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**An exploration of obese patients' beliefs and expectations  
relating to bariatric surgery, using Thematic Analysis  
AND CLINICAL RESEARCH PORTFOLIO**

**VOLUME I**

(VOLUME II bound separately)

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MA (Hons)**

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

Section of Psychological Medicine  
Division of Community Based Sciences

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**Psychological approaches to weight loss in adulthood: a systematic review**

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## **Abstract**

**Background:** The rising prevalence rates of overweight/obesity globally highlight the increasing need for effective interventions for these conditions.

**Objective:** This systematic review aimed to synthesise the peer-reviewed evidence for psychological interventions for overweight/obese individuals, as a means of achieving sustained weight loss.

**Method:** Research literature published between 2002-2010 was searched and the results were screened against *a priori* inclusion/exclusion criteria. The review focused on weight loss as the core outcome measure, with the impact on psychosocial factors, as secondary outcome measures. Sixteen studies were identified as suitable for inclusion in the review, including trials comparing psychological interventions with waiting lists/control groups, another active psychological treatment, or dietary/physical intervention groups.

**Results/Conclusions:** The randomised control trials reviewed suggest that behavioural and cognitive-behavioural approaches, combined with dietary strategies, result in modest, but clinically significant weight loss, in the short-term. Cognitive, motivational and psychodynamic interventions also appear useful therapeutic approaches to weight loss, but there is less evidence to support this. Psychological interventions are valuable in improving various psychosocial outcomes associated with overweight/obesity. CBT and IPT appear especially useful for binge eaters. Implications for clinical practice and future research are highlighted.

## **Introduction**

### **The Problem of Excess Weight**

Overweight (body mass index  $\geq 25$ ; BMI; calculated as  $\text{kg/m}^2$ ) and obesity (BMI  $\geq 30$ ) are both major public health problems. Obesity has reached epidemic proportions globally, whilst both conditions are risk factors for other health problems [1,2]. Prevalence rates are continuing to increase throughout Western societies, with the highest rates currently reported in the United States of America [3-7]. In Europe the prevalence of being obese and overweight amongst adults has been found to range from 6–27% and 26–68%, respectively. Some studies suggest that prevalence rates have doubled over the past 20-25 years [6, 7], whilst the true cost of the burden of this disease continues to increase each year. As excess weight increases in the population, so does the prevalence of heart disease, type-2-diabetes, sleep apnoea, osteoarthritis, several types of cancer and other conditions [2]. Environmental, biological, behavioural and psychological factors have been found to predispose people to becoming obese [8].

### **Stigma and Psychological Consequences**

Obesity not only predisposes to debilitating diseases, but also to serious impairment of quality of life [9]. Weight bias translates into inequalities in employment settings, health-care facilities and educational institutions, often due to widespread negative stereotypes that overweight/obese people are lazy, unmotivated, lacking in self-discipline, less competent and non-compliant [10-13]. These stereotypes are rarely challenged in Western society, leaving overweight/obese individuals vulnerable to social injustice and unfair treatment [14].

Given the level of stigma surrounding obesity, it is remarkable that no clear link between obesity and greater levels of psychopathology has been established, with no evidence that obese people differ psychologically from non-obese people [15]. Such research is, however, in conflict with clinical impressions and reports from overweight people. Additionally, studies which demonstrate that the effects of weight loss appear to be psychologically beneficial with improved self-esteem, social functioning and sense of well-being, support the notion that excess weight is associated with higher levels of psychological morbidity than normal weight [16]. More recent studies have found

some evidence of an association between obesity and depression, but not conclusively [17-19]. A bidirectional theoretical model has been proposed postulating that behavioural, cognitive, physiological and social mechanisms may play a part in the pathway between obesity and depression, and vice versa [20]. Such factors may also increase overweight/obese individuals' vulnerability to low self-esteem, poor body-image and other psychiatric disorders, whilst increasing maladaptive eating behaviours (e.g. emotional eating), exercise avoidance and reducing motivation to lose weight. Coping strategies may also affect emotional outcomes, although it is not yet clear how different forms of coping influence levels of distress [14]. Stress is one of the primary predictors of relapse and overeating [21]; therefore, teaching patients methods for reducing stress and tension may be critical [22].

Obesity is also associated with a high prevalence of binge eating disorder (BED), with studies reporting prevalence rates of up to 30% in obese populations compared with 1-3% in the general population [23]. BED is characterized by persistent overeating episodes, feelings of loss of control and marked distress in the absence of regular compensatory behaviours [24]. It is frequently accompanied by depression and seen more commonly in those attempting to lose weight [25]. Patients with obesity who decrease their binge/emotional eating are more likely to succeed at weight reduction [26].

### **Weight Loss Attempts**

Although available weight-loss treatments are unlikely to affect the increasing prevalence of obesity, they can reduce weight-related morbidity and mortality in individuals. The recommended starting point of treatment is a structured program of diet, exercise and psychological approaches, particularly behaviour therapy (BT), often referred to as lifestyle modification [27]. This is appropriate for all obese persons, as well as for those who are overweight and have two or more weight-related co-morbidities [28]. Studies have generally demonstrated short-term weight loss with these strategies but disappointing results long-term, with most of the weight lost regained within a few years. Despite such mixed results, benefits of weight loss in obese people have been found. Lifestyle interventions facilitating weight losses of 3-5kg have resulted in the prevention or

delay of disease, reductions in cardiovascular risk factors, improved psychological outcomes and greater loss of weight [29-31]. Consequently, intervention studies now focus on small, sustainable weight losses of 5-10% [32]. Group-based interventions have been found to be more effective than individually-based approaches amongst predominantly female participants receiving psychologist-led interventions [33].

### **Psychological Approaches**

The unsatisfactory treatment results found so far for obesity may be a consequence of the fact that treatments have primarily focused on eating behaviour and seldom on the psychosocial causes or consequences of such behaviour. Several national guidelines [e.g. 27, 34, 35] have recommended that a biopsychosocial approach must be taken when designing treatment programmes [36].

To date, a range of psychological therapies (PTs) have been incorporated into weight loss treatment approaches and programmes (*See Table 1*). PTs are often delivered in combination with dietary and physical advice and occasionally with other psychological approaches. They can be offered in a number of formats, including individually, in groups and through guided self-help, using computers/internet. Group treatments for obesity typically combine therapy and education, and are widely used in commercial and self-help programmes [45]. In comparison with individual interventions, group treatments do not normally encourage deep exploration of psychological issues; instead they utilise social support, problem solving, imparting of information and encouragement to facilitate weight loss.

[INSERT TABLE 1 HERE]

To date, BT and CBT appear to be the PTs of choice, as they have been demonstrated to facilitate better maintenance of weight loss than alternative therapies [45]. A number of other PTs have been trialled in weight management, producing mixed findings [46]. Interpersonal techniques are often utilised in designing comprehensive PTs for individualised weight loss programs, whilst psychotherapy, relaxation training, person centred and purely motivational approaches are less

commonly used. Furthermore, mindfulness based interventions, often referred to as the “third wave” of PTs [47], have only recently begun to be applied to weight loss contexts [e.g. 48].

### **Rationale for this Review**

To date, there have only been a limited number of systematic reviews carried out examining the effectiveness of PTs for overweight/obesity. A number have demonstrated that BT techniques, in combination with diet and/or exercise strategies, improve weight loss [49-52]. A Cochrane Review by Shaw and colleagues [45] found that CBT and BT significantly improved the success of weight loss for obese people. Furthermore, they found little evidence to reach a conclusion about other forms of PT (e.g. CT, RT). Shaw et al.’s reported search strategy missed out a number of potential PTs (e.g. IPT); so it is not possible to determine whether all researched PTs for obesity were reviewed. In addition, the quality criteria used to evaluate papers appears to have focused on bias within the trials, subsequently ignoring a number of components characteristic of good quality randomised control trials (e.g. appropriate analysis). Given the increasing importance of interventions for obesity, it appears appropriate to conduct an up-to-date review of the effectiveness of all recently researched PTs for obesity.

