

**A compassionate mind approach to self-help for treatment  
seeking obese adults:  
A randomised controlled trial**

Thesis submitted to the University of Leicester  
Faculty of Medicine & Biological Sciences,  
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Doctorate in Clinical Psychology

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## **DECLARATION**

I confirm that the literature review and research contained within this thesis are my own and have not been submitted for any other degree or to any other institution.

**A compassionate mind approach to self-help for treatment seeking obese  
adults: A randomised controlled trial**

**Kerrie Loader**

**Thesis Abstract**

Obesity and overweight are global issues and the rate of obesity has more than doubled in the past 30 years. The financial and physical cost of obesity and overweight continues to rise. Obesity and overweight are characterised as relapsing conditions which can share psychopathology with eating disorders. This thesis intended to evaluate current psychological approaches to obesity and overweight which was under-researched. It explored a compassionate mind approach intervention for weight management which focused on psychosocial factors present in obesity and overweight.

The systematic literature review evaluated psychological interventions for the treatment of obesity and overweight. Twelve articles were reviewed and assessed for methodological quality. The results demonstrated short-term treatment efficacy for behavioural therapy but the evidence for the most effective form of psychological intervention was inconclusive. There was no conclusive evidence that psychological interventions offered long-term weight-loss maintenance. A requirement for further research into psychological interventions for obesity and overweight using robust methodology was indicated. Methodological issues were considered which may have limited the conclusions of the review.

The empirical study was a randomised control trial that lasted for six months. Thirty six participants received either compassionate mind approach guided self-help (GSH) or treatment as usual (TAU) in a dietetic clinic. Measures of shame, self-compassion, psychological wellbeing, disordered eating, physical activity and BMI were taken at pre and post-intervention. No statistically significant results were demonstrated for GSH or TAU in terms of these factors. Treatment effect sizes were observed for GSH regarding levels of external shame, self-compassion and preoccupation with shape and for TAU regarding levels of uncontrolled eating. The results suggested that eating psychopathology and psychosocial factors are relevant in treatment seeking obese populations and these should be explored when developing interventions. The study limitations, clinical implications and future research were discussed.

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## **Literature review**

### **The efficacy of psychological interventions in the treatment of obesity and overweight - A review**

## 1. ABSTRACT

*Introduction* – Obesity and overweight are global issues with the numbers of individuals at risk from related health problems rising on a yearly basis. This review aimed to explore the efficacy of psychological interventions in the treatment of obesity and overweight by considering randomised controlled trials.

*Methods* – A systematic review of the literature relating to psychological interventions for the treatment of obesity and overweight was carried out using psychological electronic databases (PsychINFO, PsychArticles, Medline, The Cochrane library, Pubmed) from 2003 to 2012. Twelve articles were reviewed and assessed for methodological quality.

*Results* – The review demonstrated efficacy for behavioural therapy in the treatment of obesity and overweight in the short-term. However all models of psychological intervention and method of delivery considered demonstrated small effect sizes when compared to a control treatment or other psychological intervention. There was no conclusive evidence concerning the long-term efficacy of psychological interventions.

*Conclusions* - The evidence considered within this review was inconclusive as to the most effective form of psychological intervention for the treatment of obesity and overweight. This indicated the requirement for further research into the effects of treatment on individuals who are obese and overweight using robust methodology.

## **2. INTRODUCTION**

The number of obese individuals worldwide has more than doubled since 1980 with more than 1.4 billion adults being overweight (World Health Organisation; WHO, 2012). Obesity is characterised as a relapsing condition and interventions successful in maintaining weight-loss are under-researched (Butland *et al.*, 2007). This review intends to evaluate the efficacy of current psychological approaches to the treatment of obesity and overweight and focus on long-term weight-loss maintenance.

### **2.1 Clinical context**

Adult obesity and overweight are assessed using the height to weight ( $\text{kg/m}^2$ ) ratio index system of Body Mass Index (BMI). A BMI of  $\geq 25 \text{kg/m}^2$  indicates that an individual is overweight and a BMI of  $\geq 30 \text{kg/m}^2$  indicates obesity. In 2008 it was believed that 2.8 million people worldwide died due to being obese or overweight (WHO, 2012). An increase in an individual's BMI is related to an elevated risk of developing lifestyle diseases such as diabetes or cardiovascular disease (WHO, 2008).

Obesity and overweight were once considered to be health conditions associated with high income countries. However, they have become more prevalent in low to middle income countries as these become increasingly Westernised. Thus, it appears that many of the underlying social and environmental factors associated with obesity and overweight are associated with Western culture. Popkin *et al.* (2012) explored how society's patterns of eating and physical activity have contributed to the fundamental

cause of obesity. This is essentially an imbalance of calories consumed and expended. As society has greater access to cheaper high fat and high calorie foods there have been technological advances which have reduced the need for physical activity.

WHO (2012) considered obesity and overweight to be preventable and advised that the pandemic could be challenged with lifestyle changes that were supported by community initiatives and government policy. This position was echoed by the UK Department of Health (DoH) and the National Health Service (NHS). The DoH (2011) “Healthy lives, Healthy people” initiative was aimed at tackling obesity in a population where 22% of men and 24% of women were classed as obese in 2009 (The Health and Social Care Information Centre, 2011). The recommended treatment in the NHS is lifestyle changes, followed by pharmaceuticals and then surgery if necessary (National Institute of Clinical Excellence; NICE, 2006).

## **2.2 Psychological approaches to obesity and overweight**

Psychology has not had a clear role in the treatment of obesity and overweight. Garner and Wooley (1991) concluded that there was no evidence to support dietary and behavioural treatments for obesity. There have been few psychological approaches since Garner and Wooley’s (1991) paper that have successfully followed their recommendations by focusing on improving lifestyle, body image and self-esteem. Traditional approaches to weight-loss which use dietary and exercise-related advice have led to cycles of weight-gain and loss (Haslam & James, 2005). The British Psychological Society (BPS) highlighted that “obesity is as much a psychological issue

as a physical concern” (BPS, 2011, p.27). Several psychological approaches have been evaluated to address psychological factors of obesity. Behavioural and Cognitive Behavioural therapies are the most common psychological approaches in obesity research. When these therapies are combined with dietary and activity advice they have demonstrated enhanced weight-loss (Shaw *et al.*, 2005).

Behavioural Therapy (BT) is usually delivered as part of a lifestyle modification program and uses operant and classical conditioning to identify triggers and implement changes. In studies evaluating BT participants have lost on average of 10% of their baseline weight (Wing, 2002). This weight loss is, however, short-term and there has been no conclusive evidence to suggest the long-term treatment efficacy of BT (Shaw *et al.*, 2005). Cognitive Behavioural Therapy (CBT) has been a more recent psychological approach to obesity and focuses on negative eating behaviours and lifestyle change (Cooper & Fairburn, 2001). These psychological approaches have been delivered in a variety of ways. There have been conventional approaches such as bibliotherapy, group-based therapies and stepped-care therapies. In addition new methods of self-help utilising technology such as websites, e-mail, SMS and pod-casts have emerged (Latner & Wilson, 2007).

### **2.3 Previous reviews**

Previous reviews have evaluated the use of psychological interventions for obesity and overweight. A review by Burke and Wang (2011) examined the efficacy of modalities of treatment for obesity and concluded that lifestyle modification together with BT were



most effective. This BT was based on social learning theory (Bandura, 1977) which identified strategies of goal-setting, self-monitoring, problem-solving, stimulus control, cognitive restricting and relapse-prevention. In a further review by Burke, Wang and Sevick (2011) it was determined that self-monitoring skills were a strong indicator of success in weight reduction in obesity treatment.

A review by Wadden *et al.* (2012) considered BT and its short-term and long-term efficacy in demonstrating sustained weight-loss. Lifestyle modification utilising BT produced a weight-loss of 7–10% maintained over 12 months with some form of continued intervention. The review also indicated that with continued support using BT, weight-loss could be maintained over a four year period. The evidence base, however, for long-term weight-loss without support was weak and most studies demonstrated weight regain (Turk *et al.*, 2009). The evidence suggested that psychological factors, such as self-blame, are influential as individuals become enmeshed in unsuccessful dieting cycles (Thomas *et al.*, 2008). It was suggested by Day *et al.* (2009) and Darby *et al.* (2007) that psychosocial factors are important in the treatment of obesity and overweight.

Reviews by Turk *et al.* (2009), Burke and Wang (2011) and Wadden *et al.* (2012) concluded that lifestyle modification encompassing BT techniques were the most effective form of treatment. These reviews also determined that there was a lack of evidence to support long-term treatment efficacy. There were, however, methodological issues related to these reviews. The Burke and Wang (2011) and Wadden *et al.* (2012) papers did not report on methodology and therefore no information was available regarding paper selection and appraisal. The Wadden *et al.* (2012) review was narrative

while Turk *et al.* (2009) appeared to have applied more systematic principles and considered only randomised control trials (RCT's). All three reviews did not detail procedures for quality assessment therefore credibility was reduced.

A Cochrane systematic review of psychological treatments for obesity was conducted by Shaw *et al.* (2005) with a search that concluded in June 2003. This review suggested that BT and CBT were most effective at that time. There has been, however, little consideration regarding the psychological factors associated with obesity and overweight.

## **2.4 Rationale and aims of the present review**

Lifestyle modification utilising BT has emerged as an effective psychological intervention for obesity and overweight. Previous reviews in the area have not been methodologically thorough and the more rigorous Shaw *et al.* (2005) review was based on studies up until 2003 only. This review attempted to overcome the methodological limitations of previous reviews and provide an up-to-date evaluation of the available evidence.

The aim of the current review was to synthesise RCT's exploring the efficacy of psychological interventions for obesity and overweight. Similar to the Shaw *et al.* (2005) review it aimed to consider the efficacy of both different psychological models and treatment methods. A prime consideration was to focus on treatment efficacy in terms of long-term weight-loss maintenance.

Key questions:

- What can the current literature tell us about the efficacy of psychological interventions for the treatment of obesity and overweight?
- What can the current literature tell us about the efficacy of the different methods of delivering psychological interventions for obesity and overweight?
- Which model of psychological intervention demonstrated the best short and long-term outcomes in terms of weight-loss?

### **3. METHOD**

#### **3.1 Development of search terms**

A scoping search was undertaken in August 2012 to determine the range of literature available. This search identified the Shaw *et al.* (2005) review “psychological interventions for obesity and overweight”. The search strategy present in this review was adopted to consider literature from 2003 to the present day and so bring this review up-to-date. The search strategy was adapted for this review including inclusion/exclusion criteria and search key-words. To ensure a comprehensive search was completed a time overlap with the Shaw *et al.* (2005) review of six months was included. This overlap did not result in any studies being removed due to duplication or included due to being missed by the Shaw *et al.* (2005) review. Appendix A contains a detailed list of the key-words used.

#### **3.2 Inclusion/Exclusion criteria**

Studies were required to be in English from peer-reviewed journals, have a quantitative methodology and be published between 2003 and the present. Only studies with a dropout rate of  $\leq 25\%$  were included to ensure the study had an adequate sample size to determine long-term treatment efficacy. Studies were included with adults between 18 and 65 who had a BMI  $\geq 25\text{kg/m}^2$  as BMI's above this indicated overweight or obese participants. Studies were excluded if they had participants with an eating disorder diagnosis as classified by the WHO International Classification of Diseases version 10 (ICD-10; WHO, 1992).

The psychological intervention used needed to be clearly stated in the study report and all types of psychological intervention were considered including individual and group therapies. Treatments for obesity and overweight have often included lifestyle modification in the form of dietary and physical activity interventions. Therefore the following study designs were considered for inclusion:

- Psychological intervention and alternative psychological intervention.
- Psychological intervention plus diet and exercise and just diet and exercise.
- Psychological intervention and control (no treatment).

It was beyond the scope of this review to include studies comparing pharmacological or surgical interventions.

Studies were only included if they used a RCT design with standardised measures of weight and psychosocial factors at pre and post-intervention and also at follow-up. This was consistent with the Shaw *et al.* (2005) review.

### **3.3 Identification of studies**

#### ***3.3.1 Electronic searches***

MEDLINE (including Embase), PsycINFO (including PsycLit and PsycArticles), the Cochrane Library and Pubmed were searched for studies between 2003 and the present

during August 2012. Appendices A and B detail the searches undertaken and the keywords used.

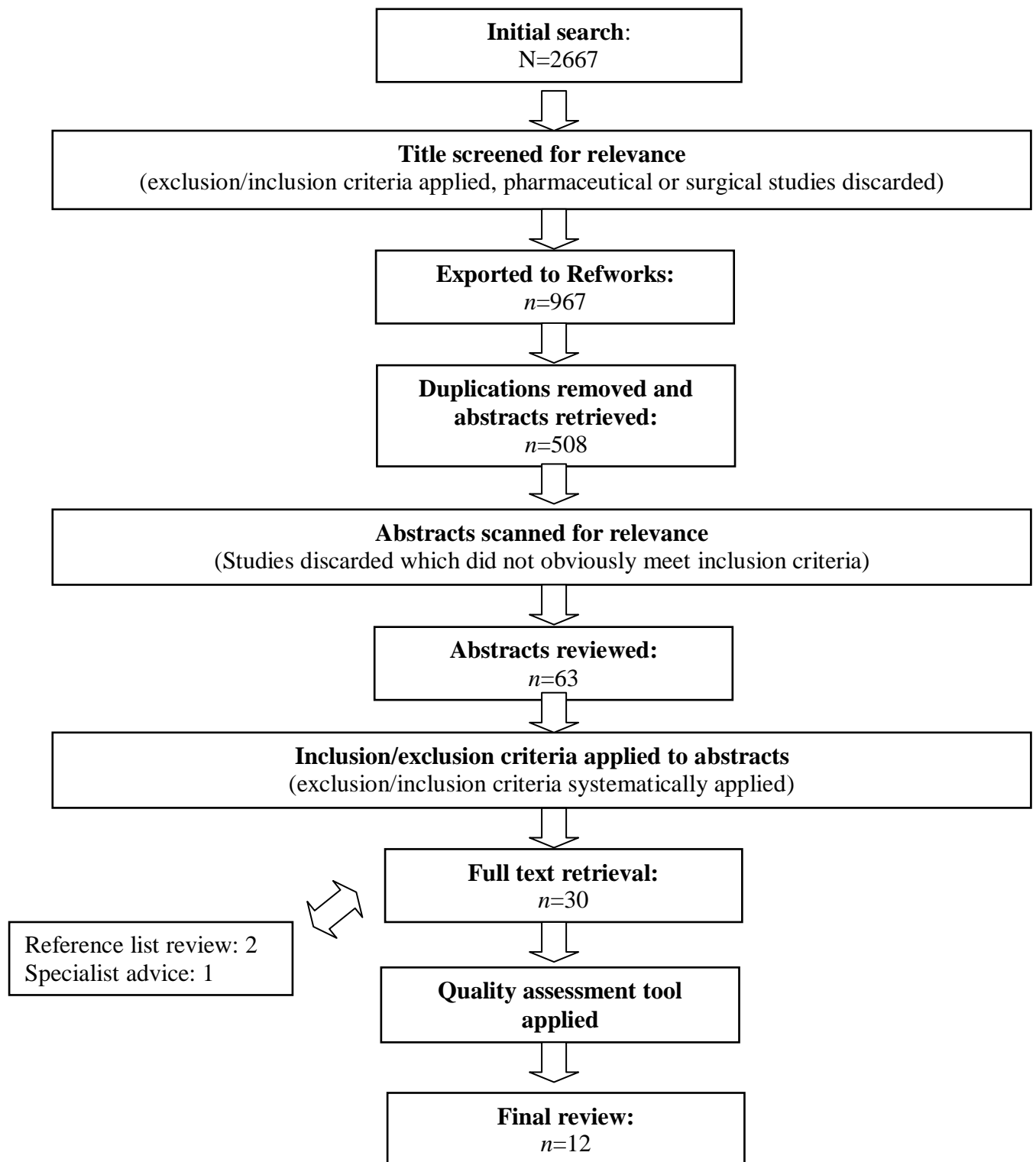
The reference lists of identified studies were searched to highlight further potential studies. A specialist in the treatment of obesity was also consulted for advice on other available material.

### **3.4 Shortlisting**

Figure 1 illustrates the shortlisting process. All references returned by the electronic databases were considered and the titles screened for relevance. All appropriate studies were exported to the reference management software RefWorks where duplicates were removed and the abstracts retrieved. Abstracts were scanned to remove obviously inappropriate studies before the criteria above were systemically applied and unsuitable studies were discarded. Full text articles were then retrieved and read thoroughly including a scan of references to identify further studies. The above criteria were applied again to provide a shortlist of studies to be included in the review.

**Figure 1**

*Flow diagram of study selection*



### **3.5 Data synthesis and appraisal**

The shortlisted articles were considered in depth and were assessed for quality and risk of bias by extracting data using a proforma (Appendix C). The quality of the RCT methodology and risk of bias was explored using the ‘Risk of bias’ assessment tool detailed in the Cochrane handbook for systematic reviews of interventions (Higgins & Green, 2011). The quality of the evidence within each study was assessed with methods detailed in Gough’s Weight of Evidence Scale (Gough, 2007). The shortlisted studies were given a rating of ‘poor’, ‘fair’ or ‘good’ based on a combination of these scales. Details of the parameters of these assessment tools are summarised in Appendix D. A description of the final 12 papers follows.



## **4. RESULTS**

### **4.1 Excluded studies**

As can be seen from Figure 1 after the initial search 63 abstracts were reviewed and 30 studies were found to be eligible for inclusion in the review and 18 were excluded. The most common reason for exclusion at this stage was examination of the dropout rates. Studies were excluded if the dropout rate was above 25% which was greater than the 15% in the Shaw *et al.* (2005) review due to the smaller search timescale.

### **4.2 Studies included in the review**

Appendix E summarises the authors, design, methods, participants, interventions and outcome measures of the 12 studies included in this review.

#### ***4.2.1 Participants and setting***

The total number of participants in the 12 studies considered was 1724 with 87% being female and six trials being 100% female. All the trials were conducted on adults with an age range of 18-65 years with the mean age of participants being 46.8 years. There were four studies from the USA, two from the UK and Portugal and one trial from Germany, Thailand, The Netherlands and Sweden. The 12 studies were set in the community apart from one inpatient study. The outpatient settings varied from rural

communities in Thailand, UK community halls, dietetic clinics, university campuses, workplace settings and by telephone or podcasts. The origin of recruitment varied from referral from insurance companies, GP's, dieticians, employers or media advertising and health fairs. The duration of the interventions varied from a one-day workshop to 18 months with a median duration of 24 weeks. Follow-up varied from two months to three years.

#### ***4.2.2 Types of interventions***

There were a range of psychological interventions included and these are discussed more fully later. The 12 included studies have been grouped into psychological model subheadings where possible as demonstrated in Table 1.

**Table 1***Psychological intervention included in the review*

<b>BT</b>	<ul style="list-style-type: none"><li>▪ Group BT compared to individual BT.</li><li>▪ Standard BT compared to maintenance BT.</li><li>▪ BT compared to control of diet and exercise (two studies).</li><li>▪ BT with motivational interviewing compared to diet and exercise.</li><li>▪ BT compared to psychodynamic therapy.</li><li>▪ CBT compared to BT and guided self-help.</li></ul>
<b>Cognitive therapy (CT)</b>	<ul style="list-style-type: none"><li>▪ CT compared to lifestyle change (two studies).</li></ul>
<b>Social cognitive theory (SCT)</b>	<ul style="list-style-type: none"><li>▪ SCT podcast compared to dietary education podcast.</li><li>▪ SCT group compared to individual telephone counselling.</li></ul>
<b>Acceptance and commitment therapy (ACT)</b>	<ul style="list-style-type: none"><li>▪ ACT compared to a waiting list.</li></ul>

#### ***4.2.3 Outcome measures***

Weight-loss was measured consistently by reduction in kilograms or BMI with some consideration of percentage lost over time-span. Ten studies specified BMI as an

inclusion criteria and six of the studies included participants with an overweight BMI (25–30kg/m<sup>2</sup>) as well as obese ( $\geq 30$ kg/m<sup>2</sup>).

Psychological factors and wellbeing were measured by these standardised measures:

- Beck Depression inventory (BDI; Beck *et al.*, 1979).
- Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982).
- Obesity-related quality of life was assessed by the ORWELL (Mannucci *et al.*, 1999).
- Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965).
- Self-determination scale (SDS; Sheldon *et al.*, 1996).
- Social Problem-Solving Inventory (SPSI; D'Zurilla *et al.*, 2002).
- Symptom Checklist (SCL-90; Derogatis, 1977).

Several of the studies had adapted or designed measures to meet the needs of their trial and no standardised measures were available. An example of this was in Study 2 which devised trial specific questions which investigated retention of treatment related cognitions presented during a CT group. Due to the non-standard nature of these measures, and lack of internal validity reporting, these outcomes were not considered in the current review.

Cost of the implementation of an intervention was reported by two of the studies. Study 3 considered costs in terms of labour, materials and travel whilst Study 9 evaluated program cost per participant and cost to the participant in engaging. Both

concluded that group therapy was more cost-effective in terms of treatment outcome.

#### ***4.2.4 Risk of bias***

There was a risk of bias present in all 12 studies considered in this review. There was no reporting of methods of randomisation in Studies 2, 3, 5, 8 and 12 and methods of blinding were omitted across the majority of studies. Studies 3, 4 and 8 did, however, state methods of outcome, participant and intervention-provider blinding. An intention-to-treat analysis was used in nine studies, however, Study 6 reported no drop-outs and Studies 1 and 7 did not report the methods of analysis. In ten of the studies missing data was handled conservatively by carrying baseline data forward consistent with recommendations by Ware (2003) for incomplete data in weight-loss trials. Two of the studies (Studies 7 and 11) adopted Rubin's multiple imputation strategy (Rubin, 1987; Little & Rubin, 2002). All studies demonstrated some potential bias as appraised by the current review author using the tool detailed in Appendix D. Each study's risk of bias is summarised in Appendix E.

### **4.3 Effects of interventions**

This section synthesises the evidence available from the studies included in this review. The efficacy of psychological interventions for obesity and overweight will be discussed in terms of physical and psychological outcomes. In addition methodological and design issues will also be considered.

#### ***4.3.1 Comparing methods of delivering BT (Studies 3 and 7)***

Study 3 evaluated different methods of delivering BT by comparing group and individual therapy. Both the group and individual therapy lasted for three months with a 12 month follow-up. In comparison Study 7 appraised different methods of delivering BT by comparing standard BT with a maintenance-tailored BT to address issues of habituation and boredom. Therapy groups met over an 18 month period at regular intervals but no unsupported follow-up period was reported.

##### ***4.3.1.1 Physical outcomes***

Both trials reported significant weight-loss in both their treatment conditions with maximum average weight-loss demonstrated at six months. Study 3 reported that there were no statistical differences between treatment conditions. Study 3 also demonstrated a weight-loss of between 5.38% and 5.88% at six months which was maintained at 12 months by between 73.1% and 73.8% of participants. These outcomes indicated long-term treatment efficacy however the absence of a control group made it difficult to reach informed conclusions.

Study 7 demonstrated an average of 7.4kg loss in the maintenance condition and an average of 5.7kg loss in the standard condition at six months. At 18 months those in the maintenance condition continued to lose weight albeit only 0.1kg on average. Those in the standard condition, however, demonstrated an average increase of 1.4kg. There were no effect sizes reported within this study and these were calculated by the current author using a published formula (Thalheimer & Cook, 2002). The between treatment effect

sizes at six months and 18 months were both large ( $d=0.8$ ;  $d=0.98$ ).

#### *4.3.1.2 Methodological/design issues*

Studies 3 and 7 both lacked a control group comparison which made it difficult to reach informed conclusions from the outcomes. Study 3 was based in rural Thailand and therefore may have lacked generalisability to other populations. In addition it did not use any standardised measures to assess psychological outcomes and therefore these were not considered in the current review.

Study 7 adopted a strategy of asking for a \$50 deposit at the commencement of treatment as part of the intervention. This was returned if participants reached set goals during the intervention in the maintenance condition. The deposit, however, was only returned in the standard condition when the participant completed treatment. The impact of this on the outcome of the study was not considered. The motivation of payment on achieving goals during the maintenance intervention may have impacted on the weight-loss outcomes at six and 18 months.

#### *4.3.2 Different models of BT (Studies 8 and 9)*

SCT which is a form of BT was evaluated by two trials which considered three different treatment delivery methods with one study using a control condition. SCT interventions are focused on self-efficacy, self-regulation skills, goal-setting, self-monitoring, problem-solving, stimulus-control and relapse-prevention. Study 8 utilised a

contemporary media method by comparing a weight-loss control podcast to an enhanced podcast using SCT. Both conditions were 12 weeks in duration with two podcasts a week.

Study 9 had two intervention conditions where intervention one was 60 minutes of group telephone counselling and intervention two was individual telephone counselling for 25–45 minutes. Both interventions consisted of weekly treatment sessions for 16 weeks followed by four bi-weekly sessions.

