

This will enable the file to be opened, read on screen and printed out in order for any corrections to be added. Further instructions will be sent with the proof. Hardcopy proofs will be posted if no e-mail address is available. Excessive changes made by the author in the proofs, excluding typesetting errors, will be charged separately.

Offprints

Authors will be provided with electronic offprints of their article. Paper offprints may be ordered at prices quoted on the order form, which accompanies the proofs. Note that this form should not be returned with your proofs, but to the fax number on the form. The cost is higher if the order arrives too late for the main print run. Offprints are normally despatched within three weeks of publication of the issue in which the paper appears. Please contact the Publishers if offprints do not arrive: however, please note that offprints are sent surface mail, so overseas orders may take up to six weeks to arrive. Electronic offprints are sent to the first author at his or her first e-mail address on the title page of the paper, unless advised otherwise; therefore please ensure that the name, address and e-mail of the corresponding author are clearly indicated on the manuscript title page if he or she is not the first author of the paper. Blackwell Publishing will dispose of all hardcopy or electronic material submitted 2 months after publication.

Appendix 1.2: Quality Criteria Assessment Data Collection Sheet

Author			
Date			
Title			
1. RATIONALE			
1.1	Does the study have a clearly focused question?	Yes No	1 0
1.2	Are the main objectives clearly stated?	Yes No/not stated	1 0
TOTAL: SECTION 1			/2
2. SAMPLE			
2.1	Where were the participants recruited from?	Clinical Setting Non-clinical/community setting Not stated	2 1 0
2.2	How were the participants recruited?	Consecutive referrals Convenience sample/volunteers Not stated	2 1 0
2.3	Are the sample demographics stated?	Fully described Basic details (e.g. age, sex) Not stated	2 1 0
2.4	Are the inclusion/exclusion criteria stated?	Yes No/not stated	1 0
2.5	Is the sample size stated?	Yes No/not stated	1 0
2.6	Is the sample size justified by a power calculation?	Yes – performed a priori Yes – performed post hoc No – not performed/not reported	2 1 0
TOTAL: SECTION 2			/10
3. PROCEDURES			
3.1	Is there random allocation to treatment groups?	Yes No/not stated	1 0
3.2	Is the process of randomisation described?	Clearly described (e.g. random numbers) Unclear Not stated	2 1 0
3.3	Is the process of randomisation carried out independently from the research team?	Yes No/not stated	1 0
3.4	Is there adequate blinding (if appropriate?)	Yes No/not stated	1 0
TOTAL: SECTION 3			/5
4. ASSESSMENT			
4.1	Is DSM-IV criteria used to define binge eating?	Yes No/not stated	1 0
4.2	Are the outcome measures clearly defined?	Yes No/not stated	1 0
4.3	Are the assessments carried out by independent assessors?	Yes No/not stated	1 0
4.4	Is measurement of binge eating defined?	Yes No/not stated	1 0
TOTAL: SECTION 4			/4

5. TREATMENT			
5.1	Is the treatment adequately described?	Yes No/not stated	1 0
5.2	Was the treatment manualised?	Yes No/not stated	1 0
5.3	Was adherence to the protocol assessed?	Yes No/not stated	1 0
5.4	Are the number of drop-outs and reasons for withdrawal recorded?	Yes No/not stated	1 0
5.5	Is the psychological intervention an appropriate duration including follow-up?	Yes (≥ 16 sessions and follow-up) Yes (≥16 sessions but no follow-up) No (<16 sessions)	2 1 0
TOTAL: SECTION 5			/6
6. STATISTICAL ANALYSIS			
6.1	Is the analysis appropriate to the design and type of outcome measure?	Yes No/not stated	1 0
6.2	Are appropriate statistical tests used (including bonferroni corrections for multiple tests where applicable)	Yes No/not stated	1 0
6.3	Are the results clearly reported?	Yes No	1 0
6.4	Does the analysis include all participants (intention-to-treat analysis?	Yes No/not stated	1 0
6.5	Is there evidence of clinically significant change in weight (>5% initial body weight)?	Yes No/not stated	1 0
TOTAL: SECTION 6			/5
		OVERALL TOTAL:	**/32**
		%:	
		QUALITY RATING:	
POOR (<50%), MODERATE (50-74%), GOOD (>75)			

Appendix 1.3: Strengths & Weaknesses of Included Studies

Study	Quality Rating	Strengths	Weaknesses
Wilfley *et al.* (2002)	Good (81%)	• RCT • BED diagnosis determined using DSM-IV criteria and structured clinical interview • Clearly defined inclusion & exclusion criteria • Independent assessments • Participants randomly assigned to treatment groups • Manualised treatments • Adherence to treatment protocol assessed • 20 sessions therapy • Post-hoc power calculation performed • ITT analysis • Low drop out (9.9%) • 4, 8 & 12 month follow-ups • 82% completed 3 follow-ups	• Participants recruited via media advertisements • Process of randomisation not independent • Binge eating episodes not measured using daily recordings (memory recall) • No non-treatment control group
Grilo *et al.* (2005)	Good (78%)	• RCT • BED diagnosis determined using DSM-IV criteria and structured clinical interview • Double-blind medication assignment • Clearly defined inclusion & exclusion criteria • Participants randomly assigned to treatment groups • Daily record sheets used • Manualised treatment • 16 sessions CBT • Adherence to treatment protocol monitored • Post-hoc power calculation performed • ITT analysis	• No information about recruitment method • No follow-up period
Devlin *et al.* (2005)	Good (75%)	• BED diagnosis determined using DSM-IV criteria and structured clinical interview • Clearly defined inclusion & exclusion criteria • Participants randomly assigned to treatment groups • Medication assignment double blind • Post-hoc power calculation performed • All participants received BWLT (16 sessions) • CBT-BED (20 sessions) • Daily diary used to document binge days • ITT analysis	• Participants recruited via media advertisements • Randomisation inadequately described • BWLT Modified • No follow-up period

Appendix 1.3: Strengths & Weaknesses of Included Studies

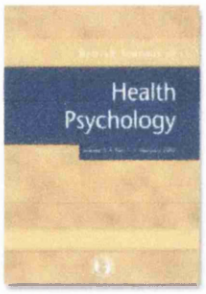
Study	Quality Rating	Strengths	Weaknesses
Munsch *et al.*(2007)	Moderate (71%)	• BED diagnosis determined using DSM-IV criteria and structured clinical interview • Clearly defined inclusion & exclusion criteria • 16 sessions therapy • Manualised treatment • Adherence to protocol monitored • Participants randomly assigned to treatment groups • Self-monitoring used to record binges • ITT analysis	• Participants recruited via newspaper advertisements • Process of randomisation not independent • Assessors aware of group assignment • Unequal treatment groups • No power calculation • 1/3 CBT participants dropped out
Gorin *et al.*(2003)	Moderate (71%)	• BED diagnosis determined using DSM-IV criteria and structured clinical interview • Clearly defined inclusion & exclusion criteria • Participants randomly assigned to treatment groups • Manaulised treatment • Adherence check-list used • Power calculation used • ITT analysis • 6 month follow-up	• Participants recruited via newspaper advertisements • Participants with depression not excluded • Process of randomisation not independent • 12 sessions therapy • Binge eating episodes not measured using daily recordings (memory recall) • 34% drop-out rate
Telch *et al.* (2001)	Moderate (62%)	• BED diagnosis determined using DSM-IV criteria and structured clinical interview • Inclusion & exclusion criteria defined • Participants randomly assigned to groups • Manualised treatment • 20 week treatment • 3 and 6 month follow-ups • All treatment completers followed-up to 6 months	• Participants recruited via newspaper advertisements • Small sample size (n=44) • No power calculation • Randomisation inadequately described • Adherence to treatment protocol not monitored • No comparison with active treatment • Binge eating episodes not measured using daily recordings (memory recall) • ITT analysis not used
De Zwaan *et al.* (2005)	Moderate (62%)	• BED diagnosis determined using DSM-IV criteria and structured clinical interview • Inclusion & exclusion criteria defined • Participants randomly assigned to groups • Daily records eating behaviours • Manualised Treatment • 1, 6 and 12 month follow-ups • ITT analysis	• Participants recruited via newspaper advertisements • Participants were charged $1000 to take part in study – possible selection bias • Randomisation inadequately described • No non-treatment control group • Adherence to treatment protocol not monitored • No power calculation