### **Objectives**

This systematic review aims to evaluate and synthesise the current published peer-reviewed evidence for psychological interventions for obese/overweight individuals that aim to achieve sustained weight loss; also their impact on psychosocial outcomes will be evaluated. Additionally, the quality of evidence for psychological interventions aimed at weight loss will be established and recommendations based on the findings will be made for future research and clinical practice in this area.

### **Method**

#### **Search Strategy for Identification of Studies**

A systematic literature search was carried out using the OVID online interface to access the Psychinfo, Medline, Embase and EBM Review databases. Additional searches were completed

using Web of Science and Google Scholar. Text word and subject heading searches were completed, using terms relating to obesity, weight loss, weight maintenance and psychological therapies, in addition to terms describing randomised controlled trials (RCTs) (*See Appendix 1.2*). The results of searches were combined using the Boolean operators ‘AND’ and ‘OR’. A sensitivity search was also carried out, involving screening references from identified papers, using the ‘cited by’ function in electronic databases and targeted searches of relevant journals (e.g. International Journal of Obesity). Additionally, the reference section of review articles identified was searched in order to find other potentially eligible studies. Finally, databases were limited to years 2002-2010, English Language and humans, and duplicates were removed. The period of 2002 onwards was chosen as Shaw and colleagues [45] previous review only included papers up to this year.

### **Inclusion and Exclusion Criteria**

For each paper identified from the database searches, titles and abstracts were screened against inclusion and exclusion criteria (*See Table 2*). Studies which combined a pharmacological intervention with a PT were excluded from the review as the effect of the pharmacological intervention on weight could outweigh the effect of the PT. Finally, both overweight and obese participants were included since the definition of obesity continues to vary across countries [e.g. 53].

[INSERT TABLE 2 HERE]

### **Procedure**

Papers which met all aspects of the inclusion criteria were evaluated using a quality assessment tool constructed following consultation of Scottish Intercollegiate Guideline Network methodology [54] and the CONSORT Statement on the review of Randomized Trials of Nonpharmacologic Treatments [55] (*See Appendix 1.3*). Trials were awarded points according to specific standards expected of an RCT. A maximum of 50 points could be awarded, with a percentage score of 75%+ representing a *high quality* (A) rating; 50-74% *moderate quality* (B); if a paper achieved a *poor quality* score of 0-49% (C), it was excluded from the review.

The author of this review scored the quality of all the included papers. An independent rater, who is trained in the critique of RCT methodology, graded a random sample of the papers (N=8; 50%) in order to ensure adherence to the quality assessment tool. An 88% agreement rate was found for overall quality ratings. Where differences in opinion occurred, they were resolved through discussion (*See Appendix 1.4*).

Where effect sizes for weight loss following each of the interventions were not already reported in the included studies, the author planned to calculate the effect sizes. By doing so, this would allow a statistical comparison of the magnitude of the effect the different interventions were having on weight loss.

## **Results**

### **Results of Search Strategy**

Figure 1 illustrates the outcome of the search path employed. Sixteen RCT studies were included in this review, which are summarised in Table 3.

[INSERT FIGURE 1 AND TABLE 3 HERE]

### **Quality of Included Studies**

Following the evaluation of each paper using the quality assessment tool, six papers were rated as high quality (A) and ten moderate quality (B). Scores ranged from 26 (52%) to 41 (82%). There were, however, a number of methodological issues of note across the papers.

The sample size of the studies ranged from 36 to 267 participants. Power calculations were only reported for four studies and provided at least 80% power to detect clinically significant differences between comparison groups [61, 62, 68, 69]. Additionally, three studies included a small sample size of less than 27 in each therapy group [58, 62, 65].

All of the studies reported that participants were randomly allocated to groups. In the majority of studies, randomisation was inadequately described, with five trials failing to provide any

explanation [57, 58, 64, 65, 67]. Concealment of allocation was only demonstrated in three studies [59, 63, 68] and just one described who generated the allocation sequence [56]. Additionally, only four trials explained blinding status [59, 63, 68, 69].

Facilitator adherence to the treatment protocol was examined in half of the studies [23, 57, 60, 62, 63, 67-69], but only one paper examined patient adherence to the treatment provided [65]. Furthermore, only four trials assessed therapist competence [23, 62, 68, 69].

Regarding the statistical approaches used within the studies, intention to treat analysis was employed in ten studies [23, 56, 57-59, 65-69], whilst effect sizes were reported in only seven trials [56, 58, 62, 65, 67, 69, 70], with a variety of methods utilised to calculate these. Unfortunately, only half the papers addressed multiplicity in the analysis, by reporting any other analyses performed [23, 59-63, 67, 69].

### **Description of Included Studies**

All 16 papers evaluated change in weight. Fifteen of 16 trials reported BMI, with ten reporting both BMI and body weight (e.g. lbs, Kg). Other outcome domains varied across trials. In total, the 16 identified studies used 38 different outcome measures. Four trials employed a purely pre-post measurement design, with no reported follow-up period [58-60, 63]. Across all the studies, follow-up ranged from 0-3 years.

Nine trials considered overweight and obese clients, five examined only obese and two, overweight alone. The majority of studies used community/outpatient samples, with two in-patient samples investigated. A higher proportion of females participated, with six studies recruiting solely female participants [57, 61-65]. The mean age of participants in the studies ranged from 38 to 61 years. Mean BMI ranged from 32.36 to 44.3, indicating that in one study the participants were morbidly obese [70]. Information about ethnicity was given for seven studies; six of which had 70% or more white participants [57-60, 68, 69], with one reporting a sample including 38% African-Americans [63]. Seven studies gave information about educational level with three reporting that 30-35% of

participants had attended college, indicative of typical population levels [57, 58, 66]. The remaining studies reported rates of participants attending college at 60% or above, indicating that those involved in the studies were probably of a higher socio-economic status [63, 65, 66, 69].

Half the trials were conducted in the United States of America. Of the other eight papers, seven were conducted in Western Europe (1 Germany; 1 Italy; 2 Switzerland; 2 Sweden; 1 Netherlands) and one in Australia. A number of recruitment methods were utilised, including physician related referrals from hospitals/health centres, health surveys and advertising using various forms of media (e.g. newspapers, email, radio). The most commonly used methods were referrals and media advertising. One study charged participants \$1000 to take part [57], whilst another requested a \$50 deposit, which would be returned on completion of the treatment, as an incentive for participation [60].

Mental health professionals formed the majority of those facilitating the treatment modalities. Five trials utilised allied health professionals (e.g. physiotherapists, dieticians), whilst three studies offered a multidisciplinary approach to their interventions. In only one study was it unclear which profession delivered the interventions being compared [60].

### **Description of Psychological Interventions for Weight Loss**

A range of PTs were utilised in the included studies. BT was the most commonly employed approach, followed by CBT. Additionally, CT, IPT, MI, RT and PDP were examined. The length of treatment ranged from 5 weeks to 18 months across the 16 studies. The majority of trials included weekly, bi-weekly or monthly sessions; however, two inpatient studies offered more intensive daily input [61, 70]. Treatments were delivered in a variety of formats including groups, individually, guided self-help and using the internet. The detail and quality of information describing the intervention groups varied greatly across trials. There was a highly variable range of frequency and duration of clinical contact at each session across studies.

## **Psychological Interventions vs. Behavioural Approaches**

Eight trials compared a BT approach to weight loss with an alternative form of psychological intervention. Grilo et al. [59] compared CBT with BT for patients with an additional diagnosis of BED. Each group consisted of 12 weeks of treatment, administered individually using guided self-help protocols. Six brief individual sessions, lasting 15-20 minutes, were scheduled biweekly. The CBT manual was based on Fairburn's self-help book on eating disorders [71]. The BT utilised a modified version of the Lifestyle, Exercise, Attitudes, Relationships and Nutrition (LEARN) Programme manual for weight management [72]. A control condition was also included in this study to account for participant attention. Munsch et al. [23] also compared CBT and BT for individuals with BED. Treatment groups comprised of 16 weekly, 90 minute group sessions, followed-up with six monthly group sessions, also based on Fairburn [71]; however, they used a BT manual produced by a pharmaceutical company.