#### *4.3.2.1 Physical outcomes*

Studies 8 and 9 both reported a statistically significant difference in treatment groups in terms of weight-loss. At twelve weeks Study 8 reported that BMI was reduced by one point in the enhanced condition compared to a 0.3 BMI point reduction in the control condition. Effect size was not reported but was calculated by the current author to be large ( $d=0.8$ ). Study 9 reported a large effect size with the group intervention compared to the individual condition. The actual effect size was not stated however when checked by the current author it was found to be large ( $d=1.13$ ).

#### *4.3.2.2 Psychological outcomes*

There were no between treatment differences in terms of psychological outcomes in these two studies. Participants in both studies in all treatment conditions did demonstrate an improvement in terms of self-efficacy. When SCT was delivered in a



group setting it demonstrated potential in terms of treatment efficacy compared to a control intervention. It was apparent that more research was required and as SCT has similarities to BT it may be beneficial to determine which were the common effective elements of these two models.

#### *4.3.2.3 Methodological/design issues*

Study 9 reported that weight-loss over time was statistically significant with a large effect despite the small sample size ( $n=27$ ). There was no significant differences in weight-loss between the two treatment groups. All participants were provided with pre-packaged entrees and shakes to promote adherence to diet and this may have affected the weight-loss outcomes. A further limitation was the lack of follow-up for this study making effective comparisons to Study 8 problematic.

#### *4.3.3 BT versus diet and exercise control (Studies 4, 10 and 12)*

Three of the 12 studies evaluated the efficacy of BT compared to a control group with general education regarding lifestyle choices such as improving diet and physical activity levels. Studies 10 and 12 used a group approach of 30 sessions over a one-year period using BT based on self-determination theory (Ryan & Deci, 2002). Study 4 also utilised BT but on a one-to-one basis with 12 sessions of face-to-face and telephone contact over six months.

#### *4.3.3.1 Physical outcomes*

Weight-loss outcomes for these three studies demonstrated some efficacy for BT. Study 4 showed over six months that 17% of participants ( $n=72$ ) achieved a 5% weight-loss compared to 5% in the control group ( $n=69$ ). The effect size was reported as an odds ratio with the intervention group having four times the odds of a 5% weight-loss. In Study 10 a longer intervention of 12 months was considered and there was a significant difference ( $p<0.001$ ) in percentage of BMI reduction between the intervention and control group. Although this study stated that effect sizes would be reported this was not done and when it was calculated by the current author this was large ( $d=1.58$ ).

A reduction in weight at 12 months was also reported by Study 12 where 61% of participants achieved a 5% weight-loss following their intervention compared to 16% in the control group ( $d=0.1$ ; calculated by current author). Interestingly, 5% weight-loss at a 24 month follow-up was 45% in the intervention group and 19% in the control group. More participants actually went on to achieve 5% weight-loss at 24 months in the control group than at 12 months which suggested there may be little difference between groups in terms of maintenance.

#### *4.3.3.2 Psychological outcomes*

Study 10 and 12 demonstrated post intervention outcomes which suggested that psychosocial factors such as self-regulation, cognitive-restraint and eating self efficacy were related to weight loss. At 24 month follow-up, however, in Study 12 this was not

replicated and the most relevant psychosocial mediator became a person's attitude to physical exercise. BT did appear to have a better treatment efficacy than dietary/activity education alone. It was also not clear how psychosocial factors impacted on an individual's ability to achieve and maintain weight loss.

#### *4.3.3.3 Methodological design issues*

The method of reporting the weight-loss outcomes in these studies suggested a level of bias. Important indicators of efficacy are omitted such as effect size and *p*-values which hindered the comparisons of study outcomes. These studies also lacked details on the method of delivery of the intervention within the report making replication of these studies problematic. Studies 10 and 12, however, did indicate where protocols could be obtained (Silva *et al.*, 2008).

#### *4.3.4 BT versus other psychological therapy (Studies 1 and 11)*

In Study 1 BT was evaluated in comparison to an inpatient psychodynamic treatment over one year with three year follow-up. BT was also compared to CBT by Study 11 with a control of guided self-help. The treatment phase lasted for 44 weeks while the control was 24 sessions with follow-up telephone sessions. Both trials had a long-term follow-up of 3 years.

#### *4.3.4.1 Physical outcomes*

There was no significant difference in weight-loss between the various interventions. Study 1 demonstrated an average weight-loss of 5% during treatment and an average of 3% over the three years in total. Effect size was reported as Kraemer (1983) with a large effect size for weight-loss ( $ES=0.87$ ) from intake to discharge and small ( $ES=0.26$ ) from intake to three year follow-up. In Study 11 BT demonstrated better efficacy during the treatment phase with more weight-loss than both CBT and guided self-help at 24 weeks. At 44 weeks, however, both BT and CBT demonstrated similar numbers of participants with weight-loss of 5%, 76% and 71% respectively and guided self-help was 35%.

The same pattern regarding weight-loss maintenance was seen with all the models of intervention despite CBT being specifically designed to encourage long-term sustainability. Although the BT intervention demonstrated slower weight gain in Study 11 there were still no significant long-term weight loss effects. Again this emphasised the lack of long-term sustainability of weight loss once treatment had ceased.

#### *4.3.4.2 Psychological outcomes*

There were no difference between treatment groups in Study 1, however, negative body attitudes and distress reduced with moderate effect sizes over the 3 years ( $ES=57$ ;  $ES=59$ ). This study also used multiple linear regression to determine possible predictors of outcome. This demonstrated that cognitive control and physical activity accounted for 17% of variance in weight-loss long-term. This reinforced outcomes reported by Studies 10 and 12 where self-regulation, cognitive-restraint and self-efficacy were

related to weight-loss. Interestingly, in Study 11 measures of quality of life were improved across all conditions during treatment. These outcomes appeared to suggest that being involved in some form of treatment, regardless of model or method, was beneficial.

#### *4.3.4.3 Methodological/design issues*

These two studies included a long-term follow-up of three years and Study 11 also included interim measures taken at 6, 12 and 24 months. The retention rate of participants was high (88%) at three year follow-up with a balanced distribution of participants across the conditions. Effect sizes in Study 11 were not reported and as some statistics were not included it was not possible for the current author to calculate these. The control condition in this study was also significantly shorter than the treatment conditions which limited the conclusions that could be made.

#### *4.3.5 CT compared to a lifestyle change control (Studies 2 and 5)*

The evidence considered above demonstrated treatment efficacy for BT in the short-term but the impact of treatment method or duration was inconclusive. Psychodynamic therapy and CBT demonstrated similar efficacy to BT therefore it was important to evaluate other psychological approaches. Studies 2 and 5 explored CT compared with either dietary or physical behavioural changes respectively. The CT interventions used in both studies focused on the identification, challenging and changing of dysfunctional cognitions concerning eating, control, weight and shape. Both studies used group

therapy over 10 weeks with Study 2 having an 18 months follow-up and Study 5 having 12 months.

#### *4.3.5.1 Physical outcomes*

The weight-loss outcomes reported in Study 2 demonstrated a large effect size ( $d=1.1$ ) for the CT treatment group after 18 month follow-up. Study 2 also demonstrated that the maximum average weight loss was evident at six months of CT. This was consistent with Studies 3 and 7 considered earlier in the current review as both reported maximum average weight-loss at six months. Study 5 concluded that CT could maintain weight-loss in the long-term compared to a dietary and physical activity intervention. The CT group lost 4% in terms of BMI over 12 months compared to 3.2% in the control group. The CT group appeared to maintain weight loss post-treatment (4.1%) to follow-up (4%) compared to the control group where 25% of participants regained weight in terms of 0.56 BMI points.

#### *4.3.5.2 Psychological outcomes*

There was a treatment effect over time but not between groups for psychological outcomes. Dysfunctional thinking, shape and weight concerns and eating psychopathology were reduced and mood and self-esteem improved across treatment conditions. There were no actual significant treatment differences between groups and therefore the evidence for the efficacy of CT was weak. These findings suggested that being involved in some form of intervention was beneficial and outcomes did not depend on the type of intervention.

#### *4.3.5.3 Methodological/design issues*

These studies both lacked information regarding effect sizes but again the greatest weight-loss was demonstrated at six months. The long-term treatment efficacy in Study 2 was undermined by the small sample size at follow-up ( $n=29$ ). Psychological effects were assessed in Study 5 with non-standardised measures and therefore lacked generalisability.

#### ***4.3.6 ACT and mindfulness therapy versus control (Study 6)***

Third-wave therapies were explored in the final study evaluated in this review. Unfortunately there was a small evidence base for the efficacy of such psychological models for the treatment of obesity and overweight. Many of the studies available were under-powered or demonstrated high dropout rates. Study 6 evaluated whether a one-day workshop based on ACT and mindfulness therapy would be more effective than a waiting list control. Participants who had attended some form of weight loss intervention such as Weightwatchers were included in the study.

##### *4.3.6.1 Physical outcomes*

The study demonstrated good effect sizes with regard to weight-loss for the ACT treatment condition compared to the waiting list control at follow-up which was three months after the one-day workshop. There was a difference between conditions in past history of weight control as the control group had demonstrated greater past success.

However this was accounted for and still the ACT group demonstrated a large effect size ( $d=0.92$ ) for weight-loss. In comparison the control group demonstrated a large effect size ( $d=0.82$ ) for weight-gain. In addition 35% of participants in the ACT group lost 5lb compared to 11% in the control group which was a further large effect size ( $d=1.21$ ).

#### *4.3.6.2 Psychological outcomes*

Psychological outcomes were also positive for the ACT condition as individuals had less psychological distress and better quality of life. Lower levels of stigma related to weight were also reported, however, the measure was designed specifically for the study and therefore lacked validity.

#### *4.3.6.3 Methodological/design issues*

This study was co-authored by Steven Hayes who was involved in the development of the ACT model (Hayes *et al.*, 1999) and had published material applying the model to different conditions. This suggested a potential reporting bias as the authors may have had an interest in providing evidence applying the model in treatment for obesity and overweight. The design method, however, was fairly rigorous with the outcome assessors blind to the participants' treatment condition. The authors were realistic about the outcomes of the study and its implications for further research rather than treatment implementation.

The outcomes appeared promising in terms of treatment efficacy despite the short



duration of the intervention and short-term follow-up. This was recognised by the authors and suggestions were made regarding integrating the model into weight-loss and maintenance programs. A variable which was not discussed, however, was the continued attendance of participants at weight-loss programs which may have affected the outcomes. It followed that there was potential for further research in therapies which offer acceptance of difficult and distressing thoughts related to weight.

## 5. DISCUSSION

This review aimed to synthesise evidence available from RCTs exploring the efficacy of psychological interventions for obesity and overweight. A further aim was to provide a current evaluation of this evidence and therefore update the review undertaken by Shaw *et al.* (2005). Previous reviews demonstrated methodological limitations such as lack of search rigour and this review attempted to overcome this.

The purpose of this review was to evaluate the effectiveness of psychological interventions in maintaining long-term weight-loss. It aimed to answer the key questions outlined in the following summary and discussion of key findings.

### 5.1 Summary and discussion of key findings

#### *5.1.1 What can the current literature tell us about the efficacy of psychological interventions for the treatment of obesity and overweight?*

All psychological interventions evaluated within this review demonstrated efficacy in the treatment of obesity and overweight in terms of weight loss. This review supported the findings of the Shaw *et al.* (2005) review as the majority of the studies utilised BT. The 12 studies all reported evidence of weight loss for individuals over the course of time. There was little evidence though for support of one model or method of psychological intervention. Factors such as self-regulation, cognitive restraint and eating self-efficacy were reported as improved over time. This supported the Burke,

Wang and Sevvick (2011) review which found self-monitoring and regulation to be important. The studies considered in this review included a variety of ages, clinical settings and referral methods. The majority of participants were female and this made generalization to other populations difficult.

It was interesting that of the 12 studies only one adopted a waiting list control where no treatment was received. As there are recognised health risks of having an elevated BMI there were ethical considerations regarding delaying treatment for individuals seeking assistance. It therefore appeared necessary to offer participants across the majority of the studies some form of intervention when in a control group. This made it more complicated to reach informed conclusions about efficacy of psychological interventions from the available evidence.

Similar to the Shaw *et al.* (2005) review there was a lack of consistent reporting of psychological outcomes and across the 12 trials different measures were used. At the time of this review several of these measures lacked psychometric support and therefore no comparisons could be made. The evidence is limited regarding the psychopathology of obesity and overweight such as levels of shame, self-esteem, self-criticism and disordered eating behaviours. Further research using standardised measures to explore such factors would contribute to the psychological understanding of this population.

#### ***5.1.2 Which model of psychological intervention demonstrated the best short and long-term outcomes in terms of weight-loss?***

This review reinforced the findings of Shaw *et al.* (2005), Burke, Wang & Sevvick

(2011) and Wadden *et al.* (2012) that the addition of BT to lifestyle modification was beneficial. When some form of behavioural intervention including SCT was compared to a control group with lifestyle modification there were better treatment effects in the short-term. One model of psychological therapy which appeared to produce interesting outcomes when compared with a waiting list control was ACT. This was a short intervention of one-day and required further research to determine true treatment efficacy. CBT demonstrated similar efficacy in weight loss to BT despite CBT being designed to target specific weight-loss issues. This was consistent with psychodynamic therapy which produced similar outcomes to its comparison BT treatment group.

The evidence in this review did not appear to support one therapy above another in the short-term. There was more evidence available for BT and therefore research in other models and therapies is required. The various ways different therapies are delivered makes comparisons problematic. The pattern of results suggested that being in any form of structured psychological intervention for obesity and overweight was beneficial. Similar improvements in psychological wellbeing across conditions highlighted the positive effect of some form of structured support on psychosocial factors. It would be beneficial therefore to adopt a consistent methodology for delivering an intervention and then explore the effectiveness of different therapy models within this.

The issue of long-term efficacy still remains unanswered as only four of the studies had a follow-up of more than 12 months without some form of continued intervention. One of these four, Study 2, demonstrated continued weight-loss over 18 months with a large effect size ( $d=1.1$ ) but the sample size was small ( $n=29$ ). In Study 12 the treatment group had greater weight loss at 12 months but the control group went on to demonstrate

better long-term weight loss at 24 months. This suggested that there may be little difference between groups in terms of maintenance. A lack of weight-loss maintenance was evident in the other studies and this was consistent with the findings of Shaw *et al.* (2005) and Turner *et al.* (2009). This suggested that this was an area that still required further development and research. It is indicated that studies would benefit from longer follow-up periods and this may be more relevant once effective short-term interventions have been refined.

### ***5.1.3 What can the current literature tell us about the efficacy of the different methods of delivering psychological interventions for obesity and overweight?***

This review did not provide evidence to support any one method of treatment. It appeared beneficial to develop a BT intervention to address habituation and help improve weight-loss maintenance. In addition BT delivered to a group over the telephone demonstrated better treatment efficacy than BT delivered to an individual by telephone. When BT was delivered face-to-face, however, it was as effective in groups as on a one-to-one basis. One conclusion that can be tentatively made is that group therapy is more cost-effective. In light of the reported pandemic, especially in the developing world, this is an important factor to take into consideration.

## **5.2 Overall quality**

When undertaking the systematic search for this review it became apparent the dropout rates were high in obesity and overweight trials. Even with the exclusion criteria

dropout rate of 25% many studies were unsuitable for this review. There were also issues of small samples in the studies considered, however, missing data was dealt with conservatively by the majority of studies utilising recognised methods. The poor long-term treatment effects demonstrated to date, both in the papers considered in this review and in previous reviews, (Shaw *et al.*, 2005; Turner *et al.*, 2009; Burke, Wang & Sevick, 2011; Wadden *et al.*, 2012) did not offer strong enough evidence to reach satisfactory conclusions.

All the papers considered within this review were subject to levels of bias. Methods of blinding were consistently under-reported and there was a lack of information regarding randomisation in several trials. A further quality issue was the absence of effect sizes across the studies. These were often reported in words but no method about how they were calculated was given. In one study the relevant descriptive statistics were not available for the current author to calculate effect sizes. The participants in the reviewed studies were mainly females and some studies were exclusively females. There was no evidence to suggest that obesity or overweight was more prevalent in females therefore this affected the generalisability of these trials. The lack of homogeneity of the studies including model, method and length of intervention created issues in comparing and synthesising the available evidence.

### **5.3 Clinical implications and suggestions for future research**

There were no clear conclusions in terms of developing evidence based psychological interventions for obesity and overweight. It is evident by the growing numbers of obese

and overweight individuals in the population that there is a need for a more robust approach to treatment. Psychological interventions are indicated (Shaw *et al.*, 2005), however, as yet there is no one treatment model or method that demonstrated a strong enough evidence base. The cost-effectiveness of group therapy over individual therapy is suggested by two studies in the current review and this is an important consideration due to the wide ranging nature of treatment requirements for obesity and overweight.

The inconclusive evidence regarding interventions suggested a need to further investigate the psychopathology of obesity and overweight. It was indicated that being involved in a structured psychological intervention is effective. It is therefore important to explore psychosocial factors present in this population and focus on developing a model of therapy that addresses these within a set structure. The need to consider psychosocial factors when determining potential treatment for an obese individual has been highlighted by Day *et al.* (2009) and Darby *et al.* (2007). BT has demonstrated treatment efficacy, however, there appears to be the need to consider other models of treatment in more depth. Tailoring the therapy to meet the needs of the obese or overweight individual may be beneficial. This would require the consideration of elements of models that appear effective at present such as the inclusion of third-wave therapies like ACT. In exploring the efficacy of different treatment models in the short-term this could then start to provide evidence for long-term effectiveness.

A greater emphasis of environmental factors, as indicated by the Western impact on weight (Popkin *et al.*, 2012), should also be considered. NICE (2006) guidelines recommend interventions regarding lifestyle changes but this is an ambiguous term. The above evidence does not provide conclusions regarding the most beneficial changes or

methods of facilitating that change. A more holistic approach to an obese individual's needs may be required rather than a reductionist attitude of focusing on changes to diet and physical activity.

## **5.4 Limitations**

This review aimed to explore, appraise and synthesise current literature regarding psychological interventions for obesity and overweight. Despite a systematic search of literature it is important to appreciate that relevant literature may have been omitted. The review of RCT papers meant that quantitative papers were highlighted and other design methods were discounted. No unpublished work (thesis, conference papers) were considered during the search. Only English language papers were evaluated, and despite a paper from Thailand being included in this review, other non-Western studies were not included.

A further limitation of this review is that the quality of the papers included was determined by the current author using the checks detailed in Appendix D. This was done rigorously but only the current author appraised the quality and therefore, even using the evidence-based quality criteria, there was still potential for subjectivity in the paper selection.



## **6. CONCLUSION**

The evidence considered within this review is inconclusive as to the most effective form of psychological intervention for the treatment of obesity and overweight. There did appear to be benefits from including psychological interventions in treatment. The small differences between interventions however suggested that it may be non-specific factors present in structured psychological support that were beneficial. This indicated a need for further research into the effects of different models of therapy on individuals who are obese and overweight. This review emphasised that successful weight loss interventions are under-researched (Butland *et al.*, 2007). Therefore the evidence-base needs to be developed before firm conclusions can be reached regarding the efficacy of psychological interventions for obesity and overweight.

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## **Empirical paper**

**A compassionate mind approach to self-help for treatment seeking obese  
adults: A randomised controlled trial**

## 1. ABSTRACT

*Introduction* – The financial and physical costs of obesity and overweight are rising. Evidence suggests that obesity shares psychopathology with eating disorders. Psychosocial factors such as shame and self-criticism have been found to have a function in obese and overweight populations. The present study aimed to explore a compassionate mind approach intervention for weight management which focused on these factors.

*Methods* – Thirty six participants were randomised to either guided self-help (GSH) using the “Compassionate Mind Approach to Beating Overeating” (Goss, 2011) bibliotherapy manual or treatment as usual (TAU) in a dietetic clinic. Both conditions lasted for six months with measures of shame, self-compassion, psychological wellbeing, disordered eating, physical activity and BMI taken at pre- and post-intervention.

*Results* – There were no significant treatment effects between conditions or for either condition over time. High levels of external shame were observed which suggested an external locus of control acting as a defence against shame and stigma. GSH demonstrated a limited impact on levels of external shame, self-compassion and preoccupation with shape. TAU appeared to have a limited impact on levels of uncontrolled eating.

*Conclusions* - There were no significant results for GSH or TAU in terms of increasing levels of self-compassion, psychological wellbeing, self-esteem or physical activity. There were no significant results in reducing levels of shame, disordered eating or BMI. The results suggested that eating psychopathology and psychosocial factors are relevant in treatment seeking obese populations and these should be explored when developing interventions. Implications of the findings were discussed.

## **2. INTRODUCTION**

### **2.1 Clinical Context**

When an individual has a body mass index (BMI) of more than  $30\text{kg/m}^2$  they are classed as obese according to National Health Service (NHS) standards. In England 22% of men and 24% of women over the age of 16 met this criterion and this amounted to almost a quarter of the population (The Health and Social Care Information Centre, 2011). The financial cost to the NHS in 2001 was estimated at £5.1 billion a year (Department of Health, 2011) with the mortality rate thought to be approximately 30,000 deaths a year (National Audit Office, 2001). Concern over these types of statistics led to schemes being set up which have focused on tackling obesity in the population. The “Be Active, Be Healthy” initiative aimed to provide opportunities within communities for individuals to increase levels of physical activity and reduce the risk of obesity (Department of Health, 2004).

Despite the attempts to address the issue of obesity in the UK the Royal College of Physicians (RCP, 2013) identified that services for the treatment of obesity or overweight were either underdeveloped or unavailable. The RCP suggested that referrals for psychological and psychiatric interventions become an integrated part of multi-disciplinary assessment of obese individuals (RCP, 2013).

The inclusion of psychological approaches in the treatment of obesity was also supported in an Obesity Review by Hill (2007) and it was suggested that a reductionist attitude towards the treatment of obese adults was not helpful. Hill (2007) reported that

applying a “eat less, exercise more” approach had not resulted in a reduction of obese adults in the population to date. It was suggested that a more integrative approach should be developed. This review also went on to identify that it was “important to consider common preventative approaches to obesity and eating disorders” (Hill, 2007, p.154). The transdiagnostic theory of eating disorders (Fairburn *et al.*, 2003) suggested that the different types of eating disorder, as classified by the Diagnostic and Statistical Manual IV (DSM; APA, 1994), share common ‘core’ characteristics. Obesity has been found to share several of these characteristics in preliminary studies. However, its inclusion in the DSM is debated due to the multi-dimensional pathology of the condition (Devlin, 2007).

## **2.2 Obesity and eating disorders**

The psychological characteristics of eating disorders have been explored since the 1970’s with the publication of Russell’s papers on anorexia nervosa and later bulimia nervosa (Russell, 1970; 1979). However, there has been less consideration of the psychosocial influences on obesity. Recent research suggested that certain psychopathological factors of eating disorders are present in obese individuals (Day *et al.*, 2009). It has been proposed by a number of authors (Yanovski, 2003; Riener *et al.*, 2006) that obesity has similar psychological characteristics to binge eating disorder (BED) and that one condition can often be an indicator or function of the other. This has raised the question as to whether the current DSM-IV criteria for BED is too narrow and should be revised to allow access to diverse treatments for obese individuals experiencing eating disorder pathology (Latner & Clyne, 2008).

According to Darby *et al.* (2007) the impact of psychosocial factors and psychological distress experienced by an obese individual should therefore be considered when designing care pathways. Riener *et al.* (2006) recommended that psychological assessment was required to identify factors contributing to disordered eating when determining the most appropriate treatment for obesity. A relationship between obesity and depression has been demonstrated in a non-clinical population where obese women were 38% more likely to suffer from depression (Fabriacatore & Wadden, 2003). In a clinical extreme obese population (BMI  $\geq 40$ ) depressive symptoms were significantly more likely and self-esteem was significantly lower (Wadden *et al.*, 2002). Stigmatisation related to weight was considered a common experience for overweight populations and was associated with depression, body image disturbance and low self-esteem (Friedman *et al.*, 2005). Research has subsequently demonstrated that the psychosocial factors of shame and self-criticism have been present in eating disordered populations and identified within the diagnosis of BED. (Fennig *et al.*, 2008; Goss & Allan, 2009)

### **2.3 Shame and self criticism in disordered eating**

The concept of shame is thought to consist of internal and external components. Internal shame is related to an individual's negative evaluation of themselves influenced by their own core beliefs and personal schemas determined by past experiences (Gilbert & Miles, 2002). External shame is related to the response an individual has when they perceive others are judging them negatively (Gilbert & Miles, 2002). These two components of shame contribute to an individual's self-criticism and negative

perception of themselves.