Appendix 1.3: Strengths & Weaknesses of Included Studies

Study	Quality Rating	Strengths	Weaknesses
Agras *et al.* (1995)	Moderate (59%)	• BED diagnosis determined using DSM criteria and structured clinical interview • Participants randomly assigned to groups • Inclusion & exclusion criteria defined • Diary used to document binge days	• Participants recruited via media advertisements • Small sample size (n=50) • No power calculation • Treatment manuals modified • Assessments not carried out independently • Adherence to treatment protocol not monitored • No follow-up period
Agras *et al.* (1994)	Moderate (56%)	• BED diagnosis determined using DSM criteria and clinical interview • Inclusion & exclusion criteria defined • Participants randomly assigned to groups • Manualised treatment • 3 month follow up	• Participants recruited via advertisements • Randomisation inadequately described • 12 sessions therapy • BWLT modified • Binge assessment inadequate -1 week self-monitoring • Adherence to treatment protocol not monitored • ITT analysis not used • No power calculation
Nauta *et al.* (2000)	Moderate (53%)	• BED diagnosis determined using DSM-IV criteria and structured clinical interview • Participants randomly assigned to groups • Adherence to treatment protocol monitored • Self-monitoring used to record binge episodes • ITT analysis • 6 months follow-up period	• Participants recruited via newspaper advertisements • Inclusion and exclusion criteria inadequately defined • Randomisation inadequately described • No control group • 15 sessions therapy • Treatment not manualised • No power calculation
Eldredge *et al.* (1997)	Moderate (50%)	• BED diagnosis determined using DSM-IV criteria and diagnostic interview • Participants randomly assigned to groups • Self-monitoring used to record binge episodes	• No information about recruitment • Inclusion and exclusion criteria inadequately defined • Randomisation inadequately described • Treatment not manualised • Adherence to treatment protocol not monitored • Small sample size (n=46) • No power calculation • No follow-up • ITT analysis not used • Results for waiting list control not reported in paper

Appendix 1.3: Strengths & Weaknesses of Included Studies

APPENDIX 2: MAJOR RESEARCH PROJECT PAPER



British Journal of Health Psychology (BJHP)

Notes for Contributors

The aim of the **British Journal of Health Psychology** is to provide a forum for high quality research relating to health and illness. The scope of the journal includes all areas of health psychology across the life span, ranging from experimental and clinical research on aetiology and the management of acute and chronic illness, responses to ill-health, screening and medical procedures, to research on health behaviour and psychological aspects of prevention. Research carried out at the individual, group and community levels is welcome, and submissions concerning clinical applications and interventions are particularly encouraged.

The types of paper invited are:

- papers reporting original empirical investigations;
- theoretical papers which may be analyses or commentaries on established theories in health psychology, or presentations of theoretical innovations;
- review papers, which should aim to provide systematic overviews, evaluations and interpretations of research in a given field of health psychology; and
- methodological papers dealing with methodological issues of particular relevance to health psychology.

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

Papers should normally be no more than 5000 words, although the Editor retains discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length.

3. Editorial policy

The Journal receives a large volume of papers to review each year, and in order to make the process as efficient as possible for authors and editors alike, all papers are initially examined by the Editors to ascertain whether the article is suitable for full peer review. In order to qualify for full review, papers must meet the following criteria:

- the content of the paper falls within the scope of the Journal
- the methods and/or sample size are appropriate for the questions being addressed
- research with student populations is appropriately justified
- the word count is within the stated limit for the Journal (i.e. 5000 words)

4. Submission and reviewing

All manuscripts must be submitted via our online peer review system. The Journal operates a policy of anonymous peer review.

5. Manuscript requirement

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.
- Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.
- Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi.
- For articles containing original scientific research, a structured abstract of up to 250 words should be included with the headings: Objectives, Design, Methods, Results, Conclusions. Review articles should use these headings: Purpose, Methods, Results, Conclusions. Please see the document below for further details:


British Journal of Health Psychology - Structured Abstracts Information

- For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.
- SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright.

For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association.

6. Publication ethics

All submissions should follow the ethical submission guidelines outlined the the documents below:


Ethical Publishing Principles – A Guideline for Authors


Code of Ethics and Conduct (2006)

7. Supplementary data

Supplementary data too extensive for publication may be deposited with the British Library Document Supply Centre. Such material includes numerical data, computer programs, fuller details of case studies and experimental techniques. The material should be submitted to the Editor together with the article, for simultaneous refereeing.

8. Copyright

On acceptance of a paper submitted to a journal, authors will be requested to sign an appropriate assignment of copyright form. To find out more, please see our Copyright Information for Authors.

Appendix 2.2 Ethics and Research & Development Approval Letters

North Glasgow University Hospitals Division

Glasgow Royal Infirmary REC
4th floor, Walton Building
Glasgow Royal Infirmary
84 Castle Street
GLASGOW
G4 0SF

Telephone: 0141 211 4020
Facsimile: 0141 232 0752

NHS
Greater Glasgow

06 November 2007

Dr Mary Cawley
Trainee Clinical Psychologist
Department of Psychological Medicine, Academic Centre
Gartnavel Royal Hospital
1055 Great Western Road, Glasgow
G12 0XH

Dear Dr Cawley

Full title of study: **Experiences of Binge Eating Among Clients Attending A Weight Management Service: A Qualitative Study Based on Leventhal's Self-Regulatory Model of Illness Behaviour.**

REC reference number: **07/S0704/76**

Thank you for your letter of 24 October 2007, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Application	(2)	24 October 2007
Investigator CV		27 August 2007
Protocol	1	06 July 2007
Covering Letter		06 September 2007
Interview Schedules/Topic Guides	1	03 August 2007
Participant Information Sheet	2	17 October 2007

Participant Consent Form	2	17 October 2007
Response to Request for Further Information		24 October 2007
Letter from Professor McMillian		13 July 2007
Supervisors CV		

R&D approval

All researchers and research collaborators who will be participating in the research at NHS sites should apply for R&D approval from the relevant care organisation, if they have not yet done so. R&D approval is required, whether or not the study is exempt from SSA. You should advise researchers and local collaborators accordingly.