Two trials [58, 63] compared BT with a combined treatment approach of BT plus a brief MI intervention, informed by MI guidelines [43]. DiMarco et al. [58] evaluated a brief three month treatment programme, involving eight sessions of guided self-help BT, lasting between 30-60 minutes, using an adapted version of the LEARN manual [72], with the addition of two MI sessions to an experimental group. West et al. [63] added five sessions of MI throughout 18 months of BT, with one, 45 minute MI session before the start of group treatment, followed by further sessions at 3, 6, 9 and 12 months.

The remaining studies compared another four PTs with BT. Firstly, Stahre et al. [65] examined group CT versus group BT for BED. Both groups received ten weekly, two hour sessions, based on a CT for BED manual designed by Stahre et al. [73]. Secondly, Wiltink et al. [70] compared PDP inpatient treatment for weight loss with inpatient group BT, both lasting an average of seven weeks. PDP was delivered both individually and in groups. Thirdly, Tate et al. [66] examined the delivery of BT using the internet. Participants all received the same treatment involving a one hour introductory group weight loss session, followed by a core internet programme. However, half the participants were randomised to receive additional individual online behavioural counselling,

communicated via email. Patients received email input from their counsellor five times a week during the first month and weekly for the remaining 11 months.

Finally, Jeffery et al. [60] compared standard BT with a novel BT approach called Maintenance-Tailored Therapy (MTT). BT was delivered weekly for six months, biweekly from 6-12 months, and monthly between 12-18 months. MTT involved the same number of sessions but in order to address habituation and boredom, this approach emphasised variety in format and content. Specifically, MTT contained six units of eight weeks duration, each of which had a specific topic concentration alongside particular goals. Patients were given a four week “break” between units.

### **Psychological Interventions vs. other Psychological Approaches**

Wilfley et al. [68] and Wilson et al. [69] both compared CBT with IPT for clients with BED. Wilfley and colleagues provided 20 group sessions of each approach, lasting 90 minutes, and three individual sessions aimed at specifically addressing individuals’ goals and progress. Wilson et al. similarly offered 20 sessions of IPT. However, IPT was delivered individually; sessions were shorter at 50-60 minutes; and compared with ten short sessions of CBT delivered using a guided self-help manual. In addition, the latter study included a third group, offering 20 sessions of BWLT. Both studies IPT approaches were based on Fairburn’s IPT adaptation for Bulimia-Nervosa [74], whilst CBT manuals were once again informed by Fairburn [71].

### **Psychological Interventions combined with Other Treatments**

De Zwaan et al. [57] used a sequential design whereby all the participants, who met criteria for BED, firstly received a very low calorie diet (VLCD) and participated in a dietician-led group which focused on nutritional education, behavioural strategies and increasing exercise. During the last ten weeks of this 24 week programme, participants were randomly allocated to receive manualised group CBT for ten sessions, involving an additional 90 minutes of treatment each week.

Manzoni et al. [61] combined two forms of RT with a five week multi-component inpatient weight loss intervention. Participants were randomised to receive the weight loss treatment alone (control)

or with either RT using virtual reality technology or delivered using imagination strategies. Each RT condition involved four sessions per week, including a combination of techniques based on progressive muscle relaxation [75] and applied relaxation [76]. Treatment protocols were previously developed by Manzoni et al. [77].

Werrij et al. [67] combined a group dietetic approach with CT and compared this to the same dietetic approach plus physical exercise. Both conditions were protocol led and involved ten weekly two hour sessions, which contained a 60 minute dietetic section, followed by CT or a low intensity exercise programme.

### **Psychological Interventions vs. Non-psychological Approaches**

Ash et al. [56] compared group CBT with an Individualised Dietetic Treatment (IDT) and a control group. Both treatment groups involved weekly, 90 minute contact for eight weeks, with monthly follow-up to 12 months. The CBT treatment group emphasised self-efficacy skills, with less focus on dietary aspects; whereas the IDT group provided an individual dietary and exercise prescription.

Schlup et al. [62] compared manualised group CBT and a wait-list condition, for patients with BED. The treatment manual was informed by Fairburn [71] and was a shortened protocol, based on a previous study [23]. Treatment involved eight weekly, 90 minute sessions, followed by five booster sessions until 12 month follow-up.

Finally, Stahre et al. [64] compared CT with a wait-list condition. Treatment involved ten weekly, three hour sessions and employed a previously evaluated treatment manual [73], including elements of cognitive psychotherapy and psychoeducation on dysfunctional eating behaviours.

### **Effect of Interventions**

#### **1. *Weight Loss***

Studies varied in the manner in which they reported weight change, but the most commonly used methods were change in Kg and BMI, which will be reported here. Trials also varied in the timing

of measurements and follow-up, with twelve papers providing end of treatment average weight loss; four at 3 months follow-up; five at 6 months; eleven at 12 months; seven at 18 months, one at 24 months; and one at 36 months. As a result of the heterogeneity in the reporting of weight loss across each of the included studies, calculating effect sizes was not possible in order to provide a valid comparison between interventions.

### *Psychological Treatments*

Treatment using purely BTs typically resulted in minimal to modest average weight loss, ranging from 0.7-2 BMI and 0.7-6 kg immediately after treatment. One paper reported an average weight loss of 4.1kg three months post BT [66]. Two trials reported average losses of 5.2kg and 7.4kg at six months post BT [60, 66]. Average weight change at 12 month follow-up ranged from 0.74-1.6 BMI and 1.8-10.7 kg. One trial reported average weight loss of 9.3kg at 18 months [66], whilst another reported an average weight gain of 0.3kg [65]. Finally, Wilson et al. [69] reported average weight losses around 0.5BMI/1.4kg two years post treatment, whilst Wiltink et al. [70] recorded average losses of 0.8BMI/3kg at three years following BT. MTT [60] produced average weight losses of 5.7kg at six months post treatment, with 8.2kg and 8.3kg lost on average at 12 and 18 months respectively.

CBT produced similar results across six of the seven trials employing CBT. Average weight loss was minimal at post treatment, typically ranging from 0.01-0.3BMI, with 0.1-1.4BMI reductions at 12 months. One study followed participants for two years and found average weight losses of 0.5 BMI and 1kg. Another trial, however, which combined CBT and a very low calorie diet, lasting six months, produced more significant weight loss [57], with an average post treatment weight loss of 5.4BMI/15.5kg, 3.3BMI and 9.3kg at six months, and 1.7BMI and 5.6kg at 12 months.

Trials which offered CT found modest weight loss post-treatment of around 8kg. Stahre et al. [61] reported average weight losses increased to around 10kg at 12 and 18 months post treatment. Stahre et al. [65] also noted 5.9kg average weight losses at 18 months. Werrij et al. [67], who combined

CT with dietary treatment, reported weight changes of 1.36 BMI, which were maintained at 12 months.

In the two trials which employed IPT therapies [68, 69] small weight losses were found both at post treatment (0.2bmi & 0.4bmi) and at 12 months follow-up (0.4bmi & 0.8bmi). In the two papers which combined brief MI interventions with BT [58, 63], modest weight losses of around 5kg at post intervention and 12 months follow-up were found, decreasing to 3.5kg at 18 months. The single study which applied PDP to weight loss [70] reported a modest average weight loss at post treatment of 2BMI/6kg, maintained at 12 months; however, at three years follow-up, average weight losses had reduced to 1.1BMI and 3kg. Finally, the study which combined two formats of relaxation with inpatient weight loss treatment, reported minimal to modest average weight losses post treatment (1.1kg & 6.4kg), but weight loss increased at three month follow-up (5.9kg & 9.1kg) [61].