Shame is perceived to have a role in a variety of aspects of mental health including eating disorder psychopathology (Goss & Allan, 2009; 2012). External shame has been associated with severity of symptoms in Anorexia Nervosa and internal shame has been shown to be related to Bulimia Nervosa (Troop *et al.*, 2008). Shame, together with eating alone due to embarrassment and feelings of disgust, has been suggested as an indicator of BED (White & Grilo, 2011). A study by van Vlierberghe and Braet (2007) highlighted that obese populations have significantly higher levels of shame compared to normal weight populations.

Self-criticism also has a role in eating disorder psychopathology and can act as a predictor of eating disordered behaviour (Fennig *et al.*, 2008). In a study comparing individuals with eating disorders, individuals with a mental health diagnosis and a control group it was the eating disorder group who demonstrated higher levels of self-criticism (Lobera *et al.*, 2009). Given the common psychological factors between obesity and eating disorders it might be suggested that shame and self-criticism are characteristics of obesity. These factors may therefore be amenable to treatment to reduce disordered eating behaviour in treatment seeking obese adults.

## **2.4 Treatment of shame and self-criticism**

Compassionate mind training (CMT) has been developed as a therapy which proposes to improve levels of compassion and address issues related to shame and self-criticism.



Compassion is defined as ‘being kind towards oneself in instance of pain or failure; perceiving one’s experiences as part of the larger human experience; and holding painful thoughts and feelings in balanced awareness’ (Neff *et al.*, 2007, p.908). Developing an individual’s level of self-compassion has been related to improving levels of psychological wellbeing in conditions such as depression and anxiety. Neff *et al.* (2007) has suggested that developing self-compassion may be more effective than improving levels of self-esteem when coping with negative life experiences. CMT has demonstrated that by targeting individuals who find it difficult to demonstrate self-warmth and self-acceptance there can be a reduction in core psychopathologies such as shame, self-criticism, anxiety and depression (Gilbert & Procter, 2006).

Compassion Focused Therapy (CFT) uses the compassionate mind approach and has developed in response to the evidence that self-compassion can reduce levels of shame and self-criticism. This type of therapy has been adopted as a treatment for eating disorders and more recently to challenge issues regarding overeating in individuals. As an obese population may share common psychopathology with an eating disorder population it is therefore important to determine if CFT is an effective treatment for treatment-seeking obese adults.

## **2.5 Self-help therapy**

The proportion of individuals experiencing eating disorders who seek specialist help is low (Welch & Fairburn, 1994) and therefore more accessible self-help methods of treatment have been developed. Self-help therapy can be delivered in a number of ways;

in groups, self-administered manuals, self-administered manuals with professional guidance and computer-assisted courses. A meta-analysis of self-help therapies concluded that self-administered therapies in the form of manuals or groups demonstrated positive effects compared to no treatment groups (Christensen & Jacobson, 1994). Treatment effects of self-administered therapies were also similar when compared to a sample receiving professionally-led psychotherapy (Christensen & Jacobson, 1994).

A study comparing guided self-help and non-guided self-help with a delayed treatment group for Bulimia Nervosa found that guided self-help produced a reduction in binge eating episodes and psychological symptoms (Banasiak *et al.*, 2005). An earlier study by Ghaderi and Scott (2003) demonstrated a treatment effect for both guided and non-guided self-help and concluded self-help was a “viable means of initial treatment for binge eating” (Ghaderi & Scott, 2003, p.257). Self-help therapy in the form of computer-assisted courses was trialed for obesity and found to have positive effects on weight loss when compared with a control group (Burnett, Taylor, & Agras 1985). Given this evidence and the characteristics that obesity shares with BED it follows that this condition could be amenable to self-help treatments.

## **2.6 Bibliotherapy**

Bibliotherapy refers to psychological treatment delivered through a self-administered manual with or without the support of a professional. A meta-analysis of bibliotherapy for weight-loss found moderate to large effect sizes when comparing those undergoing

bibliotherapy with control groups receiving no treatment (Marrs, 1995). Nine studies within this meta-analysis yielded a similar effect size to therapist-led treatment. Further benefits of bibliotherapy were also identified in terms of developing self-reliance and contributing to experiences of empowerment.

A review of psychological therapies for obesity and overweight (Shaw *et al.*, 2005) demonstrated that weight-loss has been the primary indicator of treatment effect in obesity. The ‘Compassionate mind approach to beating overeating’ bibliotherapy manual has been recently published and aims to develop ‘an inner compassion for one's relationship with food’ (Goss, 2011). This self-help manual’s hypothesis is that sustained weight management can be achieved by developing a more compassionate relationship with oneself and one’s body, managing emotions effectively and addressing activity levels and eating behaviours (Goss, 2011). This form of therapy focuses primarily on the psychopathology of overeating by increasing positive emotions whilst reducing negative emotions associated with obesity. This treatment attempts to address the psychopathology of obesity and evaluate weight-loss as a secondary objective. It would therefore be beneficial to determine whether targeting psychosocial factors, such as shame and compassion, could impact on eating behaviours and weight management for treatment seeking obese adults.

## **2.7 Rationale for present study**

As the financial and physical cost of obesity rises it is important to explore treatments which are both effective in terms of cost and improving individual wellbeing. At present

obesity is not included in the DSM IV (APA, 1994) despite evidence that it shares core characteristics with eating disorders such as BED (Yanovski, 2003; Riener *et al.*, 2006). Therefore investigation into treatment options which consider psychosocial factors is required to benefit the rising numbers of adults seeking treatment for obesity.

Evidence has demonstrated that the psychosocial factors of shame and self-criticism have a function in eating disorders and also in obesity. Therefore therapy which addresses these features in treatment seeking obese adults should be explored to determine their efficacy. One treatment model that aims to address shame and self-criticism by improving levels of compassion is the compassionate mind approach. There is an increasing evidence-base demonstrating the effectiveness of this model for conditions such as anxiety, depression and eating disorders (Gilbert & Procter, 2006; Neff *et al.*, 2007; Goss & Allan, 2009). As obesity shares psychopathology with eating disorders as demonstrated by a recent study by Franks (2011) it followed that this therapy should be investigated to determine its efficacy for treatment seeking obese adults.

One method of delivering the compassionate mind approach has been through self-help bibliotherapy. Bibliotherapy itself has been shown to have similar treatment effects to professionally-led therapy. This study aimed to investigate the effectiveness of compassion focused bibliotherapy in addressing the psychopathology of obesity whilst reducing BMI and increasing activity levels. It also aimed to determine if professional support and guidance during treatment were beneficial.

## **2.8 Aims and objectives**

The overall objective of this study was to empirically investigate the efficacy of guided self-help for obesity utilising the ‘Compassionate mind approach to beating overeating’ (Goss, 2011) bibliotherapy manual. The primary aims were:

- To ascertain if bibliotherapy improves compassion and psychological wellbeing and reduces shame in treatment seeking obese adults.
- To determine if bibliotherapy reduces disordered eating behaviour in treatment seeking obese adults.
- To determine whether bibliotherapy affects the Body Mass Index (BMI) and activity levels of treatment seeking obese adults.

The secondary aim of this study was:

- To evaluate which mode of therapy is more effective in achieving the above aims by comparing treatment as usual (TAU) or treatment as usual with the manual and professional guidance (GSH).

### **3. METHOD**

#### **3.1 Study design**

This was a single centre study utilising a cohort randomised controlled trial (RCT) design. The two conditions within this study, treatment as usual (TAU) and treatment as usual with bibliotherapy and professional guidance (GSH), were conducted in parallel. This study took place in the Midlands and was conducted over six months.

#### **3.2 Sample/participants/controls**

The sample consisted of 36 male and female outpatients who were accessing treatment at a specialist NHS weight management clinic between July and December 2012. The clinic focused on weight management by providing practical advice and support. This treatment was provided by a multi-disciplinary team of doctors, dieticians and a psychologist. There was also a provision for assessment and follow-up care for bariatric surgery.

Participants were aged between 18 and 65 years with a BMI of 30 or greater. Participants needed to speak fluent English as the questionnaires being used as outcome measures were not valid when translated cross-culturally. Individuals were excluded from the study if they were on the bariatric surgery waiting list or had already received this procedure.

### **3.3 Interventions**

#### ***3.3.1 Treatment as usual (Control condition)***

Treatment as usual (TAU) consisted of the current support available from the weight management clinic. This support was initially a one-to-one appointment with a doctor and an invitation to attend a psycho-education group. This group provided information on factors affecting weight such as nutrition and activity levels. The initial group session lasted approximately an hour and a half and could include potentially 12 new patients. TAU was for an indeterminate period depending on the individual's presentation. During their involvement with the clinic the average patient would attend regular assessment reviews with a doctor and a dietician and be invited to attend assessment group sessions. Support and advice was offered regarding diet, physical activity and lifestyle changes to encourage weight-loss.

#### ***3.3.2 Guided Bibliotherapy self-help (Intervention condition)***

The intervention condition consisted of TAU as stated above with the addition of guided self-help (GSH) bibliotherapy. The bibliotherapy manual was 'Compassionate mind approach to beating overeating' (Goss, 2011). Participants were asked to work through this manual at approximately one chapter every two weeks. They also received pre-arranged telephone support calls every two weeks facilitated by a therapist. Each telephone call was intended to offer support which focused on a relevant chapter of the

manual. The calls were scheduled to last approximately 15 minutes and follow a protocol which was used as a prompt (Appendix F). If participants were unable to attend their telephone appointment then an alternative was arranged. The intervention lasted for six months and a maximum of 12 support telephone calls were offered.

### ***3.3.3 Therapists and supervision***

There were two therapists and each provided telephone support to a caseload of participants within the intervention condition. Each participant was allocated a therapist and received support from the same therapist throughout the six months of the intervention. The therapists were Trainee Clinical Psychologists who had undergone training in CFT. Throughout the intervention supervision was available from a Consultant Clinical Psychologist with expertise in eating disorders and CFT. In addition support was also available from dieticians within the weight management clinic on a regular basis.

## **3.4 Procedure**

In May 2011 the researcher submitted the study protocol to the University of Leicester for consideration. Following this it was agreed that this researcher and a colleague Trainee Clinical Psychologist would work jointly on aspects of the project. Study protocols were combined to produce a joint study proposal which was submitted to the National Research Ethics Committee for review. A favourable opinion was granted in



April 2012 after some minor changes were completed by both the researcher and their colleague (see approval letter Appendix G). Research and development approval was then granted by the local NHS Trusts to allow recruitment to commence.

The researcher and their colleague attended the weight management clinic up to twice a week between June 2012 and December 2012. Potential participants who were attending the clinic were approached and asked to consider a participant information sheet (Appendix H). The potential participant was then asked to consent to being contacted after a period of at least 48 hours by providing a name, telephone number and signature. Potential participants were allowed adequate time to consider whether they wanted to participate and were later contacted by the researcher or their colleague. A 45–60 minute assessment appointment was arranged at either the weight management clinic or the NHS premises of a local adult mental health service. The appointment was facilitated by the researcher or their colleague and informed consent (Appendix H) was taken. The assessment considered levels of risk that may exclude individuals from participating in the study. Those who were not appropriate for the study were considered in supervision for referral to an appropriate service. Individuals who were appropriate were asked to complete baseline demographics and weight history and allocated a participant number to ensure anonymity. The participant was then left to complete the psychometric outcome measures but the researcher or their colleague were available to answer any questions. After the assessment was completed the participant was randomised to either the control condition or the intervention condition.

Participants were informed of the outcome of the randomisation. Participants in the intervention condition were provided with a copy of ‘Compassionate mind approach to

beating overeating' (Goss, 2011) to keep. The researcher or their colleague also arranged a first introductory telephone support call. Contact was maintained over the six months of intervention where possible. Both the researcher and their colleague facilitated telephone support and calls were stopped after five failed attempts to contact the participant.

Participants in the control condition (TAU) received a letter at three months updating them about the study. Participants in both conditions were then asked to complete the psychometric outcome measures and weight information at six months (post-intervention) and at nine months (follow-up) by post. Participants in the control condition who returned all measures would receive a free copy of 'Compassionate mind approach to beating overeating' (Goss, 2011) to keep.

### **3.5 Trainee Clinical Psychologists Contribution**

Two Trainee Clinical Psychologists worked separately on studies which were combined to create a larger research project. Each Trainee Clinical Psychologist made an equal contribution to decisions regarding methodology, recruitment and procedure. Equal contributions were also made by each Trainee Clinical Psychologist in applying for National Research Ethical approval, local Research and Development department approval, undertaking recruitment and carrying out assessments and interventions. The analysis and interpretation of data and write up of the individual studies were undertaken separately. The current author analysed and interpreted the data for the current RCT and their colleague undertook the write up for a cross-sectional study.

### **3.6 Outcome measures**

Demographic and historical weight information was collected at baseline during assessment by one of the two therapists. The assessing therapist was blind to the treatment condition of the individual as assessment took place before randomisation. The study used a range of psychometric measures to assess shame, compassion, psychological wellbeing and eating disordered behaviours:

#### ***3.6.1 Psychological wellbeing measure***

##### ***3.6.1.1 Clinical Outcomes in Routine Evaluation Outcome Measure (CORE-OM; CORE System, 2009)***

This was a 34-item self-report pan-diagnostic measure of psychological distress (Appendix I). Higher scores indicated elevated levels of distress with a range of 0-4. The CORE-OM has demonstrated good psychometric qualities (Cronbach's alpha = 0.75-0.95; Evans *et al.*, 2002) and is well validated (CORE System, 2009).

#### ***3.6.2 Measures of shame***

##### ***3.6.2.1 Internalised Shame Scale (ISS; Cook, 1994).***

The ISS was a self-report measure with 30 items that also contained a measure of self-esteem (Appendix J). Higher scores on the ISS indicated higher levels of internal shame with a range of 0-96 and a score of >50 being in a clinical range. Lower scores on the

ISS self-esteem subscale indicated lower levels of self-esteem with a range of 0-24 and a score of <12 being in a clinical range. This measure has been shown to have good levels of reliability and validity (Cronbach's alpha = 0.88-0.96; del Rosario & White, 2006).

#### *3.6.2.2 The Other as Shamer Scale (OAS; Goss, et al., 1994)*

This scale had 18 items (Appendix K) and was developed by modifying the ISS to explore others' perceptions of the self and has demonstrated internal consistency (Cronbach's alpha = 0.92) and reliability (Goss *et al.*, 1994). A higher score indicated increased levels of external shame with a range of 18-90 with a score of >36 being in a clinical range.

### **3.6.3 Measure of compassion**

#### *3.6.3.1 The Self Compassion Scale (SCS; Neff, 2003).*

This questionnaire distinguished between positive self-compassion and lack of self-compassion by using a 26-item scale (Appendix L). This scale has demonstrated good internal consistency (Cronbach's alpha = 0.92) and re-test reliability. Higher scores on this scale indicated greater levels of self-compassion with a range of 26-130.

### **3.6.4 Eating Disorder measure**

#### *3.6.4.1 Eating Disorders Examination Questionnaire (EDE-Q; Fairburn & Belgin, 1994).*

The EDE-Q consists of 28 questions (Appendix M) which assessed core eating

behaviours characteristic of eating disorders. The EDE-Q provided four subscales where a higher score indicated increased levels of that behaviour with a range of 0-6.

The four subscales were: *Restraint*, which measured dietary rules such as avoiding eating and food with a score of  $\geq 3.5$  being in a clinical range; *Eating Concern*, which explored preoccupation with food, anxiety and guilt associated with eating and fear of losing control with a score of  $\geq 2.6$  being in a clinical range; *Shape Concern*, which captured beliefs concerning body image and dissatisfaction with shape with a score of  $\geq 2.9$  being in a clinical range; and *Weight Concern*, which captured beliefs and thoughts regarding weight with a score of  $\geq 3.5$  being in a clinical range. This measure has demonstrated good psychometric properties similar to the EDE (Fairburn, 2008) and good internal validity (Cronbach's  $\alpha = 0.93$ ; Mond *et al.*, 2004).

### **3.6.5 Eating behaviour measure**

#### *3.6.5.1 The Three Factor Eating Questionnaire Revised 18-item version (TFEQ-R18; Karlsson et al., 2000)*

This is a self-report (Appendix N) survey to evaluate eating behaviours. A four point scale was used to report three scales which have all demonstrated good internal validity when they are applied to obese populations. The scales were: *Cognitive Restraint* (Cronbach's  $\alpha = 0.83$ ) which measured the restriction of food to control weight or shape; *Uncontrolled Eating* (Cronbach's  $\alpha = 0.77$ ) which explored the loss of control of food intake together with subjective feelings of hunger; and *Emotional Eating* (Cronbach's  $\alpha = 0.80$ ) which measured the inability to avoid emotional cues associated with eating. Higher scores on the subscales were indicative of increased

levels of this behaviour with a range of 0-100.

### ***3.6.6 Measure of physical activity***

#### ***3.6.6.1 The General Practice Physical Activity Questionnaire (GPPAQ; Department of Health, 2006)***

This is an 11 item report (Appendix O) that considered levels of activity by providing a four-level Physical Activity Index (PAI). Participants were categorised as Active, Moderately Active, Moderately Inactive, and Inactive by evaluating frequency of sedentary and physical activity. The Department of Health and London School of Hygiene & Tropical Medicine developed the GPPAQ as a measure of physical activity that was validated to be used within primary care.

### ***3.6.7 Food diaries***

Food diaries were also provided to record eating behaviours such as episodes of bingeing, types of foods eaten and amount of food intake. These diaries were intended to allow the participant to record any emotional triggers to overeating and the consequences of engaging in disordered eating behaviours. However, when examples of completed food diaries were evaluated it was found that the recorded information was not helpful. The majority of the participants were following diets provided by the weight management clinic or their GP's. Therefore the food diaries reflected these diets and tended to record "ideal" days rather than typical patterns of eating behaviour. Therefore the use of this measure was discontinued.

### 3.7 Sample Size

The main research questions involved comparing levels of shame, compassion, self-esteem, psychological wellbeing, eating disordered behaviour, BMI and levels of activity. This was done at pre-treatment, post-treatment and at three month follow-up under two different treatment conditions. Because differences were being sought both between treatment conditions and also over time, a mixed design ANOVA was performed. A meta-analysis of bibliotherapy studies by Marrs (1995) found an average effect size of +0.56 across 70 samples. These samples used several methods of determining effect size including Cohen's  $f$ . To determine sample sizes Cohen's  $f$  was used in addition to eta squared ( $\eta^2$ ) as this is recommended reported effect size for mixed design ANOVA (Clarke-Carter, 2010).

With regard to the difference between treatments to achieve a power calculation of 0.8 with an alpha at 0.05 and a large effect size ( $f=0.4$ ;  $\eta^2=0.13$ ) a total sample of 36 participants were required split into two equal groups. To achieve a medium effect size ( $f=0.25$ ;  $\eta^2=0.05$ ) with the same parameters a total sample of 86 participants split into two groups would be required. With regard to difference over time to achieve a power calculation of 0.8 with an alpha at 0.05 and a large effect size ( $f=0.4$ ;  $\eta^2=0.13$ ) a sample of 12 was required. To achieve a medium effect size ( $f=0.25$ ;  $\eta^2=0.05$ ) a total sample of 28 participants would be required.

This study proposed to use a mixed within-between interaction and therefore to achieve a power calculation of 0.8 with an alpha at 0.05 and a large effect size ( $f=0.4$ ;  $\eta^2=0.13$ ) a sample of 12 was required. For a medium effect size ( $f=0.25$ ;  $\eta^2=0.05$ ) the sample size

required was 28. This study was granted access to a weight management clinic who predicted that an average of 12 new patients accessed the service per week. Therefore the potential to obtain large enough sample sizes (between 12 and 86) to achieve adequate effect sizes and statistical significance was considered good.

### **3.8 Randomisation and blinding**

The use of randomisation allocation software was recommended by the CONSORT statement (Schulz *et al.*, 2010) which advised on the reporting of RCT's. Random Allocation Software (Saghaei, 2004) was used to randomly assign either TAU or GSH to unique participant numbers. Each participant number with its random treatment condition was placed in a corresponding envelope numbered 1 – 100 by an independent person. Participants were allocated their unique participant number between 1 and 100 and the corresponding envelope was opened to reveal which condition they had been randomised to. Blinding of therapists or participants to condition was not possible after this point. All outcome measures were anonymised so therapists were not aware of these results whilst facilitating support telephone calls.

### **3.9 Statistical analysis**

The data was examined prior to analysis to identify missing data, outliers and determine normality. An intention-to-treat analysis was adopted where baseline data was carried forward which is consistent with Ware (2003) in dealing with missing data. A



completers' analysis was also carried out to allow for comparisons. Differences in baseline data between treatment conditions and between completers and dropouts were tested with t-tests and Chi-square tests. Consideration of 12 studies which looked at RCT's and bibliotherapy demonstrated that analysis of variance (ANOVA) was most commonly used to determine whether there was a treatment effect. Therefore the two treatment conditions were compared at pre and post-treatment using mixed design ANOVA. All data was analysed using an SPSS database version 20.

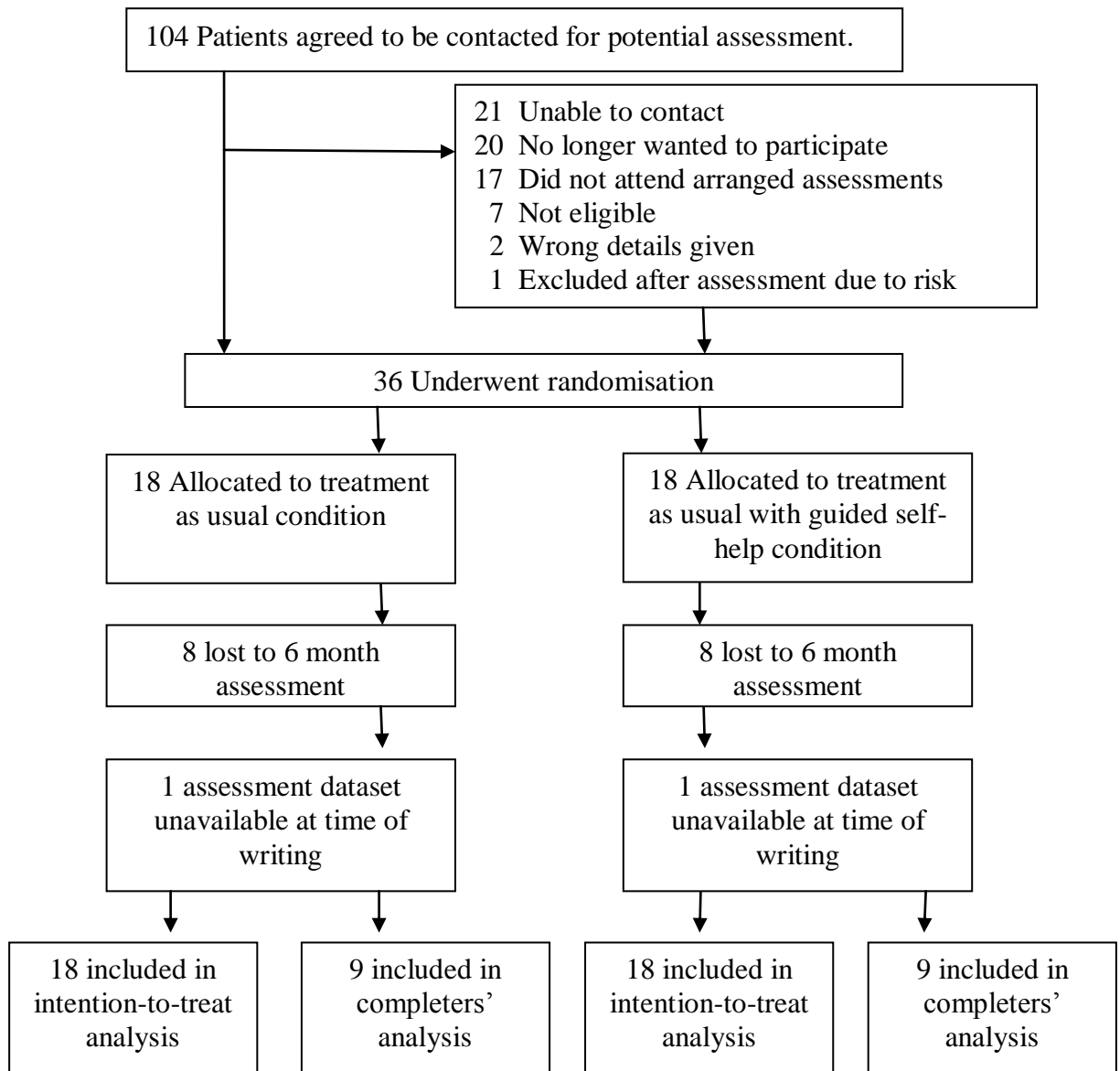
## **4. RESULTS**

### **4.1 Participant flow**

The aim of recruitment was to approach all new patients attending the dietetic clinic between June 2012 and December 2012. In total 104 patients agreed to be contacted after a minimum of 48 hours to discuss whether they would like to attend assessment to be included in the trial. A total of 37 participants were assessed and 36 proceeded to randomisation. One patient who attended assessment was excluded due to risk identified during assessment. Figure 1 details the flow of participants through the trial.