Guidance on applying for R&D approval is available from http://www.rdforum.nhs.uk/rdform.htm.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Website > After Review

Here you will find links to the following

a) Providing feedback. You are invited to give your view of the service that you have received from the National Research Ethics Service on the application procedure. If you wish to make your views known please use the feedback form available on the website.
b) Progress Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
c) Safety Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
d) Amendments. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
e) End of Study/Project. Please refer to the attached Standard conditions of approval by Research Ethics Committees.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nationalres.org.uk .

07/S0704/76	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project

Yours sincerely

for S Macgregor

Dr Brian Neilly
Chair

NHS
Greater Glasgow and Clyde

Research & Development Office
4th Floor Walton Building
Glasgow Royal Infirmary
84 Castle St
Glasgow
G4OSF
Telephone: 0141 211 0475
Fax: 0141 232 0752
Email: Fiona.Graham.gri@northglasgow scot.nhs.uk

Tuesday, 08 January 2008

Dept. Psychological Medicine
Academic Centre
Gartnavel Royal Hospital
1055 Gt Western Rd
Glasgow
G12 0XH

Dear Mary,

Project Title: Experiences of binge management eating among clients attending a weight management service: A qualitative study based on Leventhal's self-regulatory model of illness behaviour.
Investigator: Mary Cawley
R&D Reference: RN07PM003
COREC:07/S0704/76

We are pleased to inform you that, based on the information provided, the above project has been granted overall Management Approval and you may now proceed in. This approval includes Finance and favourable Research Ethics Committee opinions.

Further management approval will be required for amendments that increase patient numbers, increase or change the test procedures or bring about a change in pharmacy requirements. Please contact the R&D office if you wish to discuss any future amendments.

Thank you for your current and future collaboration

Yours Sincerely,

Dr Fiona Graham
Academic Research Co-ordinator
Glasgow Royal Infirmary

Appendix 2.3 Participant Information Sheet & Consent Form

Participant Information Sheet

Study Title: Experiences of Binge Eating

We would like to invite you to take part in a research study. Before you decide it is important for you to understand why the research is being done and what you would have to do if you decide to take part. Please take time to read the following information carefully and discuss it with friends, relatives and your health care practitioner if you wish. If there is anything that is not clear or if you would like more information, please ask us.

Why is this study being carried out?
Last year we carried out an audit of the weight management service and found that around a third of people who come to the service experience binge eating. At the moment we know very little about why people binge eat or comfort eat. We would like to find out the reasons why people binge eat as it can make it harder for people to lose weight and sometimes people stop coming to the weight management groups.

Why have I been chosen?
Anyone who has recently had an appointment with a Clinical Psychologist to talk about binge eating or comfort eating will have been given this information sheet.

What will I have to do?
You will be invited to attend the Glasgow Weight Management Service at the Glasgow Royal Infirmary for an interview with a researcher. The researcher is a trainee clinical psychologist, who has previously worked at the weight management service. The interview will last around 1 hour and it will give you the chance to talk freely about your experiences and views about weight, health and food. If you travel by public transport to the interview, your bus or train fare will be reimbursed.

Do I have to take part?
It is up to you to decide whether or not you wish to take part in the research. If you decide to take part and then change your mind, you can stop the interview at any time. You do not have to answer all of the questions and if you feel embarrassed or uncomfortable you can refuse to answer any of the questions or ask the researcher to stop the interview. If you decide to take part you will be given this information sheet to keep and you will be asked to sign a consent form.

Why should I take part?
Your views are important to us and you will help us to understand what binge eating can be like and the best ways of helping you manage your binge eating. Your views and experiences may help us to improve the services for people who binge eat and we may be able to design special weight management groups to help people who binge eat to lose weight.

What will happen to me if I take part?
If you do decide to take part in the study, you will be interviewed for around 1 hour and the researcher will ask you some questions about your views on losing weight, your experiences of binge eating/comfort eating and about the things that you do to help you cope with binge eating/comfort eating.

Will my treatment be affected if I take part?
No, your treatment will not be affected in any way whether you decide to take part in the research or not take part in the research.

What will happen to the information I give?

The researcher will record the interview with your consent and after the interview the researcher will type up the conversation that happened between you and the researcher. The researcher will be the only person who will be able to listen to the recording and the tapes will be locked away securely. When the researcher is writing up the conversation they will not include any details that could identify you for example, your name or the names of any people that you mention, your job or where you live. All of the information that you give during the interview will be kept strictly confidential and the written conversations will be locked away securely. All the data collected from the people who take part will be analysed together so it will be impossible to identify you as individual in the report.

What will happen to the results of the study?

The researcher is training to be a Clinical Psychologist and this study will be written up as part of their qualification. The researcher also intends to publish the findings from the study in a scientific journal and it may take about 2 years for this article to be published. If you would like a copy of the study findings, please give your contact details to the researcher at the end of the interview. No individuals will be identified in the report and it will contain only anonymous information.

I want to talk to someone else, who is not involved in the study. Who can I talk to?

If you would like to speak to someone independent about taking part in the study, you can contact Dr Elizabeth Campbell, Head of Section of Psychological Medicine on 0141 211 3920.

What if there is a problem?

If you are concerned about any aspect of the study, please contact the researcher in the first instance and they will do their best to answer your questions. **Researcher contact details:** Mary Cawley, Trainee Clinical Psychologist, University of Glasgow, Department of Psychological Medicine, Gartnavel Royal Hospital, 1055 Great Western Road, Glasgow, G12 0XH. Alternatively, please contact via the Department of Psychological Medicine on 0141 211 0607 or email m.cawley.1@research.gla.ac.uk

If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure by contacting Anne Snape, Patient Liaison Manager, Glasgow Royal Infirmary on 0141 211 5112.

I have decided I want to take part in the study, what do I have to do now?

If you would like to take part in the study, please complete the form below and return it in the enclosed envelope. Alternatively, if you would prefer to contact the researcher by email please send an email to **m.cawley.1@research.gla.ac.uk**

The researcher will contact you to arrange a suitable time for the interview. You will also have the chance to ask any questions that you wish or discuss any worries that you may have about taking part in the study.

Thank you for reading this information sheet.

✂----------

Name:

Address:

Telephone Number:

Email Address:

Acute Services Division

Rehabilitation and Assessment Directorate

Consent Form
(Version 2- 17/10/07)

NHS
Greater Glasgow and Clyde

Study Title: Experiences of Binge Eating

Name of Researcher: Mary Cawley

Thank you for agreeing to be interviewed. The purpose of this form is to make sure that you are happy to take part in the research and that you know what it involves.

	Please Initial Box
I confirm that I have read and understood the information sheet for the above study dated 17/10//07 and I have had the opportunity to ask questions.	☐
I understand that my participation is voluntary and that I may ask for the interview to be terminated at any point, without giving a reason and without my medical care or legal rights being affected.	☐
I understand that the information I provide will only be used for research purposes and I agree that the interview can be recorded.	☐
I understand that the recording will be stored securely and will be destroyed when the research is complete (September 2008).	☐
I agree that written extracts from the recording can be used in reports relating to the research and that my identity will not be revealed.	☐
I agree to the Clinical Psychologist who assessed me being informed of my participation in the study.	☐
I agree to take part in the above study.	☐

Name of participant	Date	Signature

Name of person taking consent	Date	Signature

GLASGOW WEIGHT MANAGEMENT SERVICE REFERRAL FORM

NHS Greater Glasgow and Clyde

PLEASE COMPLETE FULLY. INCOMPLETE FORMS WILL BE RETURNED since all information required to deliver service safely

PATIENT DETAILS M: ☐ F: ☐

Name .....