#### *Treatment Comparisons*

Statistically significant differences were found between treatments in half of the trials. BT combined with MI was found to produce significantly better weight loss compared with a purely behavioural approach, at the end of treatment [58] and at 6, 12 and 18 months [63]. Also, internet behavioural counselling plus diet produced better outcomes than diet alone at 3, 6 and 12 months [66].

CBT was found to produce similar weight loss as a dietetic approach, but both were significantly better than a control condition [56]. CT was found to be superior on its own compared to a waiting list control group [64] and better than BT, at treatment completion and follow-up [65]. Additionally, CT plus dietary input produced better outcomes than physical plus dietary components, not in short-term, but at 12 months follow-up [67].

No significant difference in average weight loss was discovered between inpatient PDP [70], RT plus BT [61], CBT [23, 69], IPT [69] or MTT [60] when each of these treatments were compared

with BT alone. CBT also did not differ compared with a control condition in two studies [59, 62]. Furthermore, IPT and CBT were not found to differ in terms of weight loss when treating patients with BED [68, 69]. Finally, although MTT and BT did not differ in terms of weight loss, the time pattern was more stable for MTT and differed significantly compared with BT [60].

All 6 studies which compared PTs of BED alongside weight loss, found no significant difference between approaches in terms of weight loss. Only one study produced a clinically significant reduction in body weight post-treatment [57]. This study found that participants lost an average of 16kg or 16% of their initial body weight, but there were no differences between the group who received a VLCD and group CBT and those participants who received a VLCD only: however, participants regained weight during follow-up and at one year participants had only maintained an average weight loss of 5.5%. Additionally, one study found that by 12 months follow-up around 20% of participants who received either CBT or IPT had lost more than 5% of their initial body weight [68]. Furthermore, two studies indicated that abstinence from binge eating was associated with weight loss [57, 68], with one demonstrating that participants who did not abstain from binge eating gained an average of 2.1kg by 12 month follow-up [68].

As noted above, only one study that recruited and treated patients with BED found clinically significant reductions in body weight post-treatment, of 5-10kg [57]. Overall, however, weight losses were typically lower for BED patients in comparison to non-BED populations. BED patients typically lost less than the clinical target of 5kg, with studies mostly reporting minimal to no weight loss attained. Positively, those who are able to abstain from engaging in binge eating behaviours reported comparable weight losses to non-BED patients [68].

## **2. Psychosocial Outcomes**

### *Distress*

BT, PDP, IPT and CBT produced improvements in distress ratings post treatment and small to moderate changes at follow-up [68, 70]. IPT, CBT, BT and RT produced improvements in ratings of depression, anxiety and interpersonal ability, but there were no significant differences between

treatments [23, 61, 68, 69]. CBT and CT were found to result in similar improvements in mood following treatment, when compared with dietary interventions; however, CT maintained these gains at longer term follow-up, especially for those depressed at baseline [57, 67]. Conversely, Grilo et al. [59] found that CBT, behavioural and control conditions reported comparable reductions in depression ratings.

#### *Life Satisfaction*

CBT and BT both generated significant improvements in ratings of life satisfaction at post treatment and follow-up [23].

#### *Self-efficacy*

CBT was found to increase self-efficacy scores compared with control and dietetic treatment conditions, at 3 and 12 months follow-up [56]. Self-efficacy was also significantly improved by MTT [60] and RT [61], at post treatment, compared to purely behavioural methods, but not at follow-up. Recently, however, Munsch et al. [23] found comparable outcomes for CBT and BT, both producing improvements in self-efficacy ratings, at post treatment and follow-up.

#### *Self-esteem*

CBT was reported to generate significantly greater improvements in self-esteem ratings compared with a control condition [59]. IPT, CBT and BT resulted in higher levels of self-esteem, but there were no significant differences between treatments [68, 69].

#### *Body Image*

PDP and BT produced similar significant reductions in body image distress during treatment and follow-up [70].

#### *Eating Behaviours*

CBT and IPT were found to produce similar significant reductions in BED symptoms and the frequency of binges, greater than those following BT [59, 68, 69]. CBT versus behavioural [23],

and CBT plus VLCD versus VLCD [57], were both found to produce significant reductions in binge eating at post treatment and follow-up.

CBT plus VLCD produced significant changes in ratings on a number of the subscales of the Eating Disorder Inventory (EDI) and Three-Factor Eating Questionnaire (TFEQ), compared with VLCD alone [57]. Significant improvements on the eating concerns subscale of the Eating disorder Examination-Questionnaire (EDE-Q) were found at the end of treatment for a BT plus MI group compared with behavioural alone [58]. More recently, IPT vs CBT vs BT [67] and CBT vs BT [23] were found to produce similar improvements in scores on the EDE-Q, with no significant differences between treatments [69]. Additionally, CT resulted in longer term gains when compared with a dietary & physical exercise intervention [67].

## **Discussion**

The studies identified for this review were heterogeneous in terms of participants, interventions, outcomes and settings, with a broad number of PTs evaluated. Most studies had methodological shortcomings; however, all papers were rated as moderate to high quality. Despite variation in designs, the majority of papers produced a pattern of minimal (<5kg/5%) to modest (5-10kg/5-10%) weight loss post treatment, followed by a gradual regain of weight over time. Treatments of longer duration or higher intensity appear to have greater impact on weight loss in the short-term and result in greater weight loss maintenance in the long-term. No mode of treatment delivery, whether it be individual, group, self-help or internet based, appears to enhance outcome. Additionally, the profession of clinician had little impact on weight loss outcomes. It is of note, however, that mental health professionals were the main group delivering treatments, whilst the allied health professionals employed were trained and supervised by psychologists on the delivery of PTs.

## *Main Findings*

BTs were the most commonly evaluated and, in line with previous reviews [e.g. 45], were found to encourage modest weight loss. When treatment was offered in more intensive settings (i.e.

inpatient), more significant weight losses (15-20% weight loss) were reported [e.g. 61]. Nevertheless, weight was again regained over time. Additionally, one trial evaluated the delivery of behavioural approaches using an alternative treatment framework, MTT [60], and was found to deliver statistically similar weight loss in comparison with standard BT; however, the MTT approach produced sustained weight loss for a longer period of time, not achieved in previous trials of BT for weight loss.

CBT was also assessed in a number of studies. The pool of studies included was smaller than that for BTs, but builds on previous evidence. CBT was found to produce minimal weight loss, with only one CBT trial reporting significant weight loss when combined with VLCD [57]. It is of note, however, that this study required participants to pay for treatment, which may increase patient adherence [78], impacting on outcomes. Outcomes for CBT are poorer in comparison to those found in Shaw et al.'s [45] review, probably due to the focus on patients with BED in six of the CBT studies included in this review. In these trials the emphasis is placed on gaining control over BED symptoms before attempting weight loss, which will naturally impact on the weight loss scores reported. Positively, clients who do reduce their symptoms of BED report comparable weight loss to non-BED patients.

CT was assessed in a number of studies, but in contrast to the disappointing findings reported in Shaw et al.'s [45] review, the current papers reported clinically significant (>5kg) weight loss, comparable to that of BT. In addition, CT studies reported reasonable weight maintenance at follow-up. The disappointing findings previously found may be due to the fact that the sample participants in the studies [79, 80] had BED and, as a result, the treatment was focused on alleviating BED symptomatology, as opposed to purely encouraging weight loss. Nonetheless, the sample size of one of the CT trials in this review was small [65], therefore the results must be interpreted with caution.