**Figure 1**

*Participant flow through trial.*



## **4.2 Reliability of Scales**

Internal consistency for each of the scales used in this study were calculated and the Cronbach's alpha coefficients are shown in Table 1. The EDE-Q subscale of Weight Concern had a low Cronbach's alpha of 0.544. This subscale consisted of five items and Pallant (2010) suggested that scales with fewer than 10 items may report a low Cronbach's alpha. In these cases the mean inter-item correlation figures should be considered. The EDE-Q Weight concern subscale's mean inter-item correlation was 0.204 and according to Briggs and Cheek (1986) the accepted range is between 0.2 and 0.4. The other scales had Cronbach's alpha coefficients of greater than 0.7 which indicated acceptable levels of internal reliability.

**Table 1***Internal reliability of scales*

Variable	Cronbach's alpha
EDE-Q Restraint	0.711
EDE-Q Eating concern	0.716
EDE-Q Shape concern	0.836
EDE-Q Weight concern	0.544
TFEQ Cognitive restraint	0.759
TFEQ Uncontrolled eating	0.882
TFEQ Emotional eating	0.917
CORE Global distress	0.904
ISS	0.962
ISS Self-esteem	0.889
OAS	0.942
SCS – total	0.940

Note: EDE-Q = Eating Disorder Examination Questionnaire; TFEQ = Three Factors Eating Questionnaire; GPPAQ = General Practitioner Physical Activity Questionnaire; CORE = Clinical Outcomes in Routine Evaluation; ISS = Internal Shame Scale; Other as a Shamer Scale; SCS = Self Compassion Scale.

### 4.3 Sample

The demographic and weight characteristics of the sample are shown in Table 2. There were no significant differences between groups with respect to age, gender, baseline BMI and weight history. The mean age of the sample was 45 years and 69% were females. All participants had experienced previous attempts at slimming and most had

used some form of private slimming club.

**Table 2**

*Demographic and weight characteristics of the total sample and treatment conditions.*

	Total (n=36)		TAU (n=18)		GSH (n=18)	
Gender	Male = 11 (31%)		Male = 6 (33%)		Male = 5 (28%)	
	Female = 5 (69%)		Female =12 (66%)		Female =13 (72%)	
Age	<i>M</i> =45.39 <i>SD</i> =9.53		<i>M</i> =46.44 <i>SD</i> =9.74		<i>M</i> =44.33 <i>SD</i> =9.46	
Ethnicity						
0 = White	25	(75%)	16	(88.9%)	11	(61.1%)
1 = Black – Caribbean	1	(2.8%)			1	(5.6%)
2 = Black – African	2	(5.6%)	1	(5.6%)	1	(5.6%)
3 = Black – other	1	(2.8%)			1	(5.6%)
4 = Indian	3	(8.3%)	1	(5.6%)	2	(11.1%)
5 =Pakistani	0					
6 = Bangladeshi	0					
7 = Chinese	0					
8 = Other	1	(2.8%)			2	(11.1%)
9 = Not stated	0				0	
Baseline BMI	<i>M</i> =46.7 <i>SD</i> = 0.3		<i>M</i> =45.2 <i>SD</i> =12.8		<i>M</i> =48.2 <i>SD</i> = 8.3	
Highest adult weight	<i>M</i> =141.7 <i>SD</i> =31.7		<i>M</i> =146.7 <i>SD</i> =36.1		<i>M</i> =136.5 <i>SD</i> =26.9	
Lowest adult weight	<i>M</i> =87.8 <i>SD</i> =3.9		<i>M</i> =92.44 <i>SD</i> =24.2		<i>M</i> =83.1 <i>SD</i> =23.3	

Note TAU = Treatment as Usual, GSH = Treatment as usual with guided self help

The sample was also compared to other obese samples using the EDE-Q, TFEQ-R18, ISS and OAS to evaluate if this sample was typical of a treatment seeking obese adult population. The current study's sample means for EDE-Q subscales, ISS and OAS were compared to group means from Franks (2011). The TFEQ-R18 group means for the current study were compared to group means from Keranen *et al.* (2011). Comparison group means for the other measures used in the study were not available at the time of writing.

In the current study's sample the EDE-Q Restraint and Shape Concern subscales scores were lower than the comparison sample. TFEQ-R18 Cognitive restraint subscale scores were significantly lower in this sample and Uncontrolled and Emotional Eating subscale scores were higher. OAS and ISS self-esteem scores were also significantly higher than the comparison groups. There is currently little research in this area and therefore it is difficult to assess if this sample was indicative of the population on these measures.

#### **4.4 Attrition**

Within the GSH group participants engaged in an average of eight phone calls over the six month period. Sixteen participants were lost to assessment which was indicated by six month questionnaires not being returned. Two participants' assessment questionnaires were not available at the time of writing. There were no statistical differences between those who completed treatment and those who dropped out in terms of age, gender, ethnicity, BMI or highest and lowest historical weight.

#### **4.5 Choice of statistical test**

All the measures were assessed for compliance with the assumption of normality required in the use of parametric tests. Normality was analysed using the Shapiro Wilk test as this is reported as the most powerful (Razali & Wah, 2011) and was originally designed for samples of less than 50 (Shapiro & Wilk, 1965). Normality was also assessed using skew, kurtosis and 5% trimmed measures statistics and histograms and Normal Q-Q plots were considered.

The assumption of normality was met for most variables reported here except EDE-Q Shape Concern and the GPPAQ. A ‘reflect and square root’ transformation was used to provide a more normal distribution for the EDE-Q Shape Concern variable. It was not possible to transform the GPPAQ distribution of scores and therefore non-parametric analysis was used for this variable.

The primary analysis was intention-to-treat and involved all 36 participants involved in randomisation. Missing data was dealt with by carrying the baseline data forward as recommended by Ware (2003). This method assumes that participants lost to assessment would have returned to baseline values given recidivism in weight-loss trials. An intention-to-treat analysis prevents a bias of non-random non-completers across treatment conditions. A completer’s analysis of 18 participants was also undertaken for comparison as a minimum sample of 12 was required for a large effect size ( $f=0.4$ ;  $\eta^2=0.13$ ). A mixed between-within subject analysis of variance (ANOVA) was conducted to assess the impact of the two treatment conditions (TAU and GSH). In



addition a brief thematic analysis was undertaken on notes kept from the telephone appointments.

## **4.6 Quantitative outcomes**

### ***4.6.1 Psychosocial outcomes***

#### ***4.6.1.1 Intention-to-treat analysis***

Intention-to-treat analysis Means and Standard Deviations for psychosocial outcomes for both treatment conditions at baseline and six month assessment are shown in Table 3. Higher scores on these measures are indicative of increased levels of that behaviour.

**Table 3**

*Intention-to-treat analysis Means and Standard Deviations of Psychosocial outcomes for TAU and GSH across two time periods.*

<b>Intention-to-treat analysis</b>							
		TAU			GSH		
	Time period	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
CORE Global Distress	Baseline	18	1.20	.573	18	1.22	.586
	6 month assessment	18	1.18	.469	18	1.16	.529
ISS	Baseline	18	43.28	25.04	18	50.44	20.80
	6 month assessment	18	43.83	22.21	18	44.94	18.82
ISS Self-esteem	Baseline	18	13.50	6.12	18	11.78	5.36
	6 month assessment	18	13.67	6.03	18	12.17	5.06
OAS	Baseline	18	45.56	15.80	18	49.44	16.09
	6 month assessment	18	46.83	12.64	18	47.17	13.66
SCS	Baseline	18	2.70	.810	18	2.56	.798
	6 month assessment	18	2.78	.744	18	2.69	.680

Note: TAU = Treatment as Usual; GSH = Treatment as usual with guided self help; CORE = Clinical Outcomes In Routine Evaluation; ISS = Internal Shame Scale; OAS = Other as Shamer Scale; SCS = Self Compassion Scale.

Intention-to-treat ANOVA for psychosocial outcomes for both treatment conditions at baseline and six month assessment are shown in Table 4.

**Table 4**

*Intention-to-treat ANOVA for Psychosocial outcomes for TAU and GSH across two time periods.*

Intention-to-treat analysis						
		Wilks' Lambda	<i>F</i> (1, 34)	<i>p</i>	Effect size ( $\eta^2$ )	% of variance explained
CORE Global distress	Time/Treatment condition interaction	1.00	.000	.988	0.00*	0%
	Time	.977	.794	.379	0.01*	1%
	Treatment condition		.004	.951	0.00*	0%
ISS	Time/Treatment condition interaction	..944	2.00	.166	0.05**	5%
	Time	.962	1.33	.256	0.03*	3%
	Treatment condition		.354	.556	0.01*	1%
ISS Self-esteem	Time/Treatment condition interaction	.998	.063	.803	0.001*	0.1%
	Time	.989	.396	.534	0.01*	1%
	Treatment condition		.769	.387	0.02*	2%
OAS	Time/Treatment condition interaction	.976	.830	.369	0.02*	2%
	Time	.998	.066	.799	0.003*	0.3%
	Treatment condition		..223	.639	0.07**	7%
SCS	Time/Treatment condition interaction	..995	.173	.680	0.004*	0.4%
	Time	.929	2.58	.117	0.07**	7%
	Treatment condition		.236	.643	0.006*	0.6%

Note:  $\eta^2$  = (\* = small, \*\* = medium, \*\*\* = large); CORE = Clinical Outcomes In Routine Evaluation; ISS = Internal Shame Scale; OAS = Other as Shamer Scale; SCS = Self Compassion Scale.

A mixed design intention-to-treat ANOVA demonstrated no significant interactions between treatment conditions (TAU and GSH) and time for any of the psychosocial measure scales or subscales. The ISS scale demonstrated a medium effect size ( $\eta^2=0.07$ ) with 7% of any variance being due to an interaction. This result is not statistically significant, however, the interaction between time and treatment condition may have impacted on any results related to this scale.

There were no significant main effects for time for any of the psychosocial measures scales or subscales. The SCS demonstrated a medium effect size ( $\eta^2=0.07$ ) which accounted for 7% of the variance within treatment conditions. There were no significant main effects for treatment condition. The OAS demonstrated a medium effect size ( $\eta^2=0.07$ ) which accounted for 7% of the variance apportioned to treatment condition between groups.

#### 4.6.1.2 Completers' analysis

Completers' analysis Means and Standard Deviations for psychosocial outcomes for both treatment conditions at baseline and six month assessment are shown in Table 5.

**Table 5**

*Completers' analysis Means and Standard Deviations of Psychosocial outcomes for TAU and GSH across two time periods.*

Completers' analysis							
		TAU			GSH		
	Time period	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
CORE Global Distress	Baseline	9	1.17	.652	9	1.22	.522
	6 month assessment	9	1.11	.470	9	1.10	.361
ISS	Baseline	9	35.63	18.48	9	55.44	18.48
	6 month assessment	9	40.11	11.28	9	44.44	15.18
ISS Self-esteem	Baseline	9	14.63	6.94	9	11.89	3.91
	6 month assessment	9	15.44	6.38	9	12.67	2.87
OAS	Baseline	9	44.25	17.23	9	55.78	17.66
	6 month assessment	9	46.44	8.72	9	51.22	14.55
SCS	Baseline	9	2.75	1.03	9	2.26	.646
	6 month assessment	9	2.90	.829	9	2.52	.430

Note: TAU = Treatment as Usual; GSH = Treatment as usual with guided self help; CORE = Clinical Outcomes In Routine Evaluation; ISS = Internal Shame Scale; OAS = Other as Shamer Scale; SCS = Self Compassion Scale.

Completers' ANOVA for psychosocial outcomes for both treatment conditions at baseline and six month assessment are shown in Table 6.

**Table 6**

*Completers' ANOVA for Psychosocial outcomes for TAU and GSH across two time periods.*

Completers' analysis						
		Wilks' Lambda	<i>F</i> (1, 34)	<i>p</i>	Effect size ( $\eta^2$ )	% of variance explained
CORE Global distress	Time/Treatment condition interaction	1.00	.000	.989	0.00*	0%
	Time	.954	.765	.395	0.02*	2%
	Treatment condition		.002	.968	0.00*	0%
ISS	Time/Treatment condition interaction	.884	2.09	.167	0.10***	10%
	Time	.920	1.39	.255	0.07**	7%
	Treatment condition		2.47	.135	0.13***	13%
ISS Self-esteem	Time/Treatment condition interaction	.996	.060	.809	0.02*	2%
	Time	.977	.377	.548	0.003*	0.3%
	Treatment condition		1.17	.208	0.09**	9%
OAS	Time/Treatment condition interaction	.952	.803	.384	0.04*	4%
	Time	.996	.063	.804	0.003*	0.3%
	Treatment condition		2.16	.161	0.11**	11%
SCS	Time/Treatment condition interaction	.898	.177	.680	0.009*	0.9%
	Time	.858	2.65	.123	0.14***	14%
	Treatment condition		1.78	.200	0.10**	10%

Note:  $\eta^2$  = (\* = small, \*\* = medium, \*\*\* = large); CORE = Clinical Outcomes In Routine Evaluation; ISS = Internal Shame Scale; OAS = Other as Shamer Scale; SCS = Self Compassion Scale.

A mixed design Completers' ANOVA demonstrated no significant interactions between treatment conditions (TAU and GSH) and time for any of the psychosocial measure scales or subscales. The ISS scale demonstrated a medium effect size ( $\eta^2=0.10$ ) with 10% of any variance being due to an interaction. This result is not statistically significant, however, the interaction between time and treatment condition may have impacted on any results related to this scale.

There were no significant main effects for time for any of the psychosocial measures scales or subscales. The ISS and SCS demonstrated medium to large effect sizes ( $\eta^2=0.07$ ;  $\eta^2=0.14$ ) which accounted for between 7% and 14% of the variance within treatment conditions. There were no significant main effects for treatment condition. The OAS, ISS, ISS self-esteem and SCS demonstrated medium to large effect sizes ( $\eta^2=0.11$ ;  $\eta^2=0.13$ ;  $\eta^2=0.09$   $\eta^2=0.10$ ) which accounted for between 9% and 13% of the variance apportioned to treatment condition between groups.

#### **4.6.2 Eating behaviours**

##### **4.6.2.1 Intention-to treat analysis**

Intention-to-treat analysis Means and Standard Deviations for eating behaviour outcomes for both treatment conditions at baseline and six month assessment are shown in Table 7. Higher scores on both the EDE-Q and TFEQ-R18 are indicative of increased levels of that behaviour. TFEQ-R18 scores are out of 100 as recommended by the authors (Karlsson *et al.* 2000).

**Table 7**

*Intention-to-treat analysis Means and Standard Deviations of Eating Behaviour outcomes for TAU and GSH across two time periods.*

<b>Intention-to-treat analysis</b>							
		TAU			GSH		
	Time period	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
EDE-Q Restraint	Baseline	18	2.78	1.52	18	2.42	1.70
	6 month assessment	18	3.09	1.60	18	2.23	1.52
EDE-Q Eating concern	Baseline	18	1.42	1.50	18	2.18	1.32
	6 month assessment	18	1.50	1.45	18	2.32	1.29
EDE-Q Shape concern	Baseline	18	3.45	1.69	18	4.21	1.27
	6 month assessment	18	3.40	1.72	18	4.01	1.16
EDE-Q Weight concern	Baseline	18	3.39	1.24	18	3.54	1.14
	6 month assessment	18	3.31	1.29	18	3.58	1.04
TFEQ-R18 Cognitive restraint	Baseline	18	42.61	23.41	18	43.28	24.53
	6 month assessment	18	40.33	23.09	18	39.50	23.70
TFEQ-R18 Uncontrolled eating	Baseline	18	40.67	26.13	18	45.06	21.70
	6 month assessment	18	36.28	22.88	18	38.89	24.45
TFEQ-R18 Emotional eating	Baseline	18	63.56	36.65	18	65.44	28.85
	6 month assessment	18	56.67	37.13	18	54.72	34.12

Note: TAU = Treatment as Usual; GSH = Treatment as usual with guided self help; EDE-Q = Eating Disorder Examination Questionnaire; TEFQ-R18 = Three Factors Eating Questionnaire revised 18 item.

Intention-to-treat ANOVA for eating behaviour outcomes for both treatment conditions at baseline and six month assessment are shown in Table 8.



**Table 8**

*Intention-to-treat ANOVA for Eating Behaviour outcomes for TAU and GSH across two time periods.*

<b>Intention-to-treat analysis</b>						
		Wilks' Lambda	<i>F</i> (1, 34)	<i>p</i>	Effect size ( $\eta^2$ )	% of variance explained
EDE-Q Restraint	Time/Treatment condition interaction	.906	3.546	.068	0.09**	9%
	Time	.994	.212	.648	0.005*	0.5%
	Treatment condition		1.39	.246	0.04*	4%
EDE-Q Eating concern	Time/Treatment condition interaction	.998	.057	.812	0.001*	0.1%
	Time	.982	.636	.431	0.02*	0.2%
	Treatment condition		3.16	.084	0.09**	9%
EDE-Q Shape concern	Time/Treatment condition interaction	.990	.336	.566	0.02*	2%
	Time	.969	1.09	.304	0.00*	2%
	Treatment condition		2.05	.161	0.06**	6%
EDE-Q Weight concern	Time/Treatment condition interaction	.990	.336	.566	0.009*	0.9%
	Time	.998	.054	.818	0.001*	0.1%
	Treatment condition		.304	.585	0.008*	0.8%
TFEQ-R18 Cognitive restraint	Time/Treatment condition interaction	.998	.079	.780	0.002*	0.2%
	Time	.963	1.29	.263	0.03*	3%
	Treatment condition		.000	.991	0.00*	0%
TFEQ-R18 Uncontrolled eating	Time/Treatment condition interaction	.997	.116	.736	0.003*	0.3%
	Time	.893	4.08	.051	0.10**	10%
	Treatment condition		.217	.644	0.006*	0.6%
TFEQ-R18 Emotional eating	Time/Treatment condition interaction	.996	.127	.723	0.003*	0.3%
	Time	.927	2.69	.110	0.07**	7%
	Treatment condition		.000	.998	0.00*	0%

$\eta^2$  = (\* = small, \*\* = medium, \*\*\* = large)

A mixed design intention-to-treat ANOVA demonstrated no significant interactions between treatment conditions (TAU and GSH) and time for any of the EDE-Q or TFEQ-R18 subscales. Only the EDE-Q Restraint subscale demonstrated a medium to large effect size ( $\eta^2=0.09$ ) with 9% of any variance being due to an interaction. Although this result is not statistically significant the interaction between time and treatment condition may have impacted on any results related to this subscale.

There were no significant main effects for time for either the EDE-Q or TFEQ-R18 subscales. The TFEQ-R18 Uncontrolled Eating and Emotional Eating subscales did demonstrate medium effect sizes ( $\eta^2=0.10$ ;  $\eta^2=0.07$ ) which accounted for between 7% and 10% of the variance within treatment conditions. There was no significant main effect for treatment condition. The EDE-Q Eating Concern and Shape Concern subscales demonstrated medium effect sizes ( $\eta^2=0.09$ ;  $\eta^2=0.06$ ) which accounted for between 6% and 9% of the variance apportioned to treatment condition between groups.

#### 4.6.2.2 Completers' analysis

Completers' analysis Means and Standard Deviations for eating behaviour outcomes for both treatment conditions at baseline and six month assessment are shown in Table 9.

**Table 9**

*Completers' analysis Means and Standard Deviations of Eating Behaviour outcomes for TAU and GSH across two time periods.*

Completers' analysis							
		TAU			GSH		
	Time period	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
EDE-Q Restraint	Baseline	9	3.10	1.39	9	3.36	1.49
	6 month assessment	9	3.62	1.32	9	2.98	1.31
EDE-Q Eating concern	Baseline	9	1.38	1.50	9	1.91	1.28
	6 month assessment	9	1.44	1.33	9	2.20	1.25
EDE-Q Shape concern	Baseline	9	3.02	1.93	9	4.18	1.46
	6 month assessment	9	3.15	1.99	9	3.79	1.12
EDE-Q Weight concern	Baseline	9	3.13	1.31	9	3.44	1.48
	6 month assessment	9	3.13	1.40	9	3.51	1.32
TFEQ-R18 Cognitive restraint	Baseline	9	49.25	23.18	9	53.78	20.92
	6 month assessment	9	42.33	22.83	9	46.22	22.35
TFEQ-R18 Uncontrolled eating	Baseline	9	52.75	45.96	9	73.00	20.09
	6 month assessment	9	28.33	17.95	9	32.89	18.03
TFEQ-R18 Emotional eating	Baseline	9	36.25	29.61	9	45.22	11.69
	6 month assessment	9	41.78	33.95	9	51.56	34.85

Note TAU = Treatment as Usual; GSH = Treatment as usual with guided self help; EDE-Q = Eating Disorder Examination Questionnaire; TEFQ-R18 = Three Factors Eating Questionnaire revised 18 item.

Completers' ANOVA for eating behaviour outcomes for both treatment conditions at baseline and 6 month assessment are shown in Table 10.

**Table 10**

*Completers' ANOVA for Eating Behaviour outcomes for TAU and GSH across two time periods.*

<b>Completers' analysis</b>						
		Wilks' Lambda	<i>F</i> (1, 34)	<i>p</i>	Effect size ( $\eta^2$ )	% of variance explained
EDE-Q Restraint	Time/Treatment condition interaction	.810	3.752	.071	0.18***	18%
	Time	.986	.224	.642	0.01*	1%
	Treatment condition		.059	.811	0.009*	0.9%
EDE-Q Eating concern	Time/Treatment condition interaction	.997	.055	.818	0.03*	3%
	Time	.963	.611	.446	0.003*	0.3%
	Treatment condition		1.53	.234	0.08**	8%
EDE-Q Shape concern	Time/Treatment condition interaction	.980	.331	.573	0.02*	2%
	Time	.937	1.07	.316	0.06**	6%
	Treatment condition		1.04	.322	0.06**	6%
EDE-Q Weight concern	Time/Treatment condition interaction	.980	.320	.579	0.01*	0.1%
	Time	.997	.051	.824	0.03*	3%
	Treatment condition		.183	.674	0.01*	1%
TFEQ-R18 Cognitive restraint	Time/Treatment condition interaction	.995	.078	.874	0.004*	0.4%
	Time	.927	1.27	.277	0.07**	7%
	Treatment condition		.358	.558	0.02*	0.2%
TFEQ-R18 Uncontrolled eating	Time/Treatment condition interaction	.970	.456	.510	0.006*	0.6%
	Time	.894	1.17	.203	0.21**	21%
	Treatment condition		.656	.430	0.04**	4%
TFEQ-R18 Emotional eating	Time/Treatment condition interaction	.992	.131	.722	0.015*	1.5%
	Time	.853	2.76	.116	0.006*	0.6%
	Treatment condition		1.24	.280	0.07**	7%

$\eta^2$  = (\* = small, \*\* = medium, \*\*\* = large)

A mixed design completers' ANOVA demonstrated no significant interactions between treatment conditions (TAU and GSH) and time for any of the EDE-Q or TFEQ-R18 subscales. Only the EDE-Q Restraint subscale demonstrated a large effect size ( $\eta^2=0.18$ ) with 18% of any variance being due to an interaction. Although this result is not statistically significant the interaction between time and treatment condition may have impacted on any results related to this subscale.

There were no significant main effects for time for either the EDE-Q or TFEQ-R18 subscales. The EDE-Q Shape concern and TFEQ-R18 Cognitive Restraint and Uncontrolled Eating subscales demonstrated medium to large effect sizes ( $\eta^2=0.06$ ;  $\eta^2=0.07$ ;  $\eta^2=0.21$ ) which accounted for between 5% and 21% of the variance within treatment conditions. There was no significant main effect for treatment condition. The EDE-Q Eating Concern and Shape Concern subscales together with the TFEQ-R18 Uncontrolled Eating and Emotional Eating subscales demonstrated medium effect sizes ( $\eta^2=0.08$ ;  $\eta^2=0.06$ ;  $\eta^2=0.04$ ;  $\eta^2=0.07$ ) which accounted for between 4% and 8% of the variance apportioned to treatment condition between groups.

#### ***4.6.3 Weight outcomes***

##### ***4.6.3.1 Intention-to-treat analysis***

Intention-to-treat analysis Means and Standard Deviations for weight outcomes in terms of BMI for both treatment conditions at baseline and six month assessment are shown in Table 11.

**Table 11**

*Intention-to-treat analysis Means and Standard Deviations of BMI for TAU and GSH across two time periods.*

Intention-to-treat analysis						
	TAU			GSH		
Time period	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Baseline	18	43.96	8.03	18	48.24	8.28
6 month assessment	18	43.33	6.94	18	47.84	8.67
Percentage change		-1.4%			-0.8%	

Note TAU = Treatment as Usual; GSH = Treatment as usual with guided self help; BMI = Body Mass Index

Intention-to-treat ANOVA for weight outcomes in terms of BMI for both treatment conditions at baseline and six month assessment are shown in Table 12.