Address .....

.....

Postcode ..... Tel (Day) .....

D.O.B. (day/month/year) ____/____/____ (tick if aged 18-25) ☐

CHI No ☐☐☐☐☐☐☐☐☐☐

☐ Current Weight (kgs): * .....

☐ Height (m) * .....

☐ Body Mass Index (kg/m²) .....*must complete

☐ Wheelchair Access Required

☐ Transport Required:

Ambulance 1Person ☐ Ambulance 2 Person ☐

Car 1 Person ☐

PRACTICE DETAILS Code (if GP referral): ☐☐☐☐☐

Referrers Name .....

Address.....

.....

Postcode .....Tel .....

Date ..... Signature .....

GP Name (if not referrer).....

GP Practice Address.....

.....

Postcode .....Tel .....

☐Interpreter required: Language.....

This service is for patients aged ≥18. Patients who have a BMI ≥35kg/ m² or a BMI ≥30- with a co-morbidity or an additional reason for intervention (see below). Pregnant or breastfeeding women are excluded from Glasgow Weight Management Service

List of co-morbidities (Must tick one)

☐ No co-morbidity

☐ CVA

☐ CHD

☐ Diabetes: Type1 ☐ Type2 ☐

☐ Hypertension: referrals only from hypertension clinic

☐ Sleep Apnoea: referrals only from sleep apnoea service

☐ COPD: FEVI<50%

Additional Reason For Intervention

☐ Patient is aged 18-25 years old

☐ *Poor mobility requiring wheelchair, stick, frame or other aids.*

☐ Surgical Decision that weight loss is required prior to surgery

Please Describe: .....

.....

☐ If patient of Asian, South Asian, Chinese, Malay, Asian-Indian or Ethnic South and Central American origin, and has a waist circumference of ≥90cm for men or ≥80cm for women.

☐ Iatrogenic: Requires medications which are causing weight gain (see medications list)

Please list medications: .....

Have alternative medications been tried Yes ☐ Not possible ☐

ACTIONS Prior to Referral to GWMS. Please only refer to GWMS once stable

☐ Current Alcohol or Drug Abuse → ☐ Referral to drug and alcohol services

☐ Current poorly controlled major psychiatric illness → ☐ Referral to psychiatry

Please describe.....

☐ Hypothyroidism → ☐ Medical treatment

☐ Cushing's Syndrome → ☐ Refer to endocrinology

☐ If attempting smoking cessation → ☐ please delay referral for>6 months post quit date if successful

NB Results from the services listed above should be included with the referral

Please attach computer print out of relevant clinical history If none, please tick ☐

Please attach computer print out of current medication If none, please tick ☐

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Anti-obesity medication may be recommended by GWMS as an adjunct to lifestyle intervention for some patients. Prescribing will be requested by GP if appropriate. All relevant monitoring of Blood Pressure and weight loss will be carried out by GWMS. If clinically indicated GP will be advised to increase or discontinue medication.

Patients referred, but who are deemed unsuitable by the GWMS, will be referred back to their GP, with an explanation.

Post or fax form to GWMS, Ward 23, Surgical Block, Glasgow Royal Infirmary, 84 Castle Street, Glasgow, G4 0SF Tel: 0141 211 1296 Fax: 0141 211 5045
Email: gwms@northglasgow.scot.nhs.uk

Appendix 2.5 Supplementary Analysis: Participants' Illness Representations about Obesity

Appendix 2.5 Examples of Participants' Illness Representations about Obesity

	Identity	Cause	Consequences (Health)	Consequences (Personal/Social)	Time-Line	Cure/Control
Colin	*"Because I'm fat basically..."* (Pg 1 Ln 5)	*"I just got lazy and cocky and bang (clicks fingers) I put it all back on again. I stopped going to the gym for a while and all that but I started eating the same amount of food as I was before and it all just went back on again..."* (Pg 1 Ln 12)	*"I'll be 51 in [month] and at the start of my 40s I was quite fit and healthy even though I was asthmatic and that's another thing with the weight is the asthma's worse so all these things put together make me want to lose weight"* (Pg 2 Ln 57)	*"I hate going into shops and trying to get things that fit me especially since I've put on the weight but when they show you things and you're like (sighs) fat guy's claes I really don't like that and as I said it's dispiriting"* (Pg 15 Ln 477)	*"Five years ago I weighed the same as I am just now. I then lost 5 stones in 6 months and then kept it at around 14 stone right, well 13 stone 8 then 14 stone"* (Pg 1 Ln 5)	*"...you can eat things in moderation and you can over-indulge every so often... You have to watch what you're eating and eat fruit and vegetables, cut down portion size, don't eat a lot of fried food and that sort of stuff you know erm and exercise I mean I know all that"* (Pg 10 Ln 325)
Barbara	*"I have been on a diet since I was 6 weeks old and I have an issue about weight"* (Pg 1 Ln 9)	*"...my mother had control over the food that I consumed and she would weigh me every day and if I had put weight on, food would be withheld and if I had lost weight I would be given food"* *(Pg 1 Ln 17)*	*"Before I was diagnosed with diabetes, I was weighed and I was 18 10. I couldn't breathe at night because my chest is up here (raises hand to under chin) you know and to have had a double mastectomy would have been wonderful as it would mean I wouldn't have all this weight here"* (Pg 6 Ln 189)	*"I also didn't want to be a woman any more erm because of all the abuse. I thought if you're fat, you're ugly and if you're ugly, you're safe but I wasn't safe and I was raped"* (Pg 6 Ln 197)	*"I have come down from 18 10 as I say now down to 15 10 which is about 100 kilos so you know in 3 years erm prior to the 3 year mark I had lost 2 stone or something like that you could say roughly"* (Pg 11 Ln 349)	*"The only person who can stop me putting stuff in my mouth is me erm and I have to accept the fact that I am the only one that can control this"* (Pg 19 Ln 597)

Appendix 2.5 Examples of Participants' Illness Representations about Obesity

	Identity	Cause	Consequences (Health)	Consequences (Personal/Social)	Time-Line	Cure/Control
Daniella	*"I don't want to be fat all my life because I've always been heavy and I just think oh (sighs) and at some point I need to lose it you know because I'm just fed up being fat"* (Pg 2 Ln 32)	*"My family all have weight problems erm my mum has always had a weight problem, my sister's had a weight problem since she was maybe 17 or 18..."* (Pg 3 Ln 90)	*" I'm overweight and I smoke so I'm at a high risk for a heart attack, a stroke and all that kind of stuff erm diabetes and things like that I just think I'm a much higher risk. Back pain just the wee niggles and sore feet..."* (Pg 4 Ln 100)	*"...it does restrict you in what you can do like I won a prize just recently in work to go to Monte Carlo but I would have to go on a plane with my work colleagues and I think what if I'm on that plane and I can't get the seatbelt on, I'd just be absolutely mortified so I just said that I couldn't go..."* (Pg 3 Ln 42)	*"...I lost 7 stone and then put it back on again in 6 months and I don't want to do that for the rest of my life..."* (P1 Ln 12)	*"I know how to diet and I can diet quite successfully when I sort of get started..."* (Pg 1 Ln 10)
Eleanor	*"I have a problem with weight as is fairly obvious I've done 2 lots of losing 5 stone and then putting it back on again and I've got to lose the weight"* (Pg 1 Ln 4)	*"I decided that I needed to do something about it and within about 6 months I had lost about 5 stone, too fast too soon. I got hit with depression a month after that and then it all just went back on again."* (Pg 1 Ln 18)	*"I know I've got osteoarthritis and I know how much it would help the pain factor"* (Pg 1 Ln 23)	*"...that's another thing I tend not to go to things like that and I'll avoid staff nights out you know if they're going dancing and I'll make up an excuse and I just won't go"* (Pg 15 Ln 474)	*"It's not a quick fix and I know I've got to make sure it's a slow process this time so that the weight stays off"* (Pg 14 Ln 434)	*"I'm annoyed that I can't keep it under control that's what I'm saying why with everything that's happened is this so difficult, why do I find it really really tough to actually eat sensibly and not overeat"* (Pg 12 Ln 367)