Other modalities evaluated included RT, MI, IPT and PDP. Only one paper was found evaluating the application of RT in combination with a BT. This grouping resulted in minimal to modest

weight loss; however, given the results were comparable to behavioural alone, it seems the relaxation component offered little additional value for weight loss. Similarly, two trials combined MI with BTs, producing modest weight loss; however, a significant difference was found in favour of the MI group when compared to behavioural alone. Two trials assessed the use of IPT, demonstrating minimal weight losses following treatment with this method, although on both occasions this was with BED samples. It is of note that in the trials specifically treating BED alongside weight loss, no significant differences were found between treatments trialled and weight loss was typically lower than for non-BED populations. Furthermore, one study offered PDP, finding equivalent modest weight loss with a comparison group of BT; however, this was evaluated in an inpatient setting and may be less adaptable to standard care settings, given the intensity of input required. No RCTs have been carried out to date evaluating mindfulness approaches. Additionally, no RCTs have evaluated hypnotherapy, included in Shaw et al.'s review, since 1985 [81].

The effects of PTs on secondary outcomes were measured in the majority of trials, although what was measured varied from trial to trial and was not reported in a manner that allowed easy comparisons to be made. Still, PTs were found to facilitate improvements in a range of psychosocial outcomes (e.g. depression). For BED there is an established evidence base for the effectiveness of CBT; however, IPT appears an alternative approach of increasing value, but requires further examination.

### **Limitations of Review**

A problem associated with the assessment of PTs in people who are overweight/obese is the paucity of long-term studies. Despite a greater number of studies with longer follow-up periods, the true effect of PTs on weight remains difficult to determine, alongside the effects on mortality. If PTs result in sustained long-term weight loss they may have a positive impact on mortality.

As already noted, the trials were heterogeneous in nature; therefore, it was inappropriate to conduct a meta-analysis, as it would have had little practical meaning [82]. On top of this, many of the

included trials lacked a number of important elements which ensure a rigorous RCT design, such as true blinding of all individuals involved in the trial. This therefore limits our ability to effectively compare the PTs applied in the 16 trials. In addition, more females were treated than males. Although this reflects typical clinical practice, it still limits the generalisability of the findings to both genders. Furthermore, all the studies reviewed were carried out in Western Societies, limiting their relevance to other cultures. Finally, attrition rates in the studies included in this review were higher in comparison to the previous review by Shaw and colleagues [45]; however, attrition rates were moderate and still allow for valid conclusions to be drawn, although with some caution.

### **Conclusions**

Overall, given past evidence and the findings from this review, BT and CBT still appear the effective weight loss therapies of choice, offering the most benefit to overweight/obese adults. Promising findings have been found for CT, but the number of trials examining this approach remains small and therefore further research is required. This review also highlights the application of a number of alternative PTs which have not previously been reviewed for weight loss, namely IPT, MTT, MI and PDP. Such approaches have potential, but require further evaluation. Finally, CBT appears the best approach for BED, although IPT seems an appropriate alternative.

### **Implications for Future Research**

Despite a large body of research investigating the effects of PTs on weight loss in people who are overweight/obese, we are still unsure how to facilitate sustainable weight loss over time. Studies with longer duration of follow-up are required. Alongside this, every effort should be made to maintain high retention rates in studies and reasons for withdrawal should be ascertained so that factors affecting program adherence can be further explored. Studies investigating the different components of interventions are also required in order to establish what actually aids weight loss, alongside establishing the length and timing of treatment required. MTT offers a potentially useful format of treatment delivery. Alongside this, mental health professionals currently take the lead with PTs. Research is required to evaluate if other, less expensive, professionals are able to facilitate such interventions safely. Future trials must also evaluate the cost-effectiveness of PTs,

given the need to justify treatment costs. It would also be useful to identify the predictors of weight loss and weight loss maintenance in overweight/obese adults, in order to establish potential modifications of therapeutic intervention strategies which may enhance treatment outcomes. Furthermore, it would be beneficial to consult patients to investigate which approaches are most acceptable. Finally, any new studies in this area should pay particular attention to the design and subsequent reporting of their study (*See Table 4*).

[INSERT TABLE 4 HERE]

### **Implications for Clinical Practice**

Overweight/obese adults may benefit from PTs, particularly BT and CBT, when combined with dietary strategies. Other therapies, specifically CT, MI and PDP, may also be considered. The above therapies appear equally responsive to the psychosocial needs of patients; however, CBT should be offered in the first instance to meet the needs of obese clients with BED. Additionally, given the successful application of newer modes of treatment delivery in this review (e.g. guided self help and internet based), such formats may be considered as a first step in the patient pathway or offered as an alternative to patients. Finally, PTs should be facilitated by mental health professionals trained in such approaches. Where allied professionals take a lead role, training and supervision is essential.

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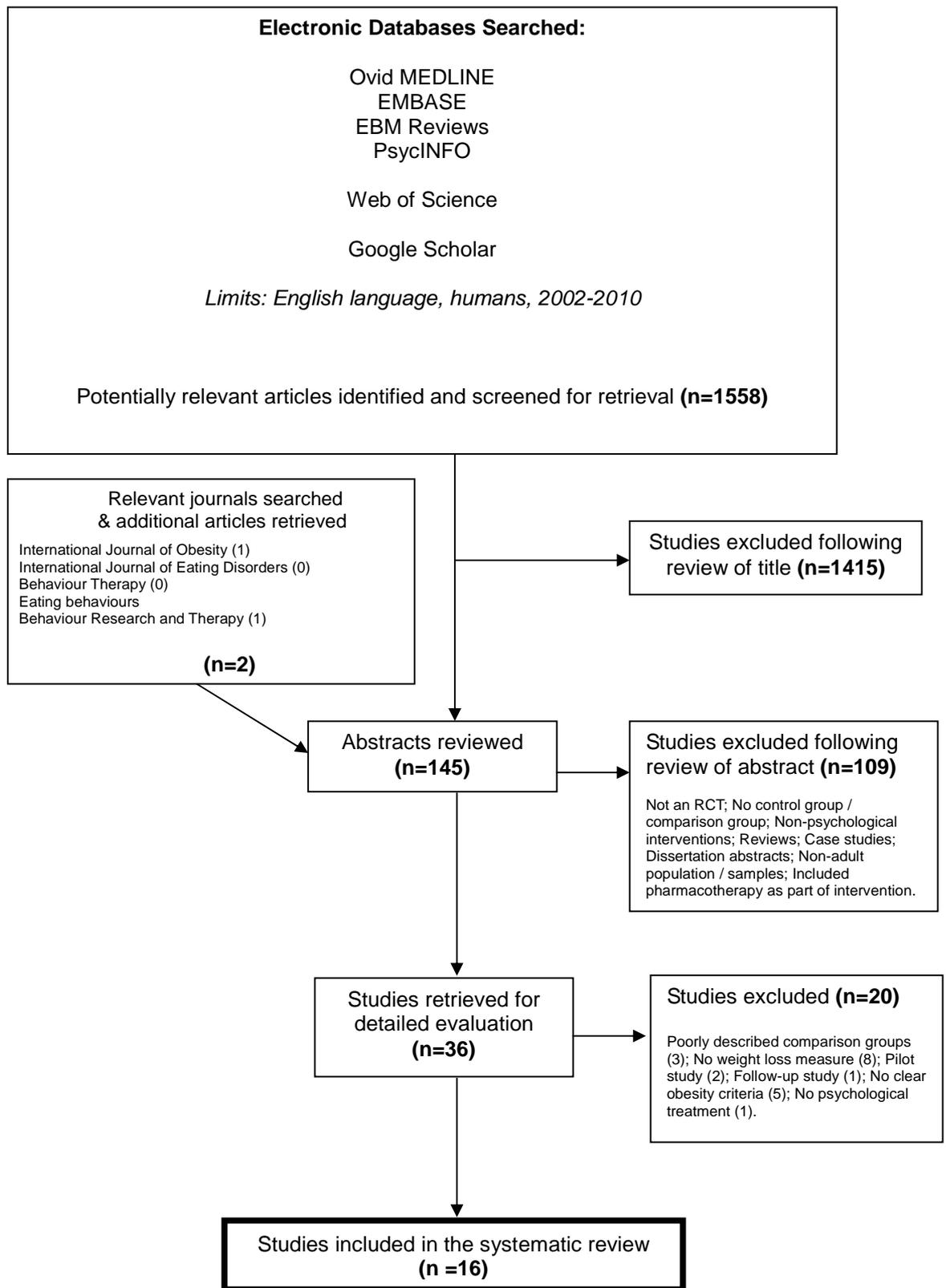
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**Table 1: Psychological Interventions**