**Table 12**

*Intention-to-treat ANOVA for Weight outcomes for TAU and GSH across two time periods.*

Intention-to-treat analysis						
		Wilks' Lambda	<i>F</i> (1, 34)	<i>p</i>	Effect size ( $\eta^2$ )	% of variance explained
BMI	Time/Treatment condition interaction	.99	.14	.71	0.003*	0.3%
	Time	.93	2.67	.11	0.07**	7%
	Treatment condition		2.79	.10	0.07**	7%

$\eta^2$  = (\* = small, \*\* = medium, \*\*\* = large); BMI = Body Mass Index

A mixed design Intention-to-treat ANOVA showed that there was no significant interaction between the treatment conditions (TAU and GSH) and time with 0.3% of any variance being due to an interaction. There was no significant main effect for time.

There was, however, a medium effect size ( $\eta^2=0.07$ ) and time accounted for 7% of the variance within treatment conditions. There was also no significant main effect for treatment condition. There was also a medium effect size here ( $\eta^2=0.07$ ) with 7% of the variance apportioned to treatment condition between groups.

#### 4.6.3.2 Completers' analysis

Completers' analysis Means and Standard Deviations for weight outcomes in terms of BMI for both treatment conditions at baseline and six month assessment are shown in Table 13.

**Table 13**

*Completers' analysis Means and Standard Deviations of BMI for TAU and GSH across two time periods.*

Completers' Analysis						
		TAU			GSH	
Time period	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Baseline	9	42.73	9.46	9	46.13	8.06
6 month assessment	9	41.71	6.14	9	45.78	9.35
Percentage change		-2.4%			-0.7%	
Note TAU = Treatment as Usual; GSH = Treatment as usual with guided self help; BMI = Body Mass Index						

Completers' ANOVA for weight outcomes in terms of BMI for both treatment conditions at baseline and six month assessment are shown in Table 14.

**Table 14**

*Completers' ANOVA for Weight outcomes for TAU and GSH across two time periods.*

<b>Completers' analysis</b>						
		Wilks' Lambda	<i>F</i> (1, 34)	<i>p</i>	Effect size ( $\eta^2$ )	% of variance explained
BMI	Time/Treatment condition interaction	.985	.242	.629	0.01*	1%
	Time	.948	.885	.361	0.05**	5%
	Treatment condition		.954	.343	0.05**	5%

$\eta^2$  = (\* = small, \*\* = medium, \*\*\* = large); BMI = Body Mass Index

A mixed design completers' ANOVA showed that there was no significant interaction between the treatment conditions (TAU and GSH) and time with 1% of any variance being due to an interaction. There was no significant main effect for time. There was, however, a medium effect size ( $\eta^2=0.05$ ) and time accounted for 5% of the variance within treatment conditions. There was also no significant main effect for treatment condition. There was again a medium effect size here ( $\eta^2=0.05$ ) with 5% of the variance apportioned to treatment condition between groups.

#### **4.6.4 Physical activity outcomes**

##### **4.6.4.1 Intention-to-treat analysis**

Intention-to-treat analysis Means and Standard Deviations for Physical Activity Index



(PAI) scores for both treatment conditions at baseline and six month assessment are shown in Table 15.

**Table 15**

*Intention-to-treat analysis Means and Standard Deviations of levels of PAI scores for TAU and GSH across two time periods.*

Intention-to-treat analysis						
		TAU			GSH	
Time period	<i>n</i>	M	SD	<i>n</i>	M	SD
Baseline	18	1.89	1.13	18	1.94	1.35
6 month assessment	18	1.83	1.04	18	2.05	1.43

Note: TAU = Treatment as Usual; GSH = Treatment as usual with guided self help

The distribution of PAI scores for the GPPAQ did not adhere to the assumption of normality for parametric analysis. The non-parametric Wilcoxon Signed Rank test was carried out to assess if levels of activity had changed within the groups over time. There was no statistical difference over time for the TAU,  $z = -.447$ ,  $p = .655$  with a small effect size ( $\eta^2=0.004$ ; effect size converted to  $\eta^2$  for consistency; Cohen, 1988). The results were the same for GSH,  $z = -.447$ ,  $p = .655$  with a small effect size ( $\eta^2=0.004$ ).

A Kruskal Willis test was carried out to analyse if there was any statistical differences in PAI scores between groups at six month assessment. No statistical difference was demonstrated,  $\chi^2(1, n=36) = .102$ ,  $p = .749$  and the effect size was small ( $\eta^2=0.0003$ ).

#### 4.6.4.2 Completers' analysis

Completers' analysis Means and Standard Deviations for Physical Activity Index (PAI) scores for both treatment conditions at baseline and six month assessment are shown in Table 16.

**Table 16**

*Completers' analysis Means and Standard Deviations of levels of PAI scores for TAU and GSH across two time periods.*

Completers' analysis						
TAU				GSH		
Time period	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Baseline	9	1.89	1.32	9	1.94	1.34
6 month assessment	9	2.00	1.11	9	1.66	1.32

Note: TAU = Treatment as Usual; GSH = Treatment as usual with guided self help

The distribution of PAI scores for the GPPAQ did not adhere to the assumption of normality for parametric analysis. The non-parametric Wilcoxon Signed Rank test was carried out to check for any significant difference between levels of activity within the groups over time. There was no statistical difference over time for the TAU,  $z = -.447$ ,  $p = .655$  with a small effect size ( $\eta^2=0.006$ ; effect size converted to  $\eta^2$  for consistency; Cohen, 1988). There results were the same for GSH,  $z = -.447$ ,  $p = .655$  with a small effect size ( $\eta^2=0.006$ ).

A Kruskal Willis test was carried out check for any statistical difference between PAI scores between groups at six month assessment. No statistical difference was

demonstrated,  $\chi^2(1, n=36) = .626, p = .429$  and the effect size was small ( $\eta^2=0.02$ ).

#### **4.7 Qualitative outcomes**

Telephone appointments were prearranged and a prompt (Appendix F) was used to try to ensure the phone-calls were structured and boundaried. Notes were taken during the conversations to gain an understanding of the issues arising from using the bibliotherapy manual. Feedback regarding the structure and content of the manual was received however other relevant information was recorded during these conversations. The following themes were identified from a simple thematic analysis (Braun & Clarke, 2006) of the notes taken by the two lead researchers undertaking the phone-calls.

##### ***4.7.1 Increasing levels of compassion***

Through discussions regarding the content of the bibliotherapy manual it appeared that participants were developing their levels of compassion and this often related to being kinder to themselves:

- “Not worrying about what I eat and not beating myself up so much”.
- “Trying to use the safe place; it was hard to start with but it really helps me be more compassionate”.
- “Trying to eat well rather than tell myself off....more compassion.... eating more but lost weight”.

- “Things I’d learnt in book started to sink in, eating more compassionately paid off ... really positive. Had felt like a failure but this was reversed”.
- “Compassion helped, giving myself a break”
- “‘You’re doing really well’ instead of telling myself off, such as ‘don’t get fatter’ ‘don’t be a wimp’”.

#### **4.7.2 *External locus of control***

Another theme was the reasons for being obese or overweight. This was attributed to factors external to the individual and was often mentioned when discussing their current weight and when discussing their engagement with the manual.

##### **4.7.2.1 *Weight***

- “People assume I’m lazy... smug git...those who can eat anything they like”.
- “I used to accept myself, until they wouldn’t give me an operation, I had accepted myself up until then”.
- “Why does what I eat translate into being larger? Don’t think I eat enough to be this size”.
- “It’s unfair that men and women are different and different body shapes depending on where you come from. Shape is not your decision”.
- “Society perceptions on thinness seem to come from women more than men. Shape ideals have changed over time, in the 50’s it was very different. Women were more curvy like Marilyn Munroe”.

- “In my background usually women are small so that makes me different”.
- “Slim people done nothing to deserve it, I don’t respect them” .

#### *4.7.2.2 Engagement*

- “Not too well, not been too well”.
- “Just running out so not able to talk”.
- “Had a whiplash injury”.
- “Left book on holiday, hard being without the book but trying to remember”.
- “It’s been a difficult few weeks”.
- “I’m tired and end up falling asleep”.
- “It’s just finding the time”.

#### *4.7.3 Weight-loss as indicator of success.*

The opening question of the majority of phone-calls was “how are you?” or “how are you doing?” This was offered as a pleasantry to open the conversation and lead into discussions around the use of the book. This question was usually answered with comments regarding weight-loss or gain in terms of stones and kilograms. The comments about weight tended to be an indicator of success or failure related to engaging with the bibliotherapy manual.

- “Not so good, I gained 2kg when I was weighed last week”.
- “Was a bit worried, cause I’d eaten a lot but when I was weighed I’d lost 0.5kg, so didn’t feel so bad”.

- “No long comfortable with weight, no longer happy with weight”.
- “Ready to lose weight, as I lose weight I’m excited”.
- “Looking forward to losing weight”.

## **5. DISCUSSION**

The overall objective of this study was to investigate the efficacy of guided self-help (GSH) for obesity utilising the ‘Compassionate mind approach to beating overeating’ (Goss, 2011) bibliotherapy manual. The following sections discuss and summarise the main findings in terms of the primary and secondary aims of the study.

### **5.1 Psychosocial factors**

A primary aim of this study was to explore the impact compassionate mind approach GSH bibliotherapy had on psychosocial factors in treatment seeking obese adults. The study’s sample did not show scores in the clinical range on the ISS or ISS self-esteem scales. The whole sample did have OAS scores more in a clinical range which were also higher than scores reported in a comparison sample (Franks, 2011). This appeared to indicate that this sample of treatment seeking obese adults have high levels of external shame.

When GSH was compared to TAU there were no significant results demonstrated and neither treatment condition had significant treatment effects over time. The OAS considered shame in terms of others external to the individual and scores on this scale had reduced. The GSH condition demonstrated a medium to large treatment effect size for the OAS although this was not statistically significant. This effect is relevant as this sample reported baseline scores within a clinical range. The qualitative analysis further demonstrated an external locus of control as participants often attributed being

overweight or obese to factors external to themselves. This appeared to act as a defence mechanism which potentially contributed to the higher levels of external shame observed.

An increase in self-compassion was reported across both treatment conditions with medium to large effect sizes over the six month intervention period. The GSH group demonstrated a greater increase in self-compassion over time. This may indicate that a compassionate mind structured intervention has the potential to positively impact on levels of self-compassion. The qualitative theme of ‘Improving self compassion’ further supported this as participants in the GSH condition reported feeling more compassionate.

The results have demonstrated a relationship between psychosocial factors and obesity and overweight. The findings appeared to demonstrate that there are high levels of external shame present in obese populations consistent with van Vlierberghe and Braet (2007). It was also apparent that stigmatisation related to weight appeared to be a common negative experience which was also reported by Friedman *et al.* (2005). In this population external shame may act as a potential barrier to building self-esteem and self-compassion. It may also reduce the ability to challenge the psychopathology related to obesity and overweight.

## **5.2 Eating behaviours**

A further primary aim of this study was to determine if GSH could reduce eating



disordered behaviours in treatment seeking obese adults. Scores in a clinical range as reported by Fairburn & Belgin (1994) were demonstrated on all the EDE-Q subscales except Eating Concern. Lower levels of dietary restraint and preoccupation with shape were observed compared to an alternative study sample (Franks, 2011). The scores for the TFEQ-R18 subscales were also indicative of higher levels of uncontrolled and emotional eating.

No significant results were demonstrated for treatment effect when GSH was compared to TAU and neither treatment condition had significant treatment effects over time. The TFEQ-R18 Uncontrolled Eating subscale, however, demonstrated a medium to large treatment effect size over time. This subscale explored the loss of control of food intake and the impact of engaging in TAU could have accounted for the effect size observed. Participants may have gained some control over their food intake through their involvement with the multidisciplinary dietetic team.

The EDE-Q subscales of Eating Concern and Shape Concern both demonstrated medium treatment effect sizes. In the GSH condition levels of Shape Concern were reduced more than in the TAU condition. This may indicate that GSH has the potential to positively impact on levels of preoccupation with shape and size. The Eating Concern subscale scores had increased but still remained less than the clinical range. This increase may suggest that participants developed a non-pathological increase in awareness of food intake. This effect could have been due to being engaged in TAU which involved closely assessing diet.

The results appeared to suggest that treatment seeking obese populations share eating

psychopathology with eating disordered populations (Day *et al.*, 2009). This was highlighted by the EDE-Q scores which were within a clinical range. Despite no significant treatment effects being present the results did identify relevant psychopathological factors and potential targets for therapy. This highlighted the need for psychological approaches to eating behaviour in the treatment of obesity consistent with the recommendations of Riener *et al.* (2006) and the RCP (2013).

### **5.3 Weight and physical activity levels**

The final primary aim of this study was to explore whether GSH impacted on the BMI and physical activity levels of treatment seeking obese adults. No significant results were observed in terms of a reduction in BMI or an increase in levels of physical activity. BMI did reduce over time for the whole sample with medium effect sizes reported. There was a greater reduction in BMI in the TAU condition although the difference was not significant. The compassionate mind approach used in the GSH group could result in a period of weight instability (Goss, 2011) and this could explain the smaller reduction in BMI.

The lack of significant BMI reductions in the GSH condition may begin to explain the level of dropout in the study (44%). The qualitative theme of “Weight-loss as an indication of success” suggested that one of the primary goals for participants on the study was to reduce their BMI. Participants in the GSH condition may have therefore become discouraged due to a lack of weight loss. Participants in the TAU condition may have disengaged due to the lack of interaction with the study.

## **5.4 Mode of therapy**

A secondary aim of this study was to evaluate which mode of therapy was more effective in achieving the above aims by comparing TAU and GSH. The absence of significant results meant informed conclusions could not be made. A theme of externalising responsibility for treatment engagement was identified qualitatively in the GSH condition. This suggested that the level of interaction with a professional may not have been structured or regular enough to sustain this engagement.

The results demonstrated that neither TAU nor GSH were successful in significantly reducing negative psychosocial factors, disordered eating behaviours and BMI or increasing positive psychosocial factors and physical activity levels. The compassion mind approach to GSH demonstrated small, though not significant, treatment effect sizes for external shame and self-compassion. The current TAU in this study, however, was not effective and demonstrated that a reductionist attitude towards the treatment of obese adults was not more helpful (Hill, 2007).

## **5.5 Clinical Implications**

The results of the study are inconclusive as to the effectiveness of GSH for obesity and overweight. There is an indication that levels of external shame are high in obese and overweight populations and this may be related to experiences of stigmatisation. The perception of failure associated with not losing weight could contribute to the maintenance of external shame and act as a barrier to effective weight management.

Together with other psychosocial and eating disordered psychopathology these elevated levels of external shame could contribute to continued levels of obesity and overweight. It would be beneficial, therefore, to assess psychosocial factors when designing care pathways for obese or overweight individuals (Darby *et al.*, 2007)

Proposed interventions should be designed to address elevated levels of shame by increasing positive psychosocial factors such as self-esteem and self-compassion. The compassionate mind approach has demonstrated a limited ability to do this when provided as a guided self-help therapy. The nature of guided self-help therapy requires an individual to be self-motivated with limited interaction. Even when using the compassionate mind approach this type of therapy may not challenge the maintenance cycle of external shame effectively.

## **5.6 Future research**

Suggestions for future research would include the exploration of psychological interventions which offer more intense interaction with professionals and other obese or overweight individuals. A study considering a compassionate mind approach to obesity and overweight in a structured group intervention would be beneficial. This would allow the obese or overweight individuals to challenge their external locus of control in terms of engagement with therapy. Group therapy could offer more structured sessions that may provide an experience of being more supported in therapy. There would be opportunity to address levels of shame by developing self-compassion in a safe environment where group cohesion could challenge stigma. The results of this study

suggest the compassionate mind approach should be further explored using different delivery methods. This could determine if the limited treatment effects observed for levels of external shame and self-compassion could be developed further.

## **5.7 Study limitations**

The study should be considered in the context of several limitations. There are few studies considering the psychopathology of obesity and overweight and the current sample may not be indicative of other obese and overweight populations. This study's sample differed from comparative study samples on measures of disordered eating behaviour and levels of external shame. This may have impacted on the results observed in this study. Further research is required to provide a psychological profile of this population to allow for the development of appropriate interventions for obesity and overweight.

A further limitation of this study was the limited sample size and level of dropout (44%). The study did achieve the minimum number of participants to demonstrate large to medium effect sizes for a between group and a mixed design ANOVA. To maximize the potential outcomes from the sample two forms of analysis were undertaken. An intention-to-treat analysis of 36 participants fulfilled the minimum for the between group ANOVA. Intention-to-treat analysis is the recognised method of analysis for RCT's (Ware, 2003) as it preserves the random allocation of participants and reduces the risk of completer/non-completer bias. A completer's analysis of 18 participants fulfilled the minimum number required for a mixed design ANOVA. Completers'

analysis is more subject to completer/non-completer bias as it tends to include those more motivated to engage in the study.

The two types of analysis were used to avoid inflating the actual sample by using purely an intention-to-treat analysis. In the absence of statistically significant results effect sizes were used to determine if any results reported were of interest. Effect sizes were required to be medium to large in both type of analysis to minimize bias. Further data collection would be required to determine if the results seen in this study are indicative of a clinical presentation in obese and overweight populations. Data collection is ongoing.

A methodological limitation of this study was the potential bias that was present as no quality checks were completed on the participant support telephone calls. A protocol was used by the two therapists to ensure every effort was made to maintain a consistent structure. In the absence of formal quality checks there was no way of determining if each participant received the same level of support. A method of recording the telephone calls and undertaking quality checks would have reduced bias and added rigour to the study. A further methodological issue was the six month time period of the intervention. This was relatively short especially when considering the fluctuations of weight experienced when using the compassionate mind approach (Goss, 2011). The method of delivering the intervention required a minimal level of intervention by professionals which was short-term. If the results had demonstrated treatment effects this would have offered a cost effective method of therapy for treatment seeking obese adults. This highlighted the need for research and further exploration of other methods of delivering therapy.

A further limitation is related to the scope of this study as the sample was recruited from a specific region in the United Kingdom. This may limit the generalisability of the findings to the other populations. Participants were already seeking treatment for obesity and overweight and therefore the sample consisted of those already motivated to engage in some form of intervention. There was no opportunity to recruit participants who had not been referred to the clinic who would have been interested in engaging in the study. Although individuals recruited to the study were usually new to the dietetic clinic they had varied weight management histories. This may have impacted in on their engagement with the GSH or TAU and their approach to the study.

## **5.8 Conclusion**

This study investigated the treatment efficacy of GSH for obesity utilising the ‘Compassionate mind approach to beating overeating’ (Goss, 2011) bibliotherapy manual. There were no significant results for GSH or TAU in terms of increasing levels of self-compassion, psychological wellbeing, self-esteem or levels of physical activity. There were also no significant results in reducing levels of shame, disordered eating behaviours or BMI. The results appeared to suggest that eating psychopathology and psychosocial factors are relevant in treatment seeking obese populations and these should be explored when developing interventions.

The results suggested that treatment seeking obese adults may have high levels of external shame. It was suggested that participants may externalise responsibility as a

defence mechanism against shame and stigma. Compassionate mind approach GSH demonstrated the potential to positively impact on levels of external shame and self-compassion. Engagement in TAU appeared to impact on levels of uncontrolled eating and awareness of dietary intake. The addition of compassionate mind approach GSH to TAU may have the further potential to reduce preoccupation with shape and size. No significant results were observed in terms of a reduction in BMI or an increase in levels of physical activity. The compassionate mind approach to obesity and overweight is proposed to be a long-term weight management therapy and not purely a weight-loss intervention. Future research using this approach should ensure that this is clearly identified.

Interventions for obesity and overweight should address elevated levels of shame by increasing positive psychosocial factors such as self-esteem and self-compassion. The compassionate mind approach demonstrated a limited ability to do this when provided as a guided self-help therapy. A structured group intervention using the compassionate mind approach should be considered and explored in future research.



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## **Critical appraisal**

The critical appraisal of this research project brings together reflections of the experiences and challenges identified during the research journey and thoughts having reached the end.

### **1. Research project selection**

I began the Doctorate in Clinical Psychology with several areas of personal interest and a motivation to develop these as part of my training. My experience in research was limited and I had spent my time as an Assistant Psychologist attempting to widen my knowledge and skill base. My priority was to select a project that was grounded in one of my areas of interest and also offered me the opportunity to develop as a clinician and researcher. It was important to me that my research have validity and be relevant in clinical practice.

The university research fair and meetings with clinicians/tutors to explore potential projects allowed me to explore a variety of prospects. I was fortunate that an opportunity was presented to be involved in research that explored both a clinical area of interest and also a model of therapy I had recently engaged with. I was drawn by the prospect of conducting my research whilst undertaking a specialist placement in an eating disorders service that offered Compassion Focused Therapy. After attending informal discussions and undertaking preliminary investigations I was able to make an informed decision.

I was satisfied that this project offered me the opportunity to be involved in a progressing area of research that had been developed by experts in the field. This meant I could develop as a clinician and a researcher under supervision whilst having the confidence that my research had clinical significance. The project also offered the logistical practicalities of working alongside the field supervisor with a host service already attained. My main concern was the amount of work involved in undertaking a randomised controlled trial (RCT) at doctoral thesis level. This concern was alleviated by the opportunity to work with a colleague Trainee Clinical Psychologist on elements of the project. This allowed a project to be undertaken that otherwise would have been too large for a single Trainee Clinical Psychologist.

## **2. Peer and ethical review**

The benefits of choosing a project that already had a basic initial design and methodological structure in place became more apparent when the university peer review process began. I was able to present a well designed and coherent proposal at a panel meeting to discuss the project. The feedback that was received was therefore constructive and allowed for development of the project as there were no significant recommendations at that stage. Issues regarding joint working were raised due to the new nature of this type of working. Efforts were made to ensure that the individual doctoral thesis studies were separate and the university were kept informed of the elements of the project that were subject to joint working. I felt I benefited from working with my colleague and highly valued the peer supervision and support at this time which enhanced my enthusiasm for the project.

It was very apparent from the onset of the project that starting data collection as early as possible was vital. The RCT would run for six months with a three month follow-up and both myself and my colleague needed to recruit a high number of participants for our respective studies. Trainee Clinical Psychologists working together was a relatively new concept at the Leicester University Doctorate in Clinical Psychology and potential issues needed to be addressed to protect against later problems. As a result delays were experienced and the submission to the Research Ethics Committee (REC) and Local Research and Development (R&D) department was set back.

The process of submitting to NHS ethics was a completely new experience and was more complicated than I had anticipated. I was grateful that I had been encouraged to write a coherent research proposal for the university peer review as this proved a vital document and simplified the process. After careful consideration it was agreed that a joint proposal detailing the two studies should be submitted for ethical approval. Again this afforded me the opportunity to work with a colleague and peer review their proposal. I truly valued bringing the two projects together and I also gained an appreciation of the potential clinical implications of this larger piece of research. In addition the level of pressure and stress experienced at this time of 'getting it right' was shared and often alleviated by the presence of peer support.

A positive experience within the research journey was attending the REC meeting together with my supervisor and colleague. I found it interesting to be part of a research team and to have the opportunity to communicate effectively the purpose of the research. The committee consisted of a number of professions and my own development

as a researcher was highlighted when I was able to effectively respond to questions. The experience left me feeling excited about the potential of my research and proud of the progress I had made in my training.

Ethical approval was granted by the REC subject to a few minor amendments. There were, however, unexpected delays in terms of gaining local R&D approval. This led to frustration as we were keen to begin recruitment and time was limited. This delay gave us time to finalise procedures and prepare for recruitment until approval was granted in May. It became apparent at this time that collecting the three month follow-up data was unlikely which was disappointing. It became more difficult to maintain levels of motivation at this stage but this was challenged with supervisory support.

### **3. Data collection**

We were recruiting from a local dietetic clinic and had met several times with three members of the team who had agreed to assist us. We had been informed that the best day for recruitment was a Tuesday. Unfortunately neither myself nor my colleague could attend on this day until June due to teaching commitments at the university. Despite this we endeavoured to recruit as many participants as possible by visiting the clinic on a Thursday. After June we attended the clinic between once and twice a week. We had an initial peak in recruiting potential participants, however, there were a number of barriers which we had not anticipated.

The clinic experienced high numbers of DNA's and this greatly reduced the number of

new patients expected per week. It was increasingly difficult to project the number of potential participants. There was a significant drop in attendance rates during the summer holiday period from late July to September. The number of patients attended went from an average of seven to two. The area in which we recruited accommodated several different clinics and it was often difficult to find space to speak confidentially to individuals. Despite these setbacks I was encouraged by our dietetic colleague's assistance in trying to increase our recruitment numbers.

One method of recruitment was to attend new patients groups which meant we could present to several people at once. It was important to maintain an enthusiasm for the research to engage people but not to be unrealistic about what was being offered just to inflate numbers. This was another period when I appreciated the support of my colleague as we could help motivate each other. We could help the other smile when we needed to have a positive presence for recruitment but there were increasing levels of frustration.