Appendix 2.5 Examples of Participants' Illness Representations about Obesity

	Identity	Cause	Consequences (Health)	Consequences (Personal/Social)	Time-Line	Cure/Control
Freya	*"...now I'm really heavy and I have health issues and erm my weight is starting to affect my work, my job..."* (Pg 1 Ln 8)	*"I had quite a traumatic childhood erm and I was sexually abused and about 8 or 9 years ago the family brought it all up and it all went to a court case and from there the weight has just gone up, up, up constantly every year..."* (Pg 2 Ln 42)	*"I have trouble with my shoulders and my back as my boobs are so big and they have put me forward for surgery but they've said you can only have a bust reduction when you lose 4 stone because you have to be a certain weight and I can't get the 4 stone off to have that done"* (Pg 11 Ln 337)	*"I won't go swimming and I'm missing things with my wee grandson and I have to stand at the side because I won't go in the pool because of my size ... I can't go horse-riding with the girls because I'm too fat and I'm too embarrassed for people to see me on a horse"* (Pg 12 Ln 381)	*"I've been dieting on and off since I was 12 and I've lost 5,6,7 stone at a time and it's great but I was 50 on my last birthday and it's getting more difficult and if I take off 2 stone I put 2 1/2 on, if I take off 3 stone I put 3 1/2 on...."* (Pg 1 Ln 4)	*"I make sure that I never go hungry now before I said nothing tomorrow and then i'd get the munchies later that day and I'd start picking at about 1 o'clock and from there I'd just keep eating, so I'm now trying to eat 3 meals a day and spread it out"* (Pg 10 Ln 298)
Alice	*"I knew that I needed to lose weight but I really just needed some help doing it"* (Pg 1 Ln 4)	*"... I don't ever remember not being overweight but I know that I do eat a lot more depending on my emotions as anyone does but I think that's why I'm overweight"* (Pg 2 Ln 36)	*"I'm being monitored for high blood pressure but I'm amazed actually that I've not got more health problems because I know that being obese does affect health quite a lot..."* (Pg 8 Ln 211)	*"I think that people judge me for being fat and I don't like that... I just think that they don't see me as a person, they just see me as someone who is obese..."* (Pg 6 Ln 166)	*"A few years ago I think maybe 5 or 6 years ago I lost 7 1/2 stone and was very happy with my weight loss but it all went back on again after"* (Pg 1 Ln 28)	*" I'm just waiting for that switch to go off in my head again ..."* (Pg 11 Ln 321)

Appendix 2.5 Examples of Participants' Illness Representations about Obesity

	Identity	Cause	Consequences (Health)	Consequences (Personal/Social)	Time-Line	Cure/Control
Gillian	*"I am fat you know what I mean.... I know they know I want to lose and they want to see me lose it..."* (Pg 11 Ln 309)	*"I started working in a shop when I was about 18 and I felt I was sitting too much. I was sitting, snacking on crisps and things like that reading magazines, nae exercise and now* **that** *(her emphasis)* is a lot of my problem..." (Pg 2 Ln 28)	*"It's all starting to get health-wise the only thing I've not took yet is diabetes well so far so I'm getting kinda Oh God I'll need tae do something quick or as that wee book says 5 years time I might no be here"* (Pg 4 Ln 105)	*"...it's like trying to maybe bend down to tie your lace or massage your feet see even just putting moisturiser you cannae get down right to do it, so you're kinda, I feel I'm restricted a lot now..."* (Pg 3 Ln 58)	*"I would say about 22/23 year ago I'd say when I did meet ma ex-man because I was 11½ stone then I think maybe that's what I should be now err I'm not sure what I should be but now I'm up at 21..."* (Pg 3 Ln 71)	*"Aye, wiring ma jaws (laughs). They used to say when I worked in the office and they used to say we'll need to stop you eating, we'll need to wire your jaws and then they started to laugh. I was laughing and he says no in fact, you'd probably liquidise the food and take it through a straw"* (Pg 15 Ln 415)
Hazel	*"...it was always said or understood or known and the view was that I was overweight and that I was fat"* (Pg 1 Ln 9)	*" I'm not a crappy food eater, I'm a good food eater, I'm a bit of a foodie and like good food but it's very important in my life if I'm honest and I use it to make myself feel better about a lot of things"* (Pg 3 Ln 91)	*"My weight became more and polycystic ovaries came with an abundance of side effects...and since then I have developed type II diabetes"* (Pg 1 Ln 25)	*"What does it stop me from doing? It stops me from going out because people, especially groups of men think it is their god-given right to be able to comment on somebody that's fat walking by..."* (Pg 7 Ln 209)	*"I can't remember the first time I was on a diet but we're talking about 11 at the latest and I can't remember the 1st time she took me along to Weight Watchers but I was young..."* (Pg 2 Ln 51)	*"I've tried Xenical and several other drugs as well and they don't seem to work for me and because of my medical conditions he thought the last resort was to have my stomach banded and I think it's been going on so long that I've made that decision as well"* (Pg 2 Ln 36)

APPENDIX 3: MAJOR RESEARCH PROJECT PROPOSAL

MAJOR RESEARCH PROJECT PROPOSAL

EXPERIENCES OF BINGE EATING AMONG CLIENTS ATTENDING A WEIGHT MANAGEMENT SERVICE: A QUALITATIVE STUDY BASED ON LEVENTHAL'S SELF-REGULATORY MODEL OF ILLNESS BEHAVIOUR

MARY CAWLEY

Academic Supervisor: Dr Sarah Wilson

Field Supervisor: Dr Susan Boyle (Glasgow Weight Management Service)

ABSTRACT:

Background - Obesity is regarded as an increasingly prevalent public health problem but the aetiology of obesity remains unclear. Research has demonstrated that obesity is a risk factor for Binge Eating Disorder (BED). It is estimated that approximately 30% of people attending a specialist obesity clinic for treatment will meet diagnostic criteria for BED. There is a dearth of qualitative research exploring people's experiences of obesity and binge eating.

Aims - The main aim of the study is to explore participants' understanding and experiences of obesity and binge eating/emotional eating and the relationship between binge eating and coping.

Methods - Semi-structured interviews will be conducted with respondents who attend the Glasgow Weight Management Service for an assessment of BED. The interview transcripts will be analysed using Interpretative Phenomenological Analysis.