<b>Psychological Treatments (PTs)</b>	<b>Brief Description</b>
Behavioural Therapy (BT)	Aims to treat difficulties through techniques designed to reinforce desired and extinguish undesired behaviours [37].
Cognitive Therapy (CT)	Helps patients overcome difficulties by identifying and changing dysfunctional thinking, behaviour, and emotional responses [38].
Cognitive Behavioural Therapy (CBT)	Combines cognitive and behavioural approaches, aiming to solve problems concerning dysfunctional emotions, behaviours and cognitions through a goal-oriented, systematic procedure [39].
Psychodynamic Psychotherapy (PDP)	Problems stem from hidden inner conflicts; therefore, treatment aims to reveal the unconscious content of a client's psyche in an effort to alleviate psychic tension [40].
Interpersonal Therapy (IPT)	Focuses on the interpersonal context and on building interpersonal skills [41].
Motivational Interviewing (MI)	Semi-directive method of engaging intrinsic motivation to change behaviour by developing discrepancy and exploring and resolving ambivalence within the client [42].
Relaxation Training (RT)	Aims to help clients attain a state of increased calmness in order to reduce distress [43].
Mindfulness Based Therapies (MBT)	Enhance the well-being of individuals by encouraging clients to pay attention in a particular way: 'on purpose, in the present moment, and non-judgementally', combines cognitive and behavioural approaches with mindfulness techniques, promoting a detached or decentred view of one's thoughts, emotions and bodily sensations [44].

**Table 2. Inclusion and Exclusion Criteria**

<b>Category</b>	<b>Inclusion Criteria</b>	<b>Exclusion Criteria</b>
<b>Study Population</b>	Adults (18 years and over)  Adults who are overweight or obese at study baseline according BMI $\geq$ 25-30 kg/m <sup>2</sup>	Participants aged under 18 years old  Adults who do not meet criteria for overweight / obesity
<b>Type of Study</b>	Randomised Controlled Trials (RCT)	Non-randomised controlled trials: lacking a control/comparison group, cohort studies, observational studies, cross sectional studies, case studies, qualitative studies
<b>Intervention</b>	The psychological intervention is individually and / or group based.  The study is a randomised controlled clinical trial of a psychological intervention versus a comparison intervention / waiting list condition i.e. <ul style="list-style-type: none"> <li>• <i>psychological intervention versus no treatment;</i></li> <li>• <i>psychological intervention versus different type of psychological intervention (including combined psychological approaches);</i></li> <li>• <i>psychological intervention plus diet and / or exercise versus control plus diet and/ or exercise</i></li> </ul> Intervention and follow-up lasted three months or more	The psychological intervention and its comparator are not able to be identified and / or not adequately described  Studies combining a pharmacological intervention with a psychological intervention
<b>Publications</b>	Journal articles published between 2002-2010  English Language	Articles published before 2002  Reviews, dissertation abstracts, conference abstracts, poster presentations/abstracts, expert opinions or grey literature
<b>Outcome Measures</b>	Must include weight change measured by any method (e.g. change in BMI, reduction in Kg)	No weight outcome measure



*Figure 1. Study Flow Diagram*

**Table 3. Included RCT Studies**

Study	Intervention(s)	Recruited Sample	No. Completed Treatment	Treatment Length	Profession of Treatment Facilitators / Clinicians	Study Quality Rating	Outcome Domains	Results of Weight Loss / Significant Differences Between Groups
			No. Followed-Up	Follow-up				
Ash et al. [56] Australia	Group CBT vs. Individualised Dietetic Treatment (IDT) vs Control (Written information)	176 Obese/Overweight Outpatient Hospital Referrals and Community Sample	115 (65%) 114 (64%)	8 weeks 12 Months	Dieticians	A 38/50 = 76%	Weight (BMI, Kg) Health Well being	<b>Weight Loss:</b> CBT = IDT CBT > Control (p < 0.005) <b>Self Efficacy:</b> CBT = IDT > Control (p < 0.02)
De Zwaan et al. [57] USA	Group Very Low Calorie Diet (VLCD) + CBT for BED vs Group VLCD Programme	71 Obese/Overweight Community Sample with Binge Eating Disorder (BED) Females Only	71 (100%) 62 (87%)	6 Months 12 Months	Dieticians and Psychiatrists	B 32/50 = 64%	Eating Behaviour Psychological Weight (BMI, lbs)	<b>Weight Loss:</b> CBT+VLCD = VLCD <b>BED Symptom Improvements:</b> CBT+VLCD = VLCD <b>Improved rating on Eating Disorder Inventory (EDI) and Three-Factor Eating Questionnaire (TFEQ):</b> CBT+VLCD > VLCD (p < 0.04)
DiMarco et al. [58] USA	Behavioural guided self help (gsh) + Motivational Interviewing (MI) vs Behavioural gsh	39 Obese/Overweight Community Sample	26 (66%) N/A	3 Months N/A	Graduate Students in Clinical Psychology	B 31/50 = 62%	Weight (BMI) Psychological Eating Behaviour Quality of Life	<b>Weight Loss:</b> Beh+MI > Beh (p < 0.01) <b>Improved ratings on TFEQ:</b> Beh+MI > Beh (p < 0.02)
Grilo et al. [59] USA	CBTgsh vs Behavioural weight loss (BWLgsh) vs Control	91 Obese/Overweight Community Sample with BED	70 (78%) N/A	3 Months N/A	Doctoral Level Psychologists	B 37/50 = 74%	Psychological Eating Behaviour Weight (BMI)	<b>Weight Loss:</b> CBT = Beh = Control <b>BED Symptom Improvements:</b> CBT > Beh + Control (p < 0.01) <b>Improved rating on Eating Disorder Examination-Questionnaire (EDE-Q):</b> CBT > Beh + Control (p < 0.02) <b>TFEQ:</b> CBT > Beh + Control (p < 0.03) <b>Rosenberg Self-Esteem Scale (RSE):</b> CBT > Control (p < 0.03)
Jeffery et al. [60] USA	Group Maintenance Tailored Therapy (MTT) vs Group Standard Behaviour	213 Obese Community Sample	213 (100%) 158 (74%)	18 Months N/A	Unclear	B 37/50 = 74%	Weight (BMI, Kg) Treatment Process	<b>Weight Loss:</b> MTT = SBT <b>Weight Loss Time Pattern (Stability):</b> MTT > SBT (p < 0.001)