Recruitment was a two stage process as we first gained consent to contact individuals at the clinic and then requested they attend an assessment appointment. The plan had been to offer two venues for assessment with one being the familiar dietetic clinic and the other being an adult mental health clinic. It became apparent early on that being able to secure rooms to undertake the assessments in the dietetic clinic was problematic. Rooms were limited and not often available on days when myself or my colleague were able to attend. This had a negative impact on recruitment as individuals would often disengage when an appointment could not be offered at the dietetic clinic in an appropriate timescale.

My reflections on recruitment tend to be more negative than positive. It was difficult at times to remember the aims of the research and see each participant as an individual rather than a target. I am sure that had I been recruiting participants alone then the numbers would have been significantly lower. It became more apparent as the recruitment continued that this was, at the very least, a two person task. I feel one of the most relevant lessons I learnt for future research is to give more consideration to potential barriers and try to plan accordingly. Even with the most positive attitude, a good project and professional researchers it is not possible to recruit when people are not available. It would have been beneficial to have secured access to an alternative dietetic clinic or explore other potential opportunities for recruitment.

#### **4. Assessment and intervention**

The assessment and intervention process was more intense than I had anticipated and required more input than first thought. An assessment would take over an hour and could be emotional due to the subjects being discussed. I was grateful of the training and experience I had gained on placement which allowed me to effectively carry out risk assessments. I had not been prepared for my own reaction to individuals especially with the knowledge that not all would receive the guided self-help (GSH) intervention. My skills as a clinician were very important at this point as was my ability to build rapport with participants. The assessment process really highlighted the importance of ensuring individuals were protected and ethical procedures adhered to. Any future research I conduct will be informed by these experiences of maintaining high levels of

practice

The method of blinding at this stage was as rigorous as possible given the resources available. It was, however, difficult to assess an individual and then to be later aware of their randomisation. Often during the assessment I would develop a preference for what condition the individual should be randomised to. This could be based on the needs of the participant or my preference to have motivated individuals in the GSH condition. I became acutely aware of the necessity of blinding and randomisation and was appreciative that I had no control over condition allocation. The person who assessed the participant would go on to be their therapist if they were in the GSH condition. On reflection this could have led to bias in terms of the advice and therapy offered during the support telephone calls.

Conducting the support telephone calls was made easier by developing a protocol and gaining a good knowledge of the bibliotherapy manual. Myself and my colleague arranged to conduct the telephone calls at set times when we could be at placement together to offer peer support if necessary. Providing telephone support was challenging and required different skills to face-to-face interventions. The most difficult aspect of this stage was the disengagement of participants. A balance had to be met between avoiding participants dropping out and respecting their right to do so. This required me to see each person as an individual and suspend, for a time, the need to meet the targets of the research.

## **5. Data analysis**

I came to the research project with a basic understanding of statistics and set myself the goal of developing this to a more advanced level. The project being an RCT meant it lent itself to Analysis of Variance, however, I had underestimated the complex nature of achieving this type of analysis. It was a challenging task to become confident in the many elements of statistical analysis. Previous research had made me aware of the potential for non-normally distributed data. I was not prepared though for the amount of work it required to prepare the data for analysis. The nature of making the decision to use parametric or non-parametric tests was a subjective one and required a great deal of consideration. I had expected there to be a concrete answers when analysing the data and was surprised by the number of new skills I gained whilst undertaking this task. The important lesson learned was not to manipulate the data to achieve significant results. I gained an appreciation for becoming immersed in the data and allowing it to lead me whilst ensuring it met the recommendations of published norms (Carter-Clarke, 2010; Pallant, 2010).

Researching methods of analysis, calculating power and sample size, considering effect sizes and generally ensuring that the data I had collected was used appropriately was time-consuming. These tasks required significant amounts of reading and research and I felt I developed an appropriate understanding. This allowed me to make sense of the data and make it relevant to the clinical area and future research.



## **6. Methodology and its limitations**

The design of the current research project was informed by previous research (Franks 2011). Undertaking a RCT would meet the study objectives of determining if compassionate mind approach bibliotherapy was effective for treatment seeking obese populations. In addition it offered scientific rigour to add credibility to the study. A quantitative approach was adopted as we wanted to compare the two treatment conditions to determine treatment effects. This provided us with a number of findings and a brief thematic analysis was also undertaken of therapy notes to add depth to the results.

There was a potential bias in terms of the support telephone calls provided for participants as no quality checks were completed. Every effort was made by myself and my colleague to adhere to the protocol and maintain a structure. There was, however, no way of determining if the quality of support call was similar for each participant. This point should be considered when conducting future similar studies and recording sessions/phone calls could add rigour to the study.

The method of delivering the intervention required a minimal level of intervention by professionals which was short-term. If the results had demonstrated treatment effects this would have offered a cost effective method of therapy for treatment seeking obese adults. It became apparent as data analysis began that this method may not be the most effective and that increased levels of interaction over a longer period were required. This highlighted the need for further research and exploration of other methods of delivering the therapy.

## **7. Theoretical journey**

I began this journey with a basic understanding of eating disorders, including obesity and overweight, and also compassion focused therapy. I feel have I acquired a specialist knowledge of the assessment, formulation and interventions applicable for eating disordered populations. I have become a competent compassion focused therapist and this study has allowed me to explore how the model can be applied to challenge different psychopathological factors. I have gained an appreciation for the similarities between eating disordered populations and obese and overweight populations. Importantly I have learnt to identify the differences and apply my knowledge to try and develop tailored therapies. My development as a clinician as been invaluable when interpreting the results of the data and writing the research report. Despite the lack of significant results this study has added to my own understanding and the theoretical understanding of the psychopathology of obesity and overweight.

## **8. Role of supervision**

Throughout my research there have been consistent opportunities for clinical and academic support and supervision. I have been fortunate to work with supervisors who have been involved in similar research and who could offer guidance and development. Being on placement for the majority of the data collection and intervention meant I could take advantage of relevant clinical supervision and develop as a compassion focused therapist. When I began this journey I was able to appreciate the project at a micro level in terms of one population, one therapy and one doctoral student. With the assistance of good supervision my understanding has progressed to a macro level. I

have developed an appreciation of how the project constructs are linked and the relevance the research has for different populations.

## **9. Conclusion**

The enduring lesson I will take away from this project is that there is no such thing as perfect research or a perfect researcher. The nature of psychological research means that 'normal' results are not common-place and there is a need to appreciate the dynamic nature of the process. I have developed my ability to undertake the different processes of research and I am confident in collating and appraising current research to inform my own areas of investigation. I have learnt about myself as a researcher and what is important to me. I have been surprised by the participants' enthusiasm to be informed of the outcomes which has helped to maintain my motivation. Despite the hard work, long hours and pressure of undertaking research I have gained an appreciation of its benefits in terms of informing clinical practice.

I feel I have been afforded the opportunity to branch out into clinical areas not routinely accessed by Trainee Clinical Psychologists and I hope to develop this beyond qualification. I feel competent and confident as both a clinician and a researcher and feel I have the transferable skills to meet any psychological research challenge.

## 10. REFERENCES

Clark-Carter, D. (2010). *Quantitative Psychological research: The complete student's companion*. Hove: Psychology Press

Franks, M.W. (2011). *Similarities between Eating Disorders and Obesity*, Unpublished DClinPsy PhD thesis, University of Leicester

Pallant, J. (2010). *SPSS Survival Manual: A Step by Step Guide to Data Analysis using SPSS for Windows* (4th edn), Open University Press.

## APPENDICES

### APPENDIX A

#### *Search Key-words*

Search included a combination of following keywords		
Obesity or Weight-loss	Psychological therapies	Randomised controlled trials
Obesity* Hyperphagia* Pickwick* syndrome* Obes* Adipos* Overweight* - Over weight Overeat* - Over eat Overfeed* Over – feed Weight gain Weight loss Body Mass Index BMI* Weight cycling	Psychotherapy* Mood disorder Psycho* Counsel* Interpersonal therap* Art therap* Behaviour therap* Behavior therap* Colour therap* Color therap* Cognitive therap* Crisis intervention* Dance therap* Gestalt therap* Music therap* Milieu therap* Assert* training Nondirectiv* therap* Non directiv* therap* Problem solving Problemsolving Self control therap* Selfcontrol therap* Person cent* therap* Client cent* therap* Psychodrama* Play therap* Rational emoti* Reality therap* Role play* Relax* training Sociotherap* Socio therap* Socienvironment* Socio environment Supportiv* therap* transactional	Randomised control trials Randomized control trials Random allocation Random* allo* Random* assign* Controlled clinical trial Cross over study Crossover study Double blind Single blind Placebos Research design Comparative stud* Evaluation stud* Follow up stud* Prospective stud*

## APPENDIX B

### *Searches performed for literature review*

<i>Dates searched</i>	<i>Database</i>	<i>Key words</i>	<i>Limiters</i>	<i>Articles returned</i>
<b>15.08.12 – 30.08.12</b>	MEDLINE (incorporating EMBASE)	Combination of search terms from each of three headings as detailed in Appendix A	<ul style="list-style-type: none"> <li>▪ 2003 – present</li> <li>▪ Articles</li> </ul>	1270
	PsycINFO  (incorporating PsycArticles and PsycExtra)		<ul style="list-style-type: none"> <li>▪ 2003 – present</li> <li>▪ Articles</li> <li>▪ Peer reviewed</li> <li>▪ Human</li> <li>▪ English</li> <li>▪ Adult (18-65)</li> <li>▪ Exclude dissertations and book reviews</li> </ul>	856
	Pubmed		<ul style="list-style-type: none"> <li>▪ Last 10 years</li> <li>▪ Humans</li> <li>▪ English</li> <li>▪ Adult (18-65)</li> </ul>	505
	The Cochrane Library	Obesity*  OR  Overweight*		36

## APPENDIX C

### *Data extraction proforma*

Article Number:
Review Date:
Title:
Author(s):
Publication date:
Journal:
Volume:                      Number:                      Pages:
Objective of study/interventions:
Methodology:
Sampling (randomisation/blinding)/ Participants:
Measures/ Analysis/effect size:
Results:
Restrictions/Limitations/Bias
Conclusions:
Notes:

## APPENDIX D

### Quality of study parameters

These table are summaries of categories used, more detailed criteria for assessing each category can be found in the referenced sources.

#### Score A - Weight of evidence (Gough, 2007)

Criteria		Present
Generic quality	Transparency	Yes score 0 / No score 1
	Accuracy	Yes score 0 / No score 1
	Accessibility	Yes score 0 / No score 1
	Specificity	Yes score 0 / No score 1
Appropriateness of method	Purposively	Yes score 0 / No score 1
Focus on research question	Utility	Yes score 0 / No score 1
	propriety	Yes score 0 / No score 1
Score A		



#### Score B – Risk of bias (Higgins & Green, 2011)

Criteria		Present
Selection bias	Sequence generation	Low risk score 0
	Allocation concealment	Unclear score 1 High risk score 2
Performance bias	Blinding of participants	Low risk score 0
	Blinding of personnel	Unclear score 1
	Other validity issues	High risk score 2
Detection bias	Blinding of outcome assessment	Low risk score 0
	Other validity issues	Unclear score 1
		High risk score 2
Attrition bias	Incomplete outcome data	Low risk score 0 Unclear score 1 High risk score 2
Reporting bias	Selective outcome reporting	Low risk score 0 Unclear score 1 High risk score 2
Score B		



Total score (score A + Score B)			
Range	0 – 5	6 - 10	11 – 15
Outcome	Good	Fair	Poor



APPENDIX E – Study summaries

ID	Author (s), Date & Quality outcome	Methods	Participants	Interventions	Outcome measures	Notes
1	Wiltink <i>et al.</i> 2007 (quality outcome = fair)	<b>Design:</b> Longitudinal; Parallel; Randomisation = external; random digits <b>Blinding:</b> <i>Participant:</i> Not stated <i>Intervention providers:</i> Not stated <i>Outcome assessors:</i> Not stated <b>Duration of intervention:</b> Average 7 weeks inpatient (3 year follow up) <b>Dropouts:</b> 12%	<b>Country:</b> Germany <b>N:</b> 267 <b>Age:</b> 20-64 years <b>Gender:</b> 85% female <b>Weight entry criteria:</b> 35-74kg/m <sup>2</sup> <b>Exclusion criteria:</b> being referred to a specific setting directly (usually behavioural)	<b>Intervention1:</b> The psychodynamic approach - uncovering and resolving conflicts underlying the eating disorder, developing alternative coping strategies, and improving body perception and emotional expression. Patients also participated in various mixed groups of psychodynamic body- oriented and art therapy, relaxation, and physical training <b>Intervention 2:</b> Behavioural approach - identifying functional determinants of obesity, developing problem-solving strategies and social competence, improving body perception and emotional expression, and promoting pleasurable eating behaviour regulated by hunger and satiety. Homogeneous groups for obese patients targeting the aforementioned specific attitudes and skills. Less emphasis on individual therapy <b>Follow up:</b> 1 and 3 years	<b>Body measures:</b> Weight loss (BMI) <b>Others:</b> Symptom Checklist (SCL-90- R, Derogatis, 1977), Three Factor Eating Questionnaire, (TFEQ, Stunkard & Messick,1985)	Treatment satisfaction was assessed by a standardised eight- item questionnaire
Risk of bias		Selection bias?	Performance bias?	Detection bias?	Attrition bias?	Reporting bias?
		Low risk	Unclear	Unclear	Unclear	Low risk
ID	Author (s), Date & Quality outcome	Methods	Participants	Interventions	Outcome measures	Notes
2	Stahre <i>et al.</i> 2007 (quality outcome = fair)	<b>Design:</b> Parallel; Randomisation – not stated <b>Blinding:</b> <i>Participant:</i> blind <i>Intervention</i>	<b>Country:</b> Sweden <b>N:</b> 54 <b>Age:</b> > 18 <b>Gender :</b> 100% female <b>Weight entry criteria :</b> >30kg/m <sup>2</sup>	<b>Both interventions:</b> 20 hours divided into 10 lessons, with each lesson given once a week <b>Intervention 1:</b> Cognitive Group Treatment Program – information about probable causes of their	<b>Body measures:</b> Height and weight (BMI) <b>Others:</b> Specific knowledge, participants to	Treatment satisfaction was assessed by a standardised eight- item questionnaire

		<i>providers:</i> not stated <i>Outcome assessors:</i> not stated <b><i>Duration of intervention:</i></b> 10 weeks <b><i>Dropouts:</i></b> 16%	<b><i>Exclusion criteria:</i></b> None but employed as child care providers.)	dysfunctional eating behaviour, as well as provide them with information that could be useful in changing and controlling such eating behaviour. <b><i>Control:</i></b> Control Group Treatment Program - behavioural changes in the realm of dieting, stress management, and physical training. <b><i>Follow up:</i></b> 18 months	responded to 20 questions or statements about cognition, eating, and obesity, with 10 questions in each program covering central aspects of the knowledge each program sought to convey.	
<b>Risk of bias</b>		<b>Selection bias?</b>	<b>Performance bias?</b>	<b>Detection bias?</b>	<b>Attrition bias?</b>	<b>Reporting bias?</b>
		Unclear	Unclear	Unclear	Low risk	Low risk
<b>ID</b>	<b>Author (s), Date &amp; Quality outcome</b>	<b>Methods</b>	<b>Participants</b>	<b>Interventions</b>	<b>Outcome measures</b>	<b>Notes</b>
3	<b>Waleekhachonloet et al. 2007</b> <b>(quality outcome = fair)</b>	<b><i>Design:</i></b> Parallel; open labelled; Randomisation – not stated <b><i>Blinding:</i></b> <i>Participant:</i> Small setting suggests knowledge of both groups <i>Intervention providers:</i> Not stated <i>Outcome assessors:</i> Collectors not involved in study <b><i>Duration of intervention:</i></b> 3 months <b><i>Dropouts:</i></b> 9%	<b><i>Country:</i></b> Thailand <b><i>N:</i></b> 132 <b><i>Age:</i></b> 20-60 years <b><i>Gender:</i></b> 100% female <b><i>Weight entry criteria :</i></b> >25kg/m <sup>2</sup> <b><i>Exclusion criteria:</i></b> Medications or products known to affect weight, participating in any weight control programs, uncontrolled diabetes mellitus (DM) patient (blood glucose >140 mg/dl or <100 mg/dl under treatment), chronic renal failure, metastasis cancer, dementia, psychiatric diseases, weight loss	<b><i>Both Interventions:</i></b> The Theory of Planned Behaviour (TPB). Intention, when taking into account perceived behavioural control, has direct effect on behaviour. Intention was increased by goal setting, perceived behavioural control was increased by self-monitoring, cognitive restructuring, enhancing a person's experience of control over healthy dieting behaviour through step-by-step practicing behaviour, stimulus control, problem solving, stress management, and relapse prevention techniques. Both groups were encouraged to keep a food diary for self-monitoring. Attitude was improved by providing information about positive effects of healthy dieting and correcting misunderstanding about negative effects of healthy dieting. Subjective norm was improved by increasing	<b><i>Body measures:</i></b> Height, weight and waist circumference (BMI) <b><i>Others:</i></b> Dietary intake, questionnaire developed based on the theory of planned behaviour (TPB)	All participants- goal of achieving a 6% weight loss over 6 months; maintain their usual physically active lifestyle throughout the study; nutritionally balanced, low calorie diet (1200—1500 kcal/day). At week 2 (introductory session), the two study groups (all together) received all necessary information. 4 behaviour therapy sessions at weeks 4, 6, 8, and 10 at each setting at different times between the

			of at least 5 kg in the preceding 6 months, and pregnant or breastfeeding women.	social support from persons who have influence on a person's behaviour. <b>Intervention 1:</b> Group behaviour therapy- 60 min per session with 3—12 participants. Program providers and participants ratio was approximately 1:5. <b>Intervention 2:</b> Individual behaviour therapy approximately 30 min per session <b>Follow up:</b> 6 and 12 months		two studies groups to decrease contamination. Structure was similar between the two groups, including weighing, providing strategies of behaviour therapy, talking about behavioural problems, giving encouragement, emphasizing adherence to program, and reviewing adverse effects.
<b>Risk of bias</b>		<b>Selection bias?</b>	<b>Performance bias?</b>	<b>Detection bias?</b>	<b>Attrition bias?</b>	<b>Reporting bias?</b>
		Unclear	High risk	Low risk	Low risk	Low risk
<b>ID</b>	<b>Author (s), Date &amp; Quality outcome</b>	<b>Methods</b>	<b>Participants</b>	<b>Interventions</b>	<b>Outcome measures</b>	<b>Notes</b>
4	<b>Greaves et al. 2008</b> (quality outcome = fair)	<b>Design:</b> Parallel; single blind; Randomisation – drawing of envelopes <b>Blinding:</b> Participant: Aware which group they were in (necessity) Intervention providers: Blind Outcome assessors: Blind <b>Duration of intervention:</b> 6 months	<b>Country:</b> UK <b>N:</b> 141 <b>Age:</b> ≥ 18 <b>Gender :</b> 64% female <b>Weight entry criteria :</b> >28kg/m <sup>2</sup> <b>Exclusion criteria:</b> Diabetes, heart disease, or severe joint problems, unable to engage in at least moderate physical activity, if the GP felt the patient to be unsuitable or if they	<b>Intervention 1:</b> Up to 11 individual sessions of behavioural counselling with motivational interview techniques over a 6month period. A mixture of one-to-one contacts (median 8) and telephone contacts (median 1.5) was received with a mean 34 minutes per contact. A specific aim of the intervention was to encourage participants to develop sustainable cognitive and behavioural skills for managing their diet and physical activity. <b>Control:</b> Participants received a standardised information pack	<b>Body measures:</b> weight and waist circumference <b>Others:</b> Patients achieving 5% reduction in weight, patients achieving UK government target of 150 minutes of moderate activity per week.	Dietary recommendations - reducing overall calorific intake and portion size, reducing overall fat intake, reducing saturated fat content, and increasing fibre intake. Physical activity recommendations - increasing overall physical activity

		<b>Dropouts:</b> 3 % intervention dropout, 21% at follow up	did not speak English fluently	promoting similar diet and physical activity recommendations to the intervention group. <b>Follow up:</b> 6 months		
<b>Risk of bias</b>		<b>Selection bias?</b>	<b>Performance bias?</b>	<b>Detection bias?</b>	<b>Attrition bias?</b>	<b>Reporting bias?</b>
		Low risk	High risk	Low risk	Low risk	Low risk
<b>ID</b>	<b>Author (s), Date &amp; Quality outcome</b>	<b>Methods</b>	<b>Participants</b>	<b>Interventions</b>	<b>Outcome measures</b>	<b>Notes</b>
5	<b>Werrij <i>et al.</i> 2009</b> (quality outcome = fair)	<b>Design:</b> Parallel; Randomisation – not stated <b>Blinding:</b> <i>Participant:</i> not stated <i>Intervention providers:</i> not stated <i>Outcome assessors:</i> not stated <b>Duration of intervention:</b> 10 weeks <b>Dropouts:</b> 21%	<b>Country:</b> Netherlands <b>N:</b> 200 <b>Age:</b> 19 - 65 <b>Gender :</b> 81% female <b>Weight entry criteria :</b> >27kg/m <sup>2</sup> <b>Exclusion criteria:</b> Participating in another treatment for weight loss, being treated by a mental health professional, not being able to exercise, and pregnancy.	<b>Intervention:</b> Cognitive therapy - identifies, challenge, and change dysfunctional cognitions concerning eating, control, weight and shape, as well as related schemas. Automatic thoughts and beliefs were identified and challenged, and behavioural experiments were set up.  <b>Control:</b> Physical exercise - low intensity exercise program (gym) supervised by a qualified physiotherapist. <b>Follow up:</b> 12 months	<b>Body measures:</b> Height and weight (BMI) <b>Others:</b> Eating Disorder Examination– Questionnaire (EDE-Q, Fairburn & Beglin, 1994), Beck Depression Inventory (BDI, Beck <i>et al.</i> , 1979), Rosenberg Self-Esteem Scale, (RSE, Rosenberg, 1965)	Both treatments were 10 weekly sessions of 2 h each in groups with a maximum of 12 participants. Each treatment session was divided into two parts. The first part (the first hour) was always the dietetic intervention, carried out by dietitians. Interventions in the second part (the second hour) differed between the experimental and the control treatment.
<b>Risk of bias</b>		<b>Selection bias?</b>	<b>Performance bias?</b>	<b>Detection bias?</b>	<b>Attrition bias?</b>	<b>Reporting bias?</b>
		Unclear	Unclear	Unclear	Low risk	Low risk
<b>ID</b>	<b>Author (s), Date &amp; Quality outcome</b>	<b>Methods</b>	<b>Participants</b>	<b>Interventions</b>	<b>Outcome measures</b>	<b>Notes</b>
6	<b>Lillis <i>et al.</i> 2009</b> (quality outcome = good)	<b>Design:</b> Parallel; Randomisation – random numbers <b>Blinding:</b> <i>Participant:</i> not stated <i>Intervention</i>	<b>Country:</b> USA <b>N:</b> 84 <b>Age:</b> >18 <b>Gender :</b> 88% female <b>Weight entry criteria :</b> attended a weight loss	<b>Intervention:</b> 1-day, 6-h workshop utilizing exercises and material from the original ACT book. Each workshop used a structured sequence of lecture and exercises. The specific methods used taught acceptance, mindfulness,	<b>Body measures:</b> Height and weight (BMI) <b>Others:</b> Obesity-related quality of life was assessed by the	

		<i>providers:</i> not stated <i>Outcome assessors:</i> blind <b><i>Duration of intervention:</i></b> 1 day workshop <b><i>Dropouts:</i></b> 4%	program in past 6 months <b><i>Exclusion criteria:</i></b> Non English speaking.	and defusion skills as applied to difficult thoughts, feelings, and bodily sensations. Weight-related stigmatizing thoughts and distress were the primary focus. The workshop also sought to clarify life values, especially those related to health and relationships, identify barriers to their implementation, and to foster behavioural commitments related to life values. A general ACT workbook was also distributed to participants to encourage further implementation of the methods presented. <b><i>Control:</i></b> Waiting list <b><i>Follow up:</i></b> 3 months	ORWELL (ORWELL, Mannucci <i>et al.</i> , 1999),	
<b>Risk of bias</b>		<b>Selection bias?</b>	<b>Performance bias?</b>	<b>Detection bias?</b>	<b>Attrition bias?</b>	<b>Reporting bias?</b>
Low risk		Unclear	Low risk	Low risk	Low risk	Low risk
ID	Author (s), Date & Quality outcome	Methods	Participants	Interventions	Outcome measures	Notes
7	Jeffrey <i>et al.</i> 2009 (quality outcome = fair)	<b><i>Design:</i></b> RCT, 2 cohorts; Randomisation – Computer generated numbers <b><i>Blinding:</i></b> <i>Participant:</i> not stated <i>Intervention providers:</i> not stated <i>Outcome assessors:</i> not stated <b><i>Duration of intervention:</i></b> 18 months <b><i>Dropouts:</i></b> 20%	<b><i>Country:</i></b> USA <b><i>N:</i></b> 120 <b><i>Age:</i></b> > 18 <b><i>Gender :</i></b> 52% female <b><i>Weight entry criteria :</i></b> 30 - 39kg/m <sup>2</sup> <b><i>Exclusion criteria:</i></b> Serious medical condition.	<b><i>Both interventions:</i></b> Small groups, 11 to 21 individuals which included weighing, presentation of lifestyle recommendations by treatment staff, discussion of behavioural goals and strategies, and homework assignments to be completed between sessions. <b><i>Intervention 1:</i></b> Standard Behavioural Therapy (SBT) – Weight, food intake and exercise behaviours on a daily basis. Energy intake and expenditure goals with homework between sessions to keep a record of diet and physical activity, to calculate daily energy intake and expenditure and to strive toward specific intake and expenditure goals based on initial body weight.	<b><i>Body measures:</i></b> Height and weight (BMI) <b><i>Others:</i></b> Food Frequency Questionnaire (FFQ Block <i>et al.</i> , 1986),	