Applications – This study will contribute to the evidence base about binge eating and obesity. In addition, it will be clinically relevant to the Glasgow Weight Management Service and will provide clinicians with an insight into participants' beliefs about obesity and binge eating. The findings could be used to enhance the psychological content of the weight management programme or to develop weight management interventions specifically for individuals with BED.

INTRODUCTION:

Obesity is regarded as a major public health problem throughout the world. Although the aetiology of obesity remains unclear, it is hypothesised to involve a complex interaction between genetics, environmental, psychological and social factors. There is a general consensus that weight gain occurs as a result of an energy imbalance, where the total energy expended is less than the total energy consumed. Obesity is characterized by excess adipose tissue and it is most commonly defined using the body mass index (BMI). BMI is calculated by dividing body weight (kg) by height squared (m^2). In 1998 the World Health Organization (WHO) published guidelines based on the associations between BMI and all cause mortality and a BMI of $30kg/m^2$ is classified as the cut off point for adult obesity.

Obesity is a major cause of morbidity and mortality in Scotland and the Scottish Health Survey (2003) indicates that the levels of overweight and obesity in Scotland have continued to rise since the previous survey in 1998. The survey demonstrated that women were more likely than men to be obese (26.0% and 22.4% respectively) or morbidly obese (BMI $\geq$ 40). Three percent of women compared to 1.6% of men were morbidly obese. In terms of the level of obesity in Glasgow, Walker (2003) has estimated that approximately 191,000 Glaswegians are obese.

Research has shown that obesity shortens life by nine years on average and in England it is estimated that 30,000 premature deaths a year are attributable to obesity (National Audit Office, 2001). The impact of obesity on morbidity is greater than its impact on mortality and a number of conditions have been linked to obesity including cardiovascular disease, non-insulin dependent diabetes (NIDDM or type II diabetes), certain cancers, respiratory disorders and musculoskeletal disorders (Visscher & Seidell, 2001). With regard to psychological co-

morbidity, it has been argued that depression is a significant co-morbidity of severe obesity (Dixon, Dixon & O'Brien, 2003). For example, recent research has shown that there is a high prevalence of psychiatric co-morbidities in obese individuals attending specialist weight management clinics (Tuthill, Slawik, O'Rahilly & Finer, 2006).

Obesity is considered a risk factor for Binge Eating Disorder (BED) and it is estimated that approximately 30% of people attending a specialist obesity clinic for treatment will meet diagnostic criteria for Binge Eating Disorder (Spitzer, Yanovski, Wadden *et al*, 1993). A recent audit of patients attending a weight management service in Wales found that 26% of patients met DSM-IV criteria for BED (Haboubi & Haboubi, 2006). In addition, many obese individuals attending for weight management treatment, who do not meet the criteria for BED, will report non-normative eating patterns (Tanofsky-Kraff & Yanovski, 2004).

Research has demonstrated that illness perceptions can predict health-related behaviours among patients with a chronic illness (Byrne, Walsh & Murphy, 2005). The majority of research has focused on type II diabetes and has demonstrated that illness perceptions can impact on adherence to self-management behaviour such as physical activity and dietary restriction (Clark, Hampson, Avery & Simpson, 2004). Similarly, interventions for obesity tend to focus on changing health-related behaviours such as diet and physical activity levels (Ogden & Sidhu, 2006). Leventhal's self-regulatory model of illness behaviour proposes that an individual's interpretation of an illness influences the coping strategies that they identify and select to help them cope. In addition, the model proposes that an individual's appraisal of the coping strategies used can influence illness outcome.

Leventhal's self-regulatory model of illness behaviour has been used as a framework to understand self-management behaviour in studies about diabetes and a number of chronic illnesses including coronary heart disease, breast cancer, non-epileptic seizures and rheumatoid arthritis (Byrne *et al.* 2005; Michie, O'Connor, Bath, Giles & Earll, 2005; Hunter, Grunfeld & Ramirez, 2003; Green, Payne & Barnitt, 2004; Carlisle, Fife-Schaw & Lloyd, 2005). Furthermore, a recent study has found that obesity-related beliefs at the start of a dietary intervention are predictive of weight loss (Wamsteker, Geenan, Iestra, Larsen, Zelissen and van Staveren, 2005).

Seamoore, Buckroyd & Stott (2006) maintain that there is insufficient literature addressing the psychological aspects of binge eating and obesity. The small number of qualitative studies about obesity which have been conducted have explored triggers for weight loss, barriers to weight loss, experiences of surgery and taking obesity medication and experiences of weight gain in middle age (Tod, 2004; Murtagh, Dixey & Rudolf, 2006; Ogden, Clementi & Aylwin, 2006; Ogden & Sidhu, 2006; Ziebland, Robertson, Jay & Neil, 2002).

The aim of the current study is to use Leventhal's model of illness behaviour as a framework to explore beliefs about obesity and BED. It is important to explore beliefs about obesity as these will be the primary determinant of coping strategies and may influence the success of weight loss. Additionally, beliefs about binge eating may be preventing individuals from successfully engaging in the weight management programme. It has been suggested that following an episode of binge eating, individuals are more likely to engage in dietary restriction, which increases hunger and cravings and bingeing occurs when the diet is broken (Alexander-Mott & Lumsden, 1994; Dolan & Ford, 1991; Polivy & Herman, 1993). Furthermore, an exploration of beliefs about binge eating and coping will provide rich data

which could be used to enhance the psychological content of the existing weight management programme or to develop weight management interventions specifically for individuals with BED. This is an imperative concept to explore as evidence has indicated that individuals with BED may be more likely to drop out of treatment (Teixeira *et al.*, 2005).

RESEARCH QUESTION:

Interpretive Phenomenological Analysis has been chosen as the most suitable qualitative method as it is commonly used within Health Psychology research and it is useful when exploring novel topics (Smith & Osborn, 2004). Smith & Osborn (2004) argue that there should be no attempt to test a predetermined hypothesis when a researcher uses Interpretive Phenomenological Analysis (IPA). Moreover, the aim of IPA is to explore in depth how people make sense of their personal and social world and the meanings they attach to their experiences.

Therefore, the main aim of this study is:

- To use Leventhal's self-regulatory model of illness behaviour as a framework for the semi-structured interviews in order to gain a deeper understanding of participants' beliefs about obesity and binge eating in order to explore the relationship between binge eating and coping.

PLAN OF INVESTIGATION:

Setting - Glasgow Weight Management Service (GWMS) is a dynamic and unique service which incorporates psychological assessment and interventions into an obesity management programme. GWMS is a new service that is currently being rolled-out on a citywide basis to manage obesity within NHS Greater Glasgow & Clyde. The service offers a multi-tiered

approach to weight management in the community and a hospital outpatient service. The hospital outpatient service is primarily for morbidly obese patients (BMI $\geq$ 40) or those with BMI $\geq$ 35 with co-morbidities. A recent audit of GWMS found that 40% of individuals attending the service require an appointment with a clinical psychologist for a further assessment of anxiety or depression and around a third of people require assessment for BED following their initial weight management assessment (Cawley, 2006). The purpose of further psychological assessment is to assess the extent that such psychological distress or non-normative eating patterns will have on the ability of the individual to engage in the standard weight management programme and to offer further psychological support if appropriate.