	Therapy (SBT)							
Manzoni et al. [61]  Italy	Inpatient weight loss treatment (Individual & Group Based) + relaxation (virtual reality) <b>vs</b> Inpatient weight loss treatment + relaxation (imagination) <b>vs</b> Control (Weight Loss Tx)	60 Obese  In patient referrals  Females Only	60 (100%)  36 (60%)	5 Weeks  3 Months	Clinical Psychologists	<b>B</b>  29/50 = 58%	Weight (Kg) Eating Behaviour Psychological	<b>Weight Loss:</b> Relaxation + weight loss groups = Weight loss <b>Improved rating on Weight Efficacy Life-Style Questionnaire (WELSQ):</b> Relaxation + weight loss groups > Weight loss (p<0.01) <b>Emotional Overeating Questionnaire (EOQ):</b> Imaginative relaxation groups > virtual relaxation + control (p<0.05)
Munsch et al. [23]  Switzerland	Group CBT <b>vs</b> Group BWL	80 Overweight / Obese  With BED  Community Sample	58 (73%)  51 (64%)	4 Months  12 Months	Psychotherapists and Masters Students	<b>A</b>  40/50 = 80%	Weight (BMI) Eating Behaviour Psychological Quality of Life	<b>Weight Loss:</b> CBT = BWL <b>BED Symptom Improvements:</b> CBT = BWL
Schlup et al. [62]  Switzerland	Group CBT <b>vs</b> Wait-list	36 Overweight / Obese  With BED  Community Sample  Females Only	35 (97%)  31 (86%)	12 Months  12 Months	CBT Therapists	<b>A</b>  39/50 = 78%	Weight (BMI) Eating Behaviour Psychological Quality of Life	<b>Weight Loss:</b> CBT = Wait-list <b>BED Symptom Improvements:</b> CBT > wait-list (p < 0.009) <b>Improved rating on EDE-Q:</b> CBT > wait-list (p < 0.009)
West et al. [63]  USA	Group BWL + MI <b>vs</b> Group BWL + Attention Control	217 Overweight  With Type 2 Diabetes  Community Sample  Females Only	202 (93%)  202 (93%)	18 Months  N/A	MDT: Clinical Psychologists, Nutritionist, Exercise Physiologist.	<b>A</b>  40/50 = 80%	Weight (BMI, Kg) Health Process	<b>Weight Loss:</b> BWL + MI > BWL at 6 months (p < 0.01), 12 months (p < 0.02) and 18 months (p < 0.04) <b>Treatment Adherence:</b> BWL + MI > BWL at 6 months (p < 0.006), and 18 months (p < 0.02) <b>Glycaemic Control:</b> BWL + MI > BWL at 6 months (p < 0.02)
Stahre et al. [64]  Sweden	Group Cognitive <b>vs</b> Wait-list	105 Obese  From Obesity Unit Waiting list  Females Only	57 (92%)  34 (60%)	10 Weeks  18 Months	Psychologists and Nutritionists	<b>B</b>  30/50 = 60%	Weight (BMI, Kg)	<b>Weight Loss:</b> Cog > Wait-list (p < 0.001)

Stahre et al. [65] Sweden	Group Cognitive vs Group Behavioural (Control)	54 Obese Community Sample	29 (100%)	10 Weeks	Social Worker and Multidisciplinary Team	<b>B</b> 26/50 = 52%	Weight (BMI, Kg) Obesity Knowledge	<b>Weight Loss:</b> Cog > Beh Control (p < 0.01) <b>Knowledge about obesity;</b> Cog > Beh Control (p < 0.001).
		Females Only	Unclear	18 Months				
Tate et al. [66] USA	Internet weight loss program vs Internet weight loss program + online behavioural counselling	92 Overweight / Obese	Unclear	12 Months	Masters Level Counsellors	<b>B</b> 32/50 = 64%	Health Weight (BMI, Kg) Psychological	<b>Weight Loss:</b> Counselling > Weight Loss only (p < 0.04)
		Community Sample	77 (84%)	12 Months				
Werrij et al. [67] Netherlands	Group dietetic treatment + cognitive therapy vs Group dietetic treatment + physical exercise	204 Overweight / Obese	162 (79%)	10 Weeks	CBT Therapists and Physiotherapists	<b>B</b> 31/50 = 62%	Weight (BMI) Psychological Behaviour	<b>Weight Loss:</b> Cog > Comparator (p < 0.05) <b>Improved rating on EDE-Q:</b> CBT > Comparator (p < 0.05)
		Community Sample	Unclear	12 Months				
Wilfley et al. [68] USA	Group CBT vs Group Interpersonal Therapy (IPT)	162 Overweight	158 (97%)	5 Months	Doctoral Level Psychologists	<b>A</b> 38/50 = 76%	Weight (BMI) Psychological Quality of Life / Social	<b>Weight Loss:</b> CBT = IPT <b>Improvement in BED Symptoms:</b> CBT = IPT
		Community Sample with BED	155 (96%)	12 Months				
Wilson et al. [69] USA	IPT vs CBTgsh vs BWL	205 Overweight / Obese	162 (78%)	6 Months	Doctoral and Masters Level Psychologists	<b>A</b> 41/50 = 82%	Weight (BMI) Psychological Quality of Life / Social	<b>Weight Loss:</b> IPT = CBT = BWL – Overall (24 Months) BWL > IPT + CBT at 12 Months (p < 0.01) <b>Improvement in BED Symptoms:</b> IPT = CBT > BWL (p < 0.05) <b>Improvement in Self Esteem:</b> IPT = CBT > BWL (p < 0.05) <b>Improved rating on EDE-Q:</b> IPT = CBT > BWL (p < 0.05)
		Community and referral sample with BED	171 (82%)	2 years				
Wiltink et al. [70] Germany	Inpatient Psychodynamic (Individual & Groups) vs Behavioural (Groups)	267 Referred Obese	322 (91%)	6-10 Weeks	Psychotherapists and Psychiatrists	<b>B</b> 33/50 = 66%	Weight (BMI) Psychological Health Social Eating Behaviour	<b>Weight Loss:</b> CBT = PsychD <b>Distress and Body Image Improvements:</b> CBT = PsychD
		Inpatients	134 (38%)	3 years				

*Table 4. Considerations for future studies*

<b>Recommendations</b>
<ul style="list-style-type: none"><li>• Power calculations to ensure sufficient power;</li><li>• Clarification of the method of randomisation and blinding for RCTs;</li><li>• Classification of obesity using the current WHO categorisation (i.e. BMI <math>\geq</math> 30);</li><li>• Standardisations of length of assessment methods and treatment/number of sessions;</li><li>• Adequate descriptions of comparison groups;</li><li>• Appropriate intention-to-treat analysis;</li><li>• Adequate follow-up.</li></ul>

**An exploration of obese patients' beliefs and expectations relating to bariatric surgery, using Thematic Analysis**

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## **Abstract**

**Background:** Bariatric surgery (BS) is becoming a more commonly accepted approach to the treatment of obesity, but little is known about the views of patients who have undergone this procedure. This study aims to explore obese patients' beliefs and expectations, from before and after their laparoscopic adjustable gastric band (LAGB) surgery. Their views regarding the procedure, the role of the LAGB, their own role following surgery and the impact of the surgery, were of particular interest.

**Method:** Eight patients were interviewed 12 months (+/- 2 Months) after undergoing LAGB surgery. Participants were purposively recruited from the Glasgow and Clyde Weight Management Service (GCWMS), on a first come basis. Each participant completed an in-depth interview in order to explore his/her beliefs and expectations about LAGB surgery. Interviews were transcribed and the qualitative interview data were subject to Thematic Analysis.

**Results:** Three superordinate themes emerged from the analysis and an analytic narrative was constructed under the headings 'The Need for Surgery', 'Not a Quick-fix' and 'Importance of Support'.

**Conclusions:** Although LAGB surgery results in many beneficial outcomes for patients, the expectations they hold about surgery may affect their ability to cope post-surgery, impacting on weight loss outcomes. The participant accounts highlighted that they have come to see the band as an 'aid' and that they themselves play an important role in managing their eating behaviours. Additionally, patients require support from a range of sources in order to maximise outcomes. A number of implications for clinical practice and future research are outlined.

**Keywords:** obesity; bariatric; surgery; patients; expectations; beliefs; thematic analysis.

## **Introduction**

Bariatric surgery (BS) has become an increasingly popular weight loss intervention for individuals diagnosed as “obese” [1], for whom lifestyle approaches such as dietary and activity advice, behavioural skills training and pharmacological interventions have failed to produce significant improvements. In the past decade, much research has been published evaluating the effectiveness of BS, with most cases resulting in both weight loss and weight loss maintenance [2]. Obesity surgery not only affects weight; significant improvements in quality of life in terms of mood disorders, mental well-being, eating behaviours, health perceptions, social interaction and physical activity have been found [3-9]. Studies have reported reductions in levels of depression, emotional distress, rates of antidepressant use and improvements in self-acceptance [10-13]. A systematic review of the psychosocial outcomes of BS concluded that mental health and psychosocial status improve for the majority of people, resulting in improved quality of life [14].