				<p>Participants met with a therapist in small groups regularly to discuss strategies, Therapy groups for SBT met weekly the first 6 months, bi-weekly between months 6 and 12, and monthly between months 12 and 18.</p> <p><b>Intervention 2:</b> Maintenance Tailored Therapy arm was the same as the SBT but to address the habituation/boredom problem discussed earlier. Content was presented in six units of 8-week duration, each of which had a specific concentration. To add additional variety, participant goals were changed regularly within as well as between units</p> <p><b>Follow up:</b> 18 months</p>		
<b>Risk of bias</b>		<b>Selection bias?</b>	<b>Performance bias?</b>	<b>Detection bias?</b>	<b>Attrition bias?</b>	<b>Reporting bias?</b>
		Low risk	Unclear	Unclear	Unclear	Low risk
<b>ID</b>	<b>Author (s), Date &amp; Quality outcome</b>	<b>Methods</b>	<b>Participants</b>	<b>Interventions</b>	<b>Outcome measures</b>	<b>Notes</b>
8	<p><b>Turner-McGrievy et al. 2009 (quality outcome = fair)</b></p>	<p><b>Design:</b> Parallel; Randomisation – not stated <b>Blinding:</b> <i>Participant:</i> Blind <i>Intervention providers:</i> not stated <i>Outcome assessors:</i> Blind <b>Duration of intervention:</b> 12 weeks <b>Dropouts:</b> 20%</p>	<p><b>Country:</b> USA <b>N:</b> 78 <b>Age:</b> &gt; 18 <b>Gender :</b> 73% female <b>Weight entry criteria :</b> 25 - 40kg/m<sup>2</sup> <b>Exclusion criteria:</b> Unstable medical status history of an eating disorder; pregnancy; alcohol or drug abuse; tobacco use; mental illness; diabetes mellitus; or an uncontrolled thyroid condition.</p>	<p><b>Both interventions:</b> Two podcasts per week for 12 weeks <b>Control:</b> Weight-loss podcast considered to be accurate and popular based on a content which consisted of discussions on how to lose weight, conducted by two hosts. This podcast focused on using cognitive restructuring to avoid overeating in order to achieve a healthy weight. Average length of each episode was 18 minutes 34 seconds <b>Intervention:</b> Theory-based weight-loss podcast designed by the researchers (enhanced podcast) using constructs from social cognitive theory</p>	<p><b>Body measures:</b> Height and weight (BMI) <b>Others:</b></p>	

				(SCT). Average length was 15 minutes 42 seconds. <b>Follow up:</b> 12 weeks		
Risk of bias		Selection bias?	Performance bias?	Detection bias?	Attrition bias?	Reporting bias?
		Unclear	Low risk	Unclear	Unclear	Low risk
ID	Author (s), Date & Quality outcome	Methods	Participants	Interventions	Outcome measures	Notes
9	Befort <i>et al.</i> 2010 (quality outcome = fair)	<b>Design:</b> Parallel; Randomisation – Concealed envelopes (sequential) <b>Blinding:</b> <i>Participant:</i> not stated <i>Intervention providers:</i> not stated <i>Outcome assessors:</i> not stated <b>Duration of intervention:</b> 24 weeks <b>Dropouts:</b> 20%	<b>Country:</b> USA <b>N:</b> 34 <b>Age:</b> 22 - 65 <b>Gender :</b> 100% female <b>Weight entry criteria :</b> 25 – 44kg/m <sup>2</sup> <b>Exclusion criteria:</b> No more than 10 lb weight fluctuation within previous 6 months, pregnant during previous six months, lactating, currently pregnant, or planning to become pregnant, serious medical risk, unable to walk briskly unassisted for at least 10 min, substance abuse, binge eating disorder or special dietary requirements	<b>Both conditions:</b> Both treatment arms received weekly treatment sessions for 16 weeks followed by 4 biweekly sessions. The intervention was guided by Social Cognitive Theory (Bandura, 1986) and focused on self-efficacy and self-regulation skills, including goal- setting, self-monitoring, problem- solving, stimulus control, and relapse prevention for diet and physical activity (PA) behaviours. Participants were instructed to follow a 1200 to 1500 kcal diet with <25%kcal from fat. To facilitate adherence to the diet and promote experiential learning of appropriate portion sizes, participants were provided with pre-packaged entrees (two per day at <300 kcal each) and shakes (three per day at 100–110 kcal each; Health Management Resources, Inc.). <b>Intervention 1:</b> Group telephone counselling - 16 women, called into a toll-free conference call number for 60 min for group sessions <b>Intervention 2:</b> Individual telephone counselling - received calls from their counsellor for 25–45 min sessions. <b>Follow up:</b> 2 months	<b>Body measures:</b> Height and weight (BMI) <b>Others:</b> Social Problem Solving Inventory (SPSI; D'Zurilla <i>et al.</i> , 2002).	

Risk of bias		Selection bias?	Performance bias?	Detection bias?	Attrition bias?	Reporting bias?
		Low risk	Low risk	Unclear	Unclear	Low risk
ID	Author (s), Date & Quality outcome	Methods	Participants	Interventions	Outcome measures	Notes
10	Silva <i>et al.</i> 2010 (quality outcome = fair)	<b>Design:</b> Parallel; Randomisation – computerised random number generator <b>Blinding:</b> <i>Participant:</i> not stated <i>Intervention providers:</i> not stated <i>Outcome assessors:</i> not stated <b>Duration of intervention:</b> 1 year <b>Dropouts:</b> 13%	<b>Country:</b> Portugal <b>N:</b> 239 <b>Age:</b> 20 – 50 years <b>Gender :</b> 100% female <b>Weight entry criteria :</b> 25 - 40kg/m <sup>2</sup> <b>Exclusion criteria:</b> Free from major illness and taking no medication. Not participating in other weight loss programs.	<b>Intervention1:</b> The 30 intervention sessions, designed to follow Self Determination Theory, basic tenets, covering PA, eating/nutrition, body image, and other cognitive and behavioural contents, occurred weekly or bi-monthly and lasted about 120 min each <b>Intervention 2:</b> control - General health programme. The 29 sessions in the control group were delivered grouped into “thematic courses” such as healthy/ preventive nutrition, stress management, self-care, and effective communication skills. Specific behavioural goals were not set; minimal feedback was provided <b>Follow up:</b> 1 year – end of program	<b>Body measures:</b> Height and weight (BMI) <b>Others:</b> Self- determination scale (SDS, Sheldon <i>et al.</i> , 1996)	
Risk of bias		Selection bias?	Performance bias?	Detection bias?	Attrition bias?	Reporting bias?
		Low risk	Unclear	Unclear	Low risk	Low risk
ID	Author (s), Date & Quality outcome	Methods	Participants	Interventions	Outcome measures	Notes
11	Cooper <i>et al.</i> 2010 (quality outcome = fair)	<b>Design:</b> Parallel; Randomisation – HAD – computer generated blocks <b>Blinding:</b> <i>Participant:</i> not stated <i>Intervention providers:</i> not stated <i>Outcome assessors:</i> Blind	<b>Country:</b> UK <b>N:</b> 150 <b>Age:</b> 20 – 60 years <b>Gender :</b> 100% female <b>Weight entry criteria :</b> 30 - 39kg/m <sup>2</sup> <b>Exclusion criteria:</b> Weight loss of 10% or more within the previous six months,	<b>Intervention1:</b> Cognitive behaviour therapy (CBT) - designed to address certain psychological processes that had been hypothesized to interfere with successful weight maintenance. The treatment was also designed to encourage the acquisition and practice of weight maintenance skills as these differ from those required to lose weight. 24, 50-min, one-to-one	<b>Body measures:</b> Height and weight (BMI) <b>Others:</b> Adaptation of the Eating Disorder Examination (Fairburn <i>et al.</i> , 2008), Brief Symptom Inventory	



		<p><b>Duration of intervention:</b> 44 weeks (GSH 24 weeks)</p> <p><b>Dropouts:</b> 14%</p>	major medical or psychiatric illness, current psychiatric or psychological treatment, disorders or treatments known to affect eating, weight or metabolic rate, and disorders in which calorie or fat restriction are contraindicated..	<p>sessions over the 44 week period of treatment with the sessions being weekly for the first seven weeks and every two weeks thereafter.</p> <p><b>Intervention 2:</b> Behaviour therapy (BT) - represent the optimal behavioural treatment available at the time, adapted for use on an individual basis. Same number and pattern of sessions as CBT.</p> <p><b>Intervention 3:</b> Guided self-help (GSH) - based on the LEARN Programme for Weight Control designed to produce permanent change in five areas of life: lifestyle, exercise, attitudes, relationships and nutrition. GSH lasted 24 weeks and involved two initial face-to-face sessions with a therapist followed by up to 15 20-min telephone sessions.</p> <p><b>Follow up:</b> 3 year</p>	(BSI, Derogatis & Spencer,1982) Symptom Checklist (SCL-90, Derogatis,1977).	
<b>Risk of bias</b>		<b>Selection bias?</b>	<b>Performance bias?</b>	<b>Detection bias?</b>	<b>Attrition bias?</b>	<b>Reporting bias?</b>
Low risk		Low risk	Unclear	Low risk	Unclear	Low risk
ID	Author (s), Date & Quality outcome	Methods	Participants	Interventions	Outcome measures	Notes
12	Teixeira <i>et al.</i> 2010 (quality outcome = fair)	<p><b>Design:</b> Parallel; Randomisation – not stated</p> <p><b>Blinding:</b> Participant: not stated</p> <p><b>Intervention providers:</b> not stated</p> <p><b>Outcome assessors:</b> not stated</p> <p><b>Duration of intervention:</b> 1 year</p> <p><b>Dropouts:</b> 18%</p>	<p><b>Country:</b> Portugal</p> <p><b>N:</b> 225</p> <p><b>Age:</b> 25 - 50 years</p> <p><b>Gender :</b> 100% female</p> <p><b>Weight entry criteria :</b> 25 - 40kg/m<sup>2</sup></p> <p><b>Exclusion criteria:</b> Major illness, taking medication known to affect weight.</p>	<p><b>Intervention:</b> Behavioural therapy - 30 group sessions. Increasing physical activity (PA) and energy expenditure, adopting a diet consistent with a moderate energy deficit, and ultimately establishing exercise and eating patterns that would support weight maintenance. Cognitive and behavioural aspects such as identifying personal resistances, overcoming lapses, establishing adequate goals, and implementing self-monitoring</p>	<p><b>Body measures:</b> Height and weight (BMI)</p> <p><b>Others:</b> Three-Factor Eating Questionnaire (TFEQ, Stunkard &amp; Messick,1985), The Dutch Eating Behavior Questionnaire (van Strien <i>et al.</i>, 1986)</p>	

				were emphasized. Intervention sessions covered topics such as emotional and external eating, its detection and prevention, as well as improving body acceptance and body image. The program’s principles and style of intervention were based on Self-Determination. <i>Control:</i> General health education curriculum based on several educational courses on various topics <i>Follow up:</i> 1 year				
Risk of bias	Selection bias?		Performance bias?		Attrition bias?		Reporting bias?	
	Low risk		Unclear		Unclear		Low risk	

## **APPENDIX F - Telephone support protocol**

### **Every session:**

- Hi, how are you?
- Where are you up to in the book?
- How have you found this chapter?
- Is there anything you would like to discuss?
- How are you using the book?
- How often are you using the book?
- How are you finding the intervention/suggestions made in the book?
- Which techniques are you using?
- Have you noticed any positive/negative outcomes? Have you noticed any changes in your life?
- Which bits do you think are working/helping?
- How useful is the telephone support?
- Do you have any suggestions for improvements to the book?

### **INSERT RELEVANT CHAPTER QUESTIONS HERE**

*Set goal for next phone call.*

**Specific chapter questions** – depending where the individual is in book use the relevant questions

#### **Chapter 1**

- How have you found the information?

#### **Chapter 2**

- How have you found the idea of a set point theory?
- Have you noticed any ways in which you may have affected set point?

#### **Chapter 3**

- How did you feel about the three emotional regulation systems?
- Have you noticed ways in which you use food to manage your emotions?
- How has dieting or denying yourself food had an impact on your emotions?

#### **Chapter 4**

- This chapter looked at different mindsets we can find ourselves in like the comfort food, food is fun, eat to fit in, and food as a punishment. Do any of these relate to you?

## **Chapter 5**

- How do you think the compassionate mind could help you?
- Have you tried any of the compassion mind exercises? (imagery, mindful attention, soothing system, soothing breathing and safe place).
- Which one do you think may work best for you?

## **Chapter 6**

- Have you been using anymore of the compassionate mind exercises?
- Are you using the compassionate diary/
- Have you noticed any blocks or anything preventing you from being compassionate?
- How easy do you find it to activate your soothing system?

## **Chapter 7**

- How are you getting on with formulation?
- Do you need any help?

## **Chapter 8**

- Are you using the food diary?
- Are there any blocks to using it?
- Do you feel you are becoming more mindful of what you eat?
- Have you identified anything that helps you avoid overeating?

## **Chapter 9**

- This chapter looks at doing another formulation, how did you get on with it?
- Is it different to the last one?
- Have the food diaries helped?

## **Chapter 10**

- How did you get on with reading about the stages of change?
- Where do you feel your motivation is at?

## **Chapter 11**

- How do you feel about your energy balance?
- Does the eat-well plate make sense?
- How are you getting on with meal planning?

## **Chapter 12**

- How did you feel about the first 2 steps to a healthy relationship with food (establishing regular eating patterns and compassionately reducing trigger foods)?

### **Chapter 13**

- How did you get on with the final 4 steps (balancing energy needs, developing a healthy nutritional balance, learning to respond to hunger and fullness and learning to enjoy food again)?

### **Chapter 14**

- How are finding the letter writing?
- Is it useful?
- Are there any blocks?

### **Chapter 15**

- How do you feel about coming to the end of the book?

## APPENDIX G – Letter of ethical approval



### Health Research Authority

#### NRES Committee West Midlands - Coventry & Warwickshire

The Old Chapel  
Royal Standard Place  
Nottingham  
NG1 6FS

Telephone: 0115 8839368  
Facsimile: 0115 8839294

03 April 2012

Dr [REDACTED]  
Consultant Clinical Psychologist  
Coventry and Warwickshire NHS Trust  
Coventry Eating Disorders Service  
James Brindley House  
Canal Basin, Coventry  
CV1 4LY

RECEIVED 04 APR 2012

Dear Dr [REDACTED]

**Study title:** Does a Compassionate Mind Self Help Approach Effect  
Psychosocial Factors in Treatment Seeking Obese  
Adults: A mixed study design.  
**REC reference:** 12/WM/0069

The Research Ethics Committee reviewed the above application at the meeting held on 28 March 2012. Thank you for attending with [REDACTED] and Kerrie Loader to discuss the study.

#### Ethical opinion

1. The Committee informed you that they found the study interesting, sympathetic and useful.
2. The Committee asked what bibliotherapy is. You explained it will involve utilising a self help book with exercises in addition to clinical support.
3. The Committee asked what the 20 minute telephone conversations will involve. You explained participants will be given the book and given homework tasks every week. The phone call will help to encourage the participant, provide support and to focus what the next stage of the therapy will involve.
4. The Committee pointed out that a lot of work is involved and asked if it will be achievable. Ms Lockley and Ms Loader clarified the research is structured to be part of clinical placement and more time, supervision and extra study days will be available to the student researchers.
5. The Committee pointed out there are some typographical and grammatical errors on the Participant Information Sheet. The Committee also pointed out that under the heading 'What will happen to me if I participate?' the second paragraph states "The non-treatment group will receive treatment as usual". You agreed to amend the documentation.
6. The Committee suggested that the study title on participant documentation should be clearer and simplified.

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.

## **Ethical review of research sites**

### **NHS Sites**

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

### **Conditions of the favourable opinion**

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

*Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.*

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

*Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.*

*For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.*

*Sponsors are not required to notify the Committee of approvals from host organisations*

1. The titles on participant documentation should be simplified. The Committee suggests using the short title given on the application form.
2. The following additions/revisions are required on the Participant Information Sheet:
  - a. The title should be simplified.
  - b. State participants' GPs will be informed of their participation in the study.
  - c. Typographical and grammatical errors should be corrected and the document should be proof read.
  - d. Provide independent contact details for participants who wish to complain about the study.
  - e. Under the heading 'Who has reviewed the study?' state the study has been reviewed by NRES Committee West Midlands - Coventry & Warwickshire.
3. On the Consent Form include a point seeking consent for participants' GPs to be informed of their participation in the study.

**It is responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).**

**You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. Confirmation should also be provided to host organisations together with relevant documentation**

### **Approved documents**

The documents reviewed and approved at the meeting were:



<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering Letter		20 February 2012
Investigator CV	Dr Kenneth Goss	15 February 2012
Investigator CV	Dr Steven Allan	01 January 2012
Investigator CV	Sarah Lockley	26 January 2012
Investigator CV	Kerrie Loader	30 January 2012
Letter of invitation to participant	1	01 January 2012
Other: Welcome Letter	1	01 January 2012
Other: Eating Disorders Initial Screening Assessment	1	01 January 2012
Other: Food Diary	1	01 January 2012
Participant Consent Form	1	01 January 2012
Participant Information Sheet	1	01 January 2012
Protocol	1	01 January 2012
Questionnaire: Eating Questionnaire (EDE-Q)		
Questionnaire: Clinical Outcomes Routine Evaluation		
Questionnaire: General Practice Physical Activity		
Questionnaire: Self Compassion Scale		
Questionnaire: OAS Scale		
Questionnaire: ISS Scale		
Questionnaire: The Three Factor Eating Questionnaire - Revised 18-Item		
REC application	98923/295246/1/177	20 February 2012

#### **Membership of the Committee**

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

#### **Statement of compliance**

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

#### **After ethical review**

##### Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.



Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

**12/WM/0069**

**Please quote this number on all correspondence**

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

Yours sincerely



**Dr Helen Brittain**  
**Chair**

Email: [lisa.gregory@nottspct.nhs.uk](mailto:lisa.gregory@nottspct.nhs.uk)

Enclosures:

*List of names and professions of members who were present at the meeting and those who submitted written comments  
"After ethical review – guidance for researchers"*

Copy to:

*Miss Sarah Lockley  
Dr Kelly Spencer, West Midlands South Comprehensive Local  
Research Network*

## APPENDIX H – Participant Information sheet



**University of  
Leicester**

**School of Psychology  
Doctorate in clinical  
Psychology**  
104 Regent Road  
LEICESTER LE1 7LT  
UK  
Tel +44 (0)116 223 1639  
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### Participation Invitation and Information sheet

#### **Compassionate Mind Approach to Weight Management**

Lead Researchers: Kerrie Loader, Clinical Psychologist Trainee, University of Leicester

Contact: Sarah [redacted], Clinical Psychologist Trainee, University of Leicester  
E-mail. [redacted], E-mail. [redacted]

Thank you for considering taking part in the study ‘**Compassionate Mind Approach to Weight Management**’.

Please find attached an information sheet which explains the study in detail.

If you would like to participate in the study or wish to discuss it further please fill in your details and sign the slip below and hand this to a member of staff. Alternatively you can contact the lead researchers directly on the telephone numbers below.

If you do not wish to participant then this will not affect your treatment within the weight management clinic.

Thank you for your interest.

Kind regards

Kerrie Loader

Sarah [redacted]

Tel no. [redacted]

-----✂-----

I, \_\_\_\_\_ (insert name) agree to being contacted on  
\_\_\_\_\_ (insert contact telephone number) regarding the  
‘**Compassionate Mind Approach to Weight Management**’ study.

**Signature** \_\_\_\_\_

**Date**

*Please hand this slip to a member of the clinic staff, thank you.*



**University of  
Leicester**

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### **Participant Information Sheet**

#### **Compassionate Mind Approach to Weight Management**

Lead Researchers: Kerrie Loader, Clinical Psychologist Trainee, University of Leicester  
Sarah . [REDACTED], Clinical Psychologist Trainee, University of Leicester  
Contact: E-mail. [REDACTED], E-mail. [REDACTED]

You are invited to take part in the research study '**Compassionate Mind Approach to Weight Management**'. Both lead researchers are undertaking training to become a Clinical Psychologist at Leicester University and this research forms part of the training. Before you decide to participate it is important for you to understand why the research is being done and what it will involve. One of our team will go through this information sheet with you and answer any questions you may have. This should take approximately five minutes.

#### **1. What is the purpose of the study?**

The study aims to:

1. To improve the scientific understanding of how psychological factors, including shame, self-compassion and self-criticism contribute towards eating difficulties. To determine if telephone guided self help treatment (using Compassion-focused Therapy) improves the effectiveness of the usual treatment offered at dietetic clinics in assisting and maintaining weight loss.
2. To find out if Compassionate Focused telephone guided self help therapy is an effective treatment for addressing self compassion, shame and self criticism and improving psychological wellbeing during treatment for weight management.

Compassionate Focused Therapy (CFT):

CFT is a relatively new development in Cognitive Behavioural interventions and in eating disorders. It has been successfully applied to a number of patient populations including depression.

Compassion Focused Therapy (CFT) is a form of therapy which helps work on self criticism and self attacking thoughts, both of which are very common with individuals suffering from eating difficulties. CFT aims to enable patients to 'switch on' their self soothing thoughts and

behaviours through use of taught skills, relaxation techniques and guided imagery.

## **2. Why have I been chosen?**

You have been invited to take part because you are accessing services which are attempting to help you manage your weight. Everyone who attends this clinic will be invited to participate. We would like to understand more about what treatments work and how we can improve services.

## **3. Do I have to take part?**

Whether you decide to take part in the study is entirely up to you. If you do decide to take part you can change your mind at any time and withdraw, the quality of your care will not be affected in any way by your decision to participate or not.

## **4. What will happen to me if I participate?**

If you would like to participate you will be asked to attend an appointment at Coventry Eating Disorder Services. A member of the team will discuss the study with you and gain your written consent to take part. Your GP will be informed of your participation in the study. At this time you will also be asked to answer some questions and fill in a questionnaire pack which will take approximately one hour. You will not be required to put your name on any of the questionnaires as they will remain anonymous and will only be identifiable by a participant number.

Following this appointment you will be allocated randomly to one of the two treatment options being evaluated by this study. Participants in the 'CFT Treatment' group will receive treatment as usual, a CFT self-help book and supportive phone-calls. The treatment will last for six months and will be fully explained to you before commencement. Alternatively, you will be allocated to the 'Treatment As Usual' group where your care will continue as usual, and at the end of the study you will receive a copy of the CFT self-help book.

After six months you will be asked to complete the questionnaire pack again (post treatment) and then to complete the same questionnaire pack three months after treatment has finished. This will be required whether you are allocated to the 'CFT Treatment' group or 'Treatment As Usual' group. These questionnaire packs can be sent and returned on completion through the post. However, should you prefer to complete these questionnaire packs with the support of a lead researcher, an appointment can be arranged for this. The purpose of these questionnaire packs is to allow us to evaluate what effects the treatment has had. As stated above, no questionnaires will contain personal information and will only be identifiable by your participant number.

Once your participation in the study has been completed, you will be given the opportunity to enquire about other treatment options and have access to this where possible.

## **5. What are the possible disadvantages of taking part?**

This study will last for approximately nine months in total and will require engagement and motivation from you to take part. The treatment aspect of the study will last six months.

The questions and questionnaires that you will complete will ask questions related to your general wellbeing, eating behaviours and other emotional factors. It is possible that some of these questions may cause you to think about things that make you emotional. However, you will be asked to complete these questionnaires with the support of a member of the team.

#### **6. What are the possible advantages of taking part?**

The questionnaires that you will complete at pre treatment, post treatment and at three month follow up will evaluate how effective the three types of treatment are for treatment seeking obese adults. This will allow us to shape services and provide evidence based therapy.

Although there may be no personal benefit in you participating by taking part you are providing unique and valuable information for this study which helps to contribute to the continual development of services.