Participants – Individuals who attend the hospital outpatient clinic for a psychological assessment of BED following their initial weight management assessment will be approached to take part in the study. An audit of the weight management service found that referrals to the service were predominantly female clients (70% female versus 30% male) and almost half of the people referred were between 35 and 54 years old (Cawley, 2006). GWMS is currently being rolled out city wide and it is expected that referrals are likely to exceed 250 per month. As around one third of people require assessment for BED, approximately 83 people per month will be offered further assessment for BED. Purposive sampling will be used to select the interviewees and obtain a pool of participants.

Inclusion Criteria – All males and females aged 18 years or older who are attending the GWMS Hospital Outpatient Service who fully meet or partially meet criteria for BED will be approached to take part in the study. The Questionnaire on Eating & Weight Patterns-Revised (QEWP-R) is routinely used by clinical psychologists to assess for the presence of BED.

Those individuals who partially meet criteria for BED will be asked to take part in an interview even though they will not meet full diagnostic criteria for BED but they may still overeat in an attempt to regulate their emotions. This will enable comparison between emotional eaters and binge eaters.

Exclusion Criteria – GWMS is an adult service and as such individuals under 18 years old do not fit the service criteria and will automatically be excluded. In addition, individuals who attend for an assessment with a clinical psychologist but do not fully meet or partially meet criteria for BED will be excluded. Furthermore, individuals who engage in compensatory behaviours such as purging, laxative use or excessive exercise will not be approached to take part in the study.

Recruitment Procedure - Potential participants who meet the above inclusion criteria will be given an information sheet about the study by a clinical psychologist following their assessment. If an individual wishes to take part in the research, they will inform the researcher via GWMS and the researcher will contact the participant to provide further details about the study and arrange an interview. It is anticipated that the recruitment and interviews phase of the study will take place over a 6 month period.

Design & Procedure – The aim of the study is to explore participants' understanding and experiences of obesity and binge eating/emotional eating and the relationship between binge eating and coping. This is a novel area of investigation and is concerned with participants' experiences. Therefore, the methodological choice is informed by the research question and it is appropriate to use qualitative methodology. Hakim (2000) describes qualitative research as "a direct window on the lives of the participants" because it is concerned with individuals'

accounts of their experiences (p34). Qualitative data can be generated in a number of ways including participant and non-participant observation, case studies, in-depth interviews and focus groups (Pope & Mays, 2000). Interviews are one of the most commonly used qualitative methods in health care settings and are useful for exploring experiences, behaviour, feelings and knowledge (Britten, 2000). It is anticipated that semi-structured interviews will be conducted as they are an effective way to elicit individual accounts about experiences of obesity and engaging in non-normative eating patterns such as binge eating. A semi-structured interview schedule will be developed and will be based on Leventhal's self-regulatory model of illness behaviour and existing literature about BED and emotional/compulsive eating. The semi-structured interview schedule will be flexible and its purpose will be to guide the interview to ensure that the interviewer addresses the same themes in all of the interviews (Clarke, 1999). However, it is recognised that the respondent will be involved in directing the content of the interview and may introduce the researcher to new issues that they have not previously considered (Smith & Osborn, 2004).

All of the interviews will be transcribed by the researcher and transcripts will be double spaced to make them easier to read. In addition, there will be generous sized margins, which will be used for coding purposes and making analytical notes. It is anticipated that transcription will be a time-consuming process. However, it will ensure familiarity with the data and provide an opportunity for identifying preliminary themes.

Justification of Sample Size – The appropriate size of a sample for qualitative research should be dependent on adequately answering the research question (Marshall, 1996; Pope, Ziebland & Mays, 2000). Furthermore, Morse, Barrett, Mayan, Olson & Spiers (2002), argue that "the sample must be appropriate and consist of participants who best represent or have knowledge of the research topic" [p12]. Smith, Jarman & Osborn (1999) suggest a sample size of up to

ten participants for IPA. However, it is important to recognise that data generation, analysis and interpretation are an iterative and cyclical process and as new themes emerge in interviews they should be constantly compared against the transcripts of previous interviews. In practice, the sample size tends to be dependent on when "data saturation" occurs i.e. when no new themes or explanations emerge from the data (Marshall, 1996). However, the concept of data saturation remains a contentious issue as there are no objective criteria for defining it. Furthermore, although it has a theoretically embedded meaning in grounded theory, it has been adopted by other qualitative approaches and rarely explained in research reports (Caelli, Ray & Mill, 2003). According to Morse *et al* (2002) data saturation involves continuing to interview new participants until existing themes have been replicated, negative cases have been identified and the data set is complete when the replication of these themes has been verified. A recent study by Guest *et al* (2006) found that data saturation occurred within twelve interviews, but the basic themes were present as early as six interviews. Therefore, it is acknowledged that the number of interviews conducted will depend on adequately answering the research question.

Settings & Equipment - It is anticipated that the interviews will last approximately one hour and will be conducted at GWMS, which is based within the Glasgow Royal Infirmary. All of the interviews will be recorded with the participants' consent. Recording the interviews will enable the researcher to concentrate on the interview and engage in appropriate eye contact and non-verbal communication as there will be no need to take notes (Kvale, 1996). It is planned that a digital recorder will be used instead of a tape-recorder as digital recorders provide high quality recordings and tape hiss is non-existent, which makes transcription easier. In addition, they are portable and have long recording times (Stockdale, 2002). Furthermore, a recording can be uploaded onto a computer and compressed as an MP3 file, which will make

it possible to back-up all of the interviews onto a recordable CD.

Data Analysis – The data will be analysed using the IPA approach. The initial stages of data analysis will involve reading and re-reading the transcripts in order to ensure familiarity with the data. As recommended by Smith *et al.* (1999) notes will be made in the margins whilst reading the transcripts. The left-hand margin will be used to write down any important or interesting notes about what the participant is saying and the right-hand margin will be used to document emerging title themes. The emerging title themes are key words which capture what is occuring in the text. A coding sheet will be constructed for each interview and it is intended that this will summarise the main themes and sub-themes. The individual summary sheets will be used to create an overall list of themes. The identified themes will be grouped together under broad headings and will be revised when any new themes emerge in subsequent interviews. A master table of themes will be generated and will contain instances of where the themes occur in the transcripts and include details about the key words, page and line numbers.

As previously mentioned, data generation, analysis and interpretation are an iterative and cyclical process and as the interviews continue, the content will be compared to previous interviews. Smith *et al.* (1999) argue that IPA is not a prescriptive methodology and that interpretive analysis is dependent upon the researcher and their experience. The analysis process will be systematic and rigorous and will involve identifying themes, searching for similarities among the themes and also searching for deviant cases or tensions.

In order to ensure rigour, it is essential the study is well designed and that data collection and analysis are systematic (Pope & Mays, 1995). Although the "concepts of reliability and validity cannot be imported from positivist approaches to qualitative ones" (Arksey & Knight,

1999), a number of techniques can be used to ensure reliability and validity in qualitative research. For example, organising the data generated in a standardised method and keeping meticulous records of the analysis process and conceptual development can ensure reliability (Silverman, 2001; Pope & Mays, 1995). In addition, the reliability of the analysis can be improved by cross-checking analysis categories and comparing agreement using multiple coding. Therefore, in order to ensure rigour in the development of the coding frame and analysis for this study, the themes will be verified and discussed with another independent investigator. In addition, a third investigator will be involved in verifying a sub-sample of the transcripts.

Respondent validation is often cited as a method for improving validity in qualitative research. However, Barbour (2001) believes that it has often been adopted as a "technical fix" for securing grant funding and publication, and she emphasises that "none of these technical fixes, in itself, confers rigour" (p1115). Similarly, Silverman (2000) considers respondent validation to be of limited value and recommends, instead, the use of constant comparison and deviant-case analysis to enhance validity. Respondent validation will not be used for this study because it can make considerable demands on participants' time and reading the transcripts may be distressing for the participants, particularly when the proposed research is on a sensitive topic (Barbour, 2001). However, it is anticipated that constant comparison and deviant-case analysis will be used to seek out negative cases and compare and contrast the findings within the dataset.

In addition to reliability and validity, the generalisability of qualitative research is often questioned (Kvale, 1996). In quantitative research, generalisability is achieved by statistical sampling to ensure representatives and enable the researcher to make inferences about the

whole population (Silverman, 2000). Representativeness is not the main objective of qualitative research. However, the generalisability of findings will be important. Theoretical generalisation involves demonstrating that the findings are applicable to the wider population and it is an issue, which has been raised by a number of authors (Seale, 1999; Bryman, 1988; Silverman, 2001). The theoretical generalisability of the research findings will be maximised by including an extensive review of the relevant literature and the findings will be contextualised within existing literature in similar areas for example research about Bulimia Nervosa or compulsive overeating. In addition, purposive sampling will be used to reflect the client group that attends GWMS.

HEALTH & SAFETY ISSUES:

Researcher Safety Issues – The risks to researchers conducting fieldwork are often overlooked (Green, Barbour, Barnard & Kitzinger, 1993). Lee-Treweek & Linkogle (2000) argue that all qualitative fieldwork is potentially dangerous and although situations can be unpredictable, researchers should consider the possible risks. Likewise, Lewis (2003) argues that risk minimisation is essential and safety arrangements should be made before commencing fieldwork. In order to minimise risk to the researcher, the interviews will not be conducted in participants' homes, but will instead be conducted at the Glasgow Royal Infirmary. An identified member of GWMS service staff will be informed which room the researcher is conducting the interview in and will inform the member of staff when the interview has been completed. Lee-Treweek & Linkogle (2000) consider emotional risks to be as significant as physical risks. If there is an interview situation where the interview has an emotional risk to the researcher, the researcher will contact their supervisor to de-brief in order to minimise any potential emotional harm.

Participant Safety Issues – The British Psychological Society (BPS) Code of Ethics & Conduct (2006) requires researchers to protect participants from possible harm. It is believed that the risk of harm during the interview will be no greater than in ordinary life. However, as severely obese individuals may have co-morbid medical conditions such as cardiovascular problems, the researcher will become familiar with the routine GWMS procedures (e.g. procedure for cardiac arrest). During the interviews, the participants will be handled sensitively as it is anticipated that the interview questions could be sensitive and emotive for some participants. As a result, questions may not be fully probed in instances where the respondent appears uneasy or distressed. Furthermore, participants will be informed that they can contact the researcher via GWMS in case any stress, potential harm or related questions or concerns should occur following the interview.

ETHICAL ISSUES:

In accordance with the BPS Code of Ethics & Conduct (2006), the following ethical issues have been considered:

Informed Consent – All potential participants will be provided with a written information sheet and be informed about the purpose of the research. In addition, the researcher will endeavour to explain all other aspects of the research about which the participants enquire and provide potential participants with the opportunity to discuss their concerns and/or ask questions about the research prior to obtaining consent. It is intended that the interviews will be recorded with the participants' consent.

Right to Withdraw – Interview participants will be informed that they will not have to answer any questions that they do not feel comfortable answering. Furthermore, the participants will be informed that they have the right to withdraw from the research at any time and do not require to provide the researcher with a reason for withdrawal. They will be informed that withdrawal from the research will not affect their treatment at GWMS. In addition, the participant will be informed that following the interview and subsequent debriefing, they will have the right to withdraw their consent retrospectively and if they wish to do so, the recording will be destroyed.

Debriefing – Due to the potentially sensitive and emotive issues that could be raised in the interview, the researcher will ensure that the participants receive any necessary debriefing following the interview to ensure that s/he has not experienced any harm answering any questions. In addition, the researcher will inform the participant that they can contact them via GWMS after the interview should they have any queries regarding the interview or wish to withdraw their consent retrospectively. If any emotional difficulties have arisen as a result of the interviews, the participants will be asked whether they would like their clinician to be informed, as all interviewees will have been previously assessed by a clinical psychologist and/or will be working therapeutically with a clinical psychologist.

Anonymity & Confidentiality – All of the interview transcripts will be anonymised by assigning pseudonyms to both participants and individuals to whom they refer. In addition, locations will be omitted from the transcripts in order to maintain anonymity. The interview mini-discs will labelled with an identification code and the date of the interview. The recordings and transcripts will be stored securely in a lockable drawer/filing cabinet.

FINANCIAL ISSUES:

It is anticipated that some financial assistance will be required for the following:

Equipment – Digital recorder (avaliable from Department of Psychological Medicine).

Stationery – Headed notepaper (1 ream x 500 sheets), envelopes (1 box x 250), postage costs (freepost @23.5p per letter), photocopying costs (100 sheets@ 0.015p each) estimated cost £21.82.

Travel Costs - Participant travel costs to the Royal Infirmary (budget £5 per participant) estimated cost £100. It has been agreed that claims for participants' travel expenses will be submitted to NHS Greater Glasgow & Clyde via the Department of Psychological Medicine.

The total financial assistance required is expected to be no more than £122.

PROPOSED TIMETABLE:

The following timetable is proposed for conducting the research:

MONTH	TASK
MARCH 2007	MRP PROPOSAL SUBMISSION
JULY 2007	MRP FINAL PROPOSAL SUBMISSION
MAY-JULY 2007	ETHICS PROPOSAL PREPARATION
JULY/AUGUST 2007	ETHICS SUBMISSION
OCTOBER-DECEMBER 2007	COMMENCE RECRUITMENT & INTERVIEWS
FEBRUARY-APRIL 2008	CONDUCT INTERVIEWS
APRIL-JUNE 2008	ANALYSIS & WRITING UP*
AUGUST 2008	SUBMISSION OF RESEARCH PORTFOLIO

*Analysis is an iterative process and will commence whilst the interviews are being conducted.

PRACTICAL APPLICATIONS:

The study is clinically relevant and should provide rich data about experiences of obesity and non-normative eating patterns. It is likely that the research could provide information about the impact that non-normative eating patterns such as binge eating/emotional eating can have on implementing a weight management programme. The findings could be used to enhance the psychological content of the weight management programme or could be used to develop weight management interventions (group or one-to-one) specifically for individuals with BED.

ETHICAL AND MANAGEMENT APPROVAL SUBMISSIONS:

It is anticipated that the proposal will be submitted for consideration by the Glasgow Royal Infirmary Local Research Ethics Committee. The proposal will also be submitted for management approval to the Head of Service for GWMS and the relevant Research & Development Directorate within Greater Glasgow & Clyde.

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