#### **7. What if something goes wrong?**

If at any time during the study you feel that you do not wish to continue, you may withdraw without giving a reason and without your care being compromised at any time. Should you feel that you have questions or need emotional support at any time during the study, please contact one of the lead researchers on the number provided at the end of this information sheet. Should you wish to, you can call the Mental Health Matters Confidential, 24 hour helpline on 0800 616 717. This is a free and completely confidential service which you can access at any time. Contacting this service will not impact on your participation in the study or on your treatment with the dietetic service. This support is available whether you decide to continue with the study or not.

#### **8. Confidentiality and Anonymity**

Any information that you provide is protected by the Data Protection Act and will be kept confidential at all times. Any treatment you receive will be delivered by NHS professionals who adhere to strict rules of confidentiality. The questionnaires that you complete will only be identifiable by a participant number and all information pertaining to you will be stored using this number with no personal details. All data from the study will be stored in a locked filing cabinet when not in use.

#### **9. What will happen with the results of the study?**

The results will be written up as a report for submission to Leicester University as part of the assessment in training to become a Clinical Psychologist. The report may also be submitted for publication in a relevant journal. It is hoped that results from this study will be used to inform the direction of treatment programs offered to people seeking weight loss. If you would like a summary of the results of the study please inform either of the lead researchers who will be happy to provide this.

#### **10. Who is organising and funding the research?**

The study has been organised by the lead researchers in conjunction with the [REDACTED].

#### **11. Who has reviewed the study?**

The study has been reviewed by NRES Committee [REDACTED].

#### **12. What will happen if I agree to take part?**

If you decide to take part, please complete your details and sign the slip on the invitation letter and hand to a member of staff. Alternatively you can contact one of the lead researchers directly and an appointment will be arranged.

### 13. Making a complaint

If you would like to make a complaint about any issues related to the study please contact:

Dr [REDACTED]  
Research Management & Governance Manager  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
Tel: [REDACTED] (extn [REDACTED])

Alternatively you can contact PALS (Patient Advice and Liaison Service for the NHS):

[REDACTED]  
Patient Advice & Liaison Service  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
Tel: [REDACTED] (extn [REDACTED])

#### **14. Further Information**

If you require any more information or support now or in the future you may contact one of the lead researchers:

Kerrie Loader

Sarah [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Tel no. [REDACTED]

E-mail: [REDACTED]

E-mail: [REDACTED]

Mental Health Matters – Confidential Emotional Support and Guidance 24 hour helpline

Freephone 0800 616 171

E-mail: [timeonline@mentalhealthmatters.co.uk](mailto:timeonline@mentalhealthmatters.co.uk)

THANK YOU FOR TAKING THE TIME TO CONSIDER PARTICIPATING



**University of  
Leicester**

**School of Psychology  
Doctorate in clinical  
Psychology**

104 Regent Road  
LEICESTER LE1 7LT  
UK

Tel +44 (0)116 223 1639

Fax +44 (0)116 223 1650

Participant Identification Number:.....

**CONSENT FORM**

**Compassionate Mind Approach to Weight Management**

Lead Researchers: Kerrie Loader, Clinical Psychologist Trainee, University of Leicester

Sarah [REDACTED], Clinical Psychologist Trainee, University of Leicester

Thank you for agreeing to take part in this research project. Please read this consent form, and ask any further questions you would like to about what will be involved.

Please initial box

1. I confirm that I have read and understood the information sheet dated (*insert date*) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.

3. I understand that I will be randomly allocated to a treatment condition and this will last for 6 months with a 3 month follow up. I understand that any treatment I receive will be delivered or supervised by NHS professionals.

4. I understand that my identity will remain anonymous on any questionnaires I complete throughout the study.

5. I understand that data from the study will be kept securely on NHS premises.

6. I understand that anonymous information I give will be included as part of assessment for the Doctorate in Clinical Psychology and that results may be published in academic journals.

7. I agree that my GP can be informed of my involvement in the study.

**8. I agree to take part in this study.**

\_\_\_\_\_  
Name of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Researcher

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature



# CLINICAL OUTCOMES in ROUTINE EVALUATION

## OUTCOME MEASURE

Over the last week		Not at all	Only Occasionally	Sometimes	Often	Most or all the time	OFFICE USE ONLY
15	I have felt panic or terror	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> P
16	I made plans to end my life	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> R
17	I have felt overwhelmed by my problems	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> W
18	I have had difficulty getting to sleep or staying asleep	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> P
19	I have felt warmth or affection for someone	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> F
20	My problems have been impossible to put to one side	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> P
21	I have been able to do most things I needed to	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> F
22	I have threatened or intimidated another person	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> R
23	I have felt despairing or hopeless	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> P
24	I have thought it would be better if I were dead	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> R
25	I have felt criticised by other people	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> F
26	I have thought I have no friends	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> F
27	I have felt unhappy	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> P
28	Unwanted images or memories have been distressing me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> P
29	I have been irritable when with other people	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> F
30	I have thought I am to blame for my problems and difficulties	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> P
31	I have felt optimistic about my future	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> W
32	I have achieved the things I wanted to	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> F
33	I have felt humiliated or shamed by other people	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> F
34	I have hurt myself physically or taken dangerous risks with my health	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> R

**THANK YOU FOR YOUR TIME IN COMPLETING THIS QUESTIONNAIRE**

<b>Total Scores</b>	<input style="width: 50px; height: 20px;" type="text"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input style="width: 50px; height: 20px;" type="text"/>	<input style="width: 50px; height: 20px;" type="text"/>	→	<input style="width: 50px; height: 20px;" type="text"/>	→	<input style="width: 50px; height: 20px;" type="text"/>
<b>Mean Scores</b> <small>(Total score for each dimension divided by number of items completed in that dimension)</small>	↓ <input style="width: 50px; height: 20px;" type="text"/>	↓ <input style="width: 50px; height: 20px;" type="text"/>	↓ <input style="width: 50px; height: 20px;" type="text"/>	↓ <input style="width: 50px; height: 20px;" type="text"/>		↓ <input style="width: 50px; height: 20px;" type="text"/>		↓ <input style="width: 50px; height: 20px;" type="text"/>
	(W)	(P)	(F)	(R)		All items		All minus R

## APPENDIX J - Internalised Shame Scale

### I.S.S. SCALE

**DIRECTIONS:** Below is a list of statements describing feelings or experiences that you may have from time to time or that are familiar to you because you have had them for a long time. Most of these statements describe feelings and experiences that are generally painful or negative in some way. Some people will seldom or never have many of these feelings. Everyone has had some of these feelings at some time, but if you find that these statements describe the way that you feel a good deal of the time, it can be painful just reading them. Try to be as honest as you can in responding.

Read each statement carefully and circle the number to the left of the item that indicates the frequency with which you find yourself feeling or experiencing what is described in the statement. Use the scale below.  
**DO NOT OMIT ANY ITEM.**

### SCALE

0 = NEVER 1 = SELDOM 2 = SOMETIMES 3 = FREQUENTLY 4 = ALMOST ALWAYS

#### SCALE

- |           |  |
|-----------|--|
| 0 1 2 3 4 | 1. I feel like I am never quite good enough  |
| 0 1 2 3 4 | 2. I feel somehow left out   |
| 0 1 2 3 4 | 3. I think other people look down on me  |
| 0 1 2 3 4 | 4. All in all, I am inclined to feel that I am a success   |
| 0 1 2 3 4 | 5. I scold myself and put myself down  |
| 0 1 2 3 4 | 6. I feel insecure about others opinions of me   |
| 0 1 2 3 4 | 7. Compared to other people, I feel like I somehow never measure up                                  |
| 0 1 2 3 4 | 8. I see myself as being very small and insignificant  |
| 0 1 2 3 4 | 9. I feel I have much to be proud of   |
| 0 1 2 3 4 | 10. I feel intensely inadequate and full of self-doubt   |
| 0 1 2 3 4 | 11. I feel as if I am somehow defective as a person, like there is something basically wrong with me |
| 0 1 2 3 4 | 12. When I compare myself to others I am just not as important                                       |
| 0 1 2 3 4 | 13. I have an overpowering dread that my faults will be revealed in front of others                  |

0 = NEVER 1 = SELDOM 2 = SOMETIMES 3 = FREQUENTLY 4 = ALMOST ALWAYS

**Scale**

- |           |   |
|-----------|---|
| 0 1 2 3 4 | 14. I have a number of good qualities   |
| 0 1 2 3 4 | 15. I see myself striving for perfection only to continually fall short           |
| 0 1 2 3 4 | 16. I think others are able to see my defects                                     |
| 0 1 2 3 4 | 17. I could beat myself over the head with a club when I make a mistake           |
| 0 1 2 3 4 | 18. On the whole, I am satisfied with myself                                      |
| 0 1 2 3 4 | 19. I would like to shrink away when I make a mistake                             |
| 0 1 2 3 4 | 20. I replay painful events over and over in my mind until I am overwhelmed       |
| 0 1 2 3 4 | 21. I feel I am a person of worth at least on an equal plane with others          |
| 0 1 2 3 4 | 22. At times I feel like I will break into a thousand pieces                      |
| 0 1 2 3 4 | 23. I feel as if I have lost control over my body functions and feelings          |
| 0 1 2 3 4 | 24. Sometimes I feel no bigger than a pea   |
| 0 1 2 3 4 | 25. At times I feel so exposed that I wish the earth would open up and swallow me |
| 0 1 2 3 4 | 26. I have this painful gap within me that I have not been able to fill           |
| 0 1 2 3 4 | 27. I feel empty and unfulfilled  |
| 0 1 2 3 4 | 28. I take a positive attitude toward myself                                      |
| 0 1 2 3 4 | 29. My loneliness is more like emptiness  |
| 0 1 2 3 4 | 30. I always feel there is something missing                                      |

## **APPENDIX K - The Other as Shamer Scale**

### **OTHER AS SHAMER SCALE (OAS)**

We are interested in how people think others see them. Below is a list of statements describing feelings or experiences about how you may feel other people see you.

Read each statement carefully and circle the number to the right of the item that indicates the frequency with which you find yourself feeling or experiencing what is described in the statement. Use the scale below.

**0 = NEVER    1 = SELDOM    2 = SOMETIME    3 = FREQUENTLY    4 = ALMOST ALWAYS**

- |   |           |
|---|-----------|
| 1. I feel other people see me as not good enough.                                       | 0 1 2 3 4 |
| 2. I think that other people look down on me  | 0 1 2 3 4 |
| 3. Other people put me down a lot   | 0 1 2 3 4 |
| 4. I feel insecure about others opinions of me  | 0 1 2 3 4 |
| 5. Other people see me as not measuring up to them                                      | 0 1 2 3 4 |
| 6. Other people see me as small and insignificant                                       | 0 1 2 3 4 |
| 7. Other people see me as somehow defective as a person                                 | 0 1 2 3 4 |
| 8. People see me as unimportant compared to others                                      | 0 1 2 3 4 |
| 9. Other people look for my faults  | 0 1 2 3 4 |
| 10. People see me as striving for perfection but being unable to reach my own standards | 0 1 2 3 4 |
| 11. I think others are able to see my defects   | 0 1 2 3 4 |
| 12. Others are critical or punishing when I make a mistake                              | 0 1 2 3 4 |
| 13. People distance themselves from me when I make mistakes                             | 0 1 2 3 4 |
| 14. Other people always remember my mistakes  | 0 1 2 3 4 |
| 15. Others see me as fragile  | 0 1 2 3 4 |
| 16. Others see me as empty and unfulfilled  | 0 1 2 3 4 |
| 17. Others think there is something missing in me                                       | 0 1 2 3 4 |
| 18. Other people think I have lost control over my body and feelings                    | 0 1 2 3 4 |

## APPENDIX L – The Self-Compassion Scale

### HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

**Almost  
never**

**1**

**2**

**3**

**4**

**Almost  
always**

**5**

- \_\_\_\_\_ 1. I'm disapproving and judgmental about my own flaws and inadequacies.
- \_\_\_\_\_ 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
- \_\_\_\_\_ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
- \_\_\_\_\_ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
- \_\_\_\_\_ 5. I try to be loving towards myself when I'm feeling emotional pain.
- \_\_\_\_\_ 6. When I fail at something important to me I become consumed by feelings of inadequacy.
- \_\_\_\_\_ 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
- \_\_\_\_\_ 8. When times are really difficult, I tend to be tough on myself.
- \_\_\_\_\_ 9. When something upsets me I try to keep my emotions in balance.
- \_\_\_\_\_ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
- \_\_\_\_\_ 11. I'm intolerant and impatient towards those aspects of my personality I don't like.
- \_\_\_\_\_ 12. When I'm going through a very hard time, I give myself the caring and tenderness I need.
- \_\_\_\_\_ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
- \_\_\_\_\_ 14. When something painful happens I try to take a balanced view of the situation.
- \_\_\_\_\_ 15. I try to see my failings as part of the human condition.

- \_\_\_\_\_ 16. When I see aspects of myself that I don't like, I get down on myself.
- \_\_\_\_\_ 17. When I fail at something important to me I try to keep things in perspective.
- \_\_\_\_\_ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.
- \_\_\_\_\_ 19. I'm kind to myself when I'm experiencing suffering.
- \_\_\_\_\_ 20. When something upsets me I get carried away with my feelings.
- \_\_\_\_\_ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.
- \_\_\_\_\_ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.
- \_\_\_\_\_ 23. I'm tolerant of my own flaws and inadequacies.
- \_\_\_\_\_ 24. When something painful happens I tend to blow the incident out of proportion.
- \_\_\_\_\_ 25. When I fail at something that's important to me, I tend to feel alone in my failure.
- \_\_\_\_\_ 26. I try to be understanding and patient towards those aspects of my personality I don't like.



## APPENDIX M - Eating Disorders Examination Questionnaire

### EATING QUESTIONNAIRE

#### Instructions

The following questions are concerned with the **PAST FOUR WEEKS ONLY (28 days)**. Please read each question carefully and circle the appropriate number on the right. Please answer all the questions.

ON HOW MANY DAYS OUT OF THE PAST 28 DAYS .....

		No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Every day
1.	Have you been deliberately <u>trying</u> to limit the amount of food you eat to influence your shape or weight?	0	1	2	3	4	5	6
2.	Have you gone for long periods of time (8 hours or more) without eating anything in order to influence your shape weight?	0	1	2	3	4	5	6
3.	Have you <u>tried</u> to avoid eating any foods which you like in order to influence your shape or weight?	0	1	2	3	4	5	6
4.	Have you <u>tried</u> to follow definite rules regarding your eating in order to influence your shape or weight; for example, a calorie limit, a set amount of food, or rules about what or when you should eat?	0	1	2	3	4	5	6
5.	Have you wanted your stomach to be empty?	0	1	2	3	4	5	6
6.	Has thinking about food or its calorie content made it much more difficult to concentrate on things you are interested in; for example, read, watch TV, or follow a conversation?	0	1	2	3	4	5	6



7.	Have you been afraid of losing control over eating?	0	1	2	3	4	5	6
<b>ON HOW MANY DAYS OUT OF THE PAST 28 DAYS .....</b>		<b>No days</b>	<b>1-5 days</b>	<b>6-12 days</b>	<b>13-15 days</b>	<b>16-22 days</b>	<b>23-27 days</b>	<b>Every Day</b>
8.	Have you had episodes of binge eating?	0	1	2	3	4	5	6
9.	Have you eaten in secret? (Do not count binges)	0	1	2	3	4	5	6
10.	Have you definitely wanted your stomach to be flat?	0	1	2	3	4	5	6
11.	Has thinking about shape or weight made it more difficult to concentrate on things you are interested in; for example read, watch TV or follow a conversation?	0	1	2	3	4	5	6
12.	Have you had a definite fear that you might gain weight or become fat?	0	1	2	3	4	5	6
13.	Have you felt fat?	0	1	2	3	4	5	6
14.	Have you had a strong desire to lose weight?	0	1	2	3	4	5	6
<b>OVER THE PAST FOUR WEEKS (28 DAYS)</b>								
15.	On what proportion of times that you have eaten have you felt guilty because the effect on your shape or weight? (Do not count binges) (Circle the number which applies)	0 – None of the times 1 – A few of the times 2 – Less than half the times 3 – Half the times 4 – More than half the times 5 – Most of the time 6 – Every time						
16.	Over the past four weeks (28 days), have there been any times when you have felt that you have eaten what other people would regard as an unusually large amount of food given the circumstances? (Please put appropriate number in box)	0 – No 1 – Yes      [   ]						

17.	How many such episodes have you had over the past four weeks?	[ ] [ ] [ ] [ ]
18.	During how many of these episodes of overeating did you have a sense of having lost control over your eating?	[ ] [ ] [ ] [ ]
19.	Have you had other episodes of eating in which you have had a sense of having lost control and eaten too much, but have <u>not</u> eaten an unusually large amount of food given the circumstances?	0 – No 1 – Yes [ ]
20.	How many such episodes have you had over the past four weeks?	[ ] [ ] [ ] [ ]
21.	Over the past four weeks have you made yourself sick (vomit) as a means of controlling your shape or weight?	0 – No 1 – Yes [ ]
22.	How many times have you done this over the past four weeks?	[ ] [ ] [ ] [ ]
23.	Have you taken laxatives as a means of controlling your shape or weight?	0 – No 1 – Yes [ ]
24.	How many times have you done this over the past four weeks?	[ ] [ ] [ ] [ ]
25.	Have you taken diuretics (water tablets) as a means of controlling your shape or weight?	0 – No 1 – Yes [ ]
26.	How many times have you done this over the past four weeks?	[ ] [ ] [ ] [ ]

27.	Have you exercised <u>hard</u> as a means of controlling your shape or weight?	0 – No 1 – Yes      [   ]									
28.	How many times have you done this over the past four weeks?	[   ] [   ] [   ] [   ]									
<b>OVER THE PAST FOUR WEEKS (28 DAYS) (Please circle the number which best describes your behaviour)</b>		NOT AT ALL			SLIGHTLY		MODERATELY		MARKEDLY		
29.	Has your weight influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6			
30.	Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6			
31.	How much would it upset you if you had to weigh yourself once a week for the next four weeks?	0	1	2	3	4	5	6			
32.	How dissatisfied have you felt about your weight?	0	1	2	3	4	5	6			
33.	How dissatisfied have you felt about your shape?	0	1	2	3	4	5	6			
34.	How concerned have you been about other people seeing you eat?	0	1	2	3	4	5	6			
35.	How uncomfortable have you felt seeing your body; for example, in the mirror, in shop window reflections, while undressing or taking a bath or shower?	0	1	2	3	4	5	6			
36.	How uncomfortable have you felt about others seeing your body; for example, in communal changing rooms, when swimming or wearing tight clothes?	0	1	2	3	4	5	6			

## APPENDIX N - The Three Factor Eating Questionnaire Revised 18-item version

### The Three Factor Eating Questionnaire – Revised 18-item

*Tick or circle the answer that most applies to you*

1. When I smell a sizzling steak or juicy piece of meat, I find it very difficult to keep from eating, even if I have just finished a meal.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

2. I deliberately take small helpings as a means of controlling my weight.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

3. When I feel anxious, I find myself eating.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

4. Sometimes when I start eating I just can't seem to stop.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

5. Being with someone who is eating often makes me hungry enough to eat also.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

6. When I feel blue, I often overeat.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

7. When I see a real delicacy, I often get so hungry that I have to eat right away.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

8. I get so hungry that my stomach often seems like a bottomless pit.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

9. I am always hungry so it is hard for me to stop eating before I finish the food on my plate.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

10. When I feel lonely, I console myself by eating.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

11. I consciously hold back at meals in order not to weight gain.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

12. I do not eat some foods because they make me fat.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

13. I am always hungry enough to eat at any time.

4. Definitely true	3. Mostly true	2. False	1. Definitely false
--------------------	----------------	----------	---------------------

14. How often do you feel hungry? Only at mealtimes.

1. only at meal times	2. sometimes between meals	3. often between meals	4. almost always
-----------------------	----------------------------	------------------------	------------------

15. How frequently do you avoid “stocking up” on tempting food?

1. almost never	2. seldom	3. usually	4. almost always
-----------------	-----------	------------	------------------

16. How likely are you to consciously eat less than you want?

1. unlikely	2. slightly likely	3. moderately likely	4. very likely
-------------	--------------------	----------------------	----------------

17. Do you go on eating binges though you are not hungry?

1. never	2. rarely	3. sometimes	4. at least once a week
----------	-----------	--------------	-------------------------

18. On a scale of 1 – 8, where 1 means no restraint in eating (eating whatever you want, whenever you want it) and 8 means total restraint (constantly limiting your food intake and never “giving in”), what number you give yourself?

--



## APPENDIX O - The General Practice Physical Activity Questionnaire



### General Practice Physical Activity Questionnaire

Date.....

Name.....

1. Please tell us the type and amount of physical activity involved in your work.

		Please mark one box only
a	I am not in employment (e.g. retired, retired for health reasons, unemployed, full-time carer etc.)	
b	I spend most of my time at work sitting (such as in an office)	
c	I spend most of my time at work standing or walking. However, my work does not require much intense physical effort (e.g. shop assistant, hairdresser, security guard, childminder, etc.)	
d	My work involves definite physical effort including handling of heavy objects and use of tools (e.g. plumber, electrician, carpenter, cleaner, hospital nurse, gardener, postal delivery workers etc.)	
e	My work involves vigorous physical activity including handling of very heavy objects (e.g. scaffolder, construction worker, refuse collector, etc.)	

2. During the last week, how many hours did you spend on each of the following activities?  
*Please answer whether you are in employment or not*

Please mark one box only on each row

		None	Some but less than 1 hour	1 hour but less than 3 hours	3 hours or more
a	Physical exercise such as swimming, jogging, aerobics, football, tennis, gym workout etc.				
b	Cycling, including cycling to work and during leisure time				
c	Walking, including walking to work, shopping, for pleasure etc.				
d	Housework/Childcare				
e	Gardening/DIY				

3. How would you describe your usual walking pace? Please mark one box only.

Slow pace (i.e. less than 3 mph)		Steady average pace	
Brisk pace		Fast pace (i.e. over 4mph)	

## **APPENDIX P - Statement of epistemological position**

The research was conducted from a positivist epistemology with the assumption that the constructs being explored were measureable in a valid scientific manner. It was considered that the constructs of psychological wellbeing, shame, self-compassion, disordered eating, physical activity and BMI were amenable to measurement using quantitative methods. There was also an assumption that these constructs were relevant in developing psychological interventions for obese and overweight populations.

## **APPENDIX Q - Chronology of research process**

Decision on area of research study:	February 2011
Submission of research proposal for University peer review:	November 2011
Submission of research proposal Ethics committee:	February 2012
Submission of research proposal to local Research and Development Department:	February 2012
Ethical and local Research and Development department approval received	May 2012
Recruitment and data collection:	June to December 2012
Guided self-help intervention facilitated:	June 2012 – June 2013 (projected)
Literature review conducted:	October - December 2013
Data Analyses:	March - April 2013
Thesis Submission:	April 2013
Aim to Disseminate:	October 2013



## **APPENDIX R: Guidelines for Authors for the British Journal of Clinical Psychology**

Guidelines taken on 5 April 2013 from:

[http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)2044-8260/homepage/ForAuthors.html](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)2044-8260/homepage/ForAuthors.html)

### **Author Guidelines**

The British Journal of Clinical Psychology publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

The following types of paper are invited:

- Papers reporting original empirical investigations
- Theoretical papers, provided that these are sufficiently related to the empirical data
- Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications
- Brief reports and comments

#### **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 (excluding abstract, reference list, tables and figures), 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. Submission and reviewing**

All manuscripts must be submitted via <http://www.editorialmanager.com/bjcp/>. The Journal operates a policy of anonymous peer review. Before submitting, please read the terms and conditions of submission and the declaration of competing interests.

#### 4. Manuscript requirements

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.
- Manuscripts should be preceded by a title page which includes a full list of authors and their affiliations, as well as the corresponding author's contact details. A template can be downloaded from [here](#).
- 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.
- All papers must include a structured abstract of up to 250 words under the headings: Objectives, Methods, Results, Conclusions. Articles which report original scientific research should also include a heading 'Design' before 'Methods'. The 'Methods' section for systematic reviews and theoretical papers should include, as a minimum, a description of the methods the author(s) used to access the literature they drew upon. That is, the abstract should summarize the databases that were consulted and the search terms that were used.
- All Articles must include Practitioner Points – these are 2–4 bullet points to detail the positive clinical implications of the work, with a further 2–4 bullet points outlining cautions or limitations of the study. They should be placed below the abstract, with the heading 'Practitioner Points'.
- 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 and provide DOI numbers where possible for journal articles.
- 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.

## 5. Brief reports and comments

These allow publication of research studies and theoretical, critical or review comments with an essential contribution to make. They should be limited to 2000 words, including references. The abstract should not exceed 120 words and should be structured under these headings: Objective, Method, Results, Conclusions. There should be no more than one table or figure, which should only be included if it conveys information more efficiently than the text. Title, author name and address are not included in the word limit.

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