Most research looking into psychological aspects of bariatric procedures has been quantitative, using validated measures developed for other health problems. A small number of recent studies have used qualitative approaches to explore patients’ experiences in greater depth. Ogden et al. [15] proposed that improvements in health status, post-surgery, may not only be the result of the non-specific effects of surgery brought about by weight loss; they suggested that BS enforces a reduction in food intake, which subsequently alters patients’ relationship with food, helping them to re-establish a feeling of control over their eating patterns. In a second study, they concluded that this imposed control limits patient choice; paradoxically resulting in a renewed sense of control for many of the patients they interviewed [16]. Interestingly, this occurs at a time when the National Health Service (NHS) aims to empower patients, encouraging self-control and patient choice [17].

Despite the growing evidence base highlighting the benefits of BS, other studies have reported contradictory findings. Kalarchian et al. [18] and Saunders [19] both found that pre-surgical eating patterns and problems can persist following BS; specifically, patients reported continued binge eating, ‘grazing’ or a general lack of control over the quantity they eat.

Unfortunately, the media often portrays such surgery as a “quick fix” and society labels obese individuals as “lazy” and lacking self-discipline. Obese individuals not only have to deal with their own beliefs about their weight, but also the wider community’s often ignorant perceptions, in order to refute suggestions of moral failure. Throsby [20] carried out a qualitative study identifying three core dialogues which surgical patients used to deny any idea of individual failure: (1) the fat-prone body; (2) childhood weight gain; and (3) life events disrupting weight management efforts.

Patients’ beliefs and perceptions about their illness are key determinants of recovery [e.g. 21]. In recent years, many studies investigating patients’ illness beliefs/perceptions have considered Leventhal’s Self-Regulatory Model (SRM) as a conceptual outline. This starts from the premise that individuals are active problem solvers who make sense of a threat to their health by developing their own cognitive representation of the threat, which in turn, determines how they respond. Early research identified five dimensions within the cognitive representation of illness: identity; consequences; cause; timeline; and cure or control [22]. Patients’ illness representations vary considerably within any illness population; they not only determine the selection of illness related behaviour but also serve as a conceptual framework for making sense of information from health professionals and for evaluating the appropriateness and efficacy of recommended treatment or advice. Therefore, Leventhal’s SRM would appear a useful and appropriate theoretical framework to inform the exploration of patients’ beliefs and expectations relating to BS.

### **Aims / Objectives**

Qualitative research exploring BS has thus far focused on patient’s experiences of surgery and the impact it has had on their lives; however, there has been little consideration of patient’s views prior to surgery. Therefore, this study aims to explore obese patients’ beliefs and expectations, from before and after their laparoscopic adjustable gastric band (LAGB) surgery, specifically relating to: their views regarding BS; the role of the LAGB; their own role following surgery; and the impact of the surgery, both positive and negative.

## **Method**

### **Design**

A retrospective, qualitative design with in-depth interviews was utilised. A follow-up study would have been preferable, but was rendered unfeasible by time constraints. Following consultation with experts in this area (Personal Communication: Coyle, A., 2009; Ogden, J., 2009), a retrospective design was considered the most viable option.

In choosing such an approach, it is important to acknowledge that concerns regarding the reliability of retrospective reporting have previously been noted, specifically relating to recall bias [23]; as a result, longitudinal methods have generally been preferred. Numerous limitations of longitudinal research have also been highlighted (e.g. practicality; doubts about representativeness). Additionally, evidence indicates that retrospective reports and autobiographical memory are not necessarily and inevitably inaccurate and unstable, especially experiences which are particularly salient for an individual [e.g. 24-26]. Given that LAGB surgery would be a highly significant event in a person's life, the use of retrospective accounts seems justifiable.

### **Participants**

In accordance with qualitative methodology, the aim was to find a small homogenous sample for whom the research question was personally salient [27]. It has been suggested that six to eight subjects should be the minimum required for postgraduate projects [28], but eight to twenty participants should be aimed for [29]. Smaller samples allow the researcher to explore the participant's narratives in more depth allowing for a greater understanding of the participants' experiences rather than producing a 'superficial qualitative analysis' which one may get through using a larger sample size [30]. Given that around thirty patients a year receive LAGB surgery through the Glasgow and Clyde Weight Management Service (GCWMS), it was proposed that a post-surgery sample of ten to twenty would provide an appropriate opportunity for an informative analysis. Once thematic saturation was apparent (i.e. gathering examples of meaningful themes until no new instances of a particular category emerge), this would serve as an indication for data collection to cease [27].

All patients who underwent LAGB surgery within GCWMS, who met the inclusion and exclusion criteria for the study (*See Table 1*), were sent an information pack detailing the purpose of the study and how they could participate (*See Appendix 2.2*). LAGBs typically result in gradual weight loss. Thus, in light of clinical experience, a year post-surgery was chosen as an appropriate time to speak to patients, as it was considered sufficient time for the band to have had an effect and impact on the client's life, allowing for a useful exploration of their beliefs and expectations before and after surgery.

[INSERT TABLE 1 HERE]

Participants were purposively recruited on a first come basis. Recruitment took place between October 2009 and June 2010. Out of the twelve potential participants approached, who were eligible during the period of recruitment, eight responded and were subsequently interviewed (*See Table 2 for participant details*). Following visual comparison with the means and standard deviations for all patients' ages and weights, pre and post surgery, the current sample appears representative of patients undergoing LAGB surgery within the GCWMS.

[INSERT TABLE 2 HERE]

### **Interview Procedure**

Interviews were exploratory, semi-structured, using open-ended questions to encourage participants to reflect back on their experiences, thoughts and feelings regarding BS. A topic guide was developed specifically to help participants reflect on their pre-and-post beliefs/expectations about LAGB surgery (*See Appendix 2.3*). The topic guide was flexible, its main purpose being to guide the interviewer and provide prompts, if necessary, but it did not explicitly control the direction of the discussion. The participants were involved in directing the content of the interview and discussed their own salient experiences and beliefs regarding BS. Leventhal's SRM was used as a framework to inform the topics of discussion within the interview. This model was considered the most appropriate framework for this area of investigation, due to its focus on health related behaviour and how people evaluate health information, advice and treatments. The topic guide was then piloted with a subset of the sample (n=3) to assess the appropriateness of the topic areas.

Following analysis of the pilot interview transcripts, no revisions of the topic guide were required and the three pilot participants were included in the main study sample.

Interviews were conducted at the GCWMS by the principal researcher. All interviews lasted between 60 to 90 minutes. The interviews were audio recorded and then transcribed verbatim by the principal researcher, allowing him to become familiar with the transcripts and data even before the analysis began [28, 29]. All identifying information was removed and participants were assigned a pseudonym to preserve anonymity. Once the analysis process was completed and checked, each recording was destroyed.

### **Ethical Issues**

Prior to the study commencing, ethical approval was gained from a Local Research Ethics Committee (*See Appendix 2.4*) and practice was informed by The British Psychological Society (BPS) Code of Ethics & Conduct [31].

### **Data Analysis**

The analysis was guided by the emergent interview themes rather than by any model [e.g. 22] in order to avoid imposing constraints on the analysis. Following consultation with an expert in the field of qualitative research (Personal Communication: Coyle, A., 2009), Thematic Analysis (TA) was chosen as the method of qualitative analysis, as it is a highly flexible approach that can be used across a range of epistemologies and research questions. It also provides a platform for a clear and transparent definition of the theoretical position a study is taking in its approach to analysing its data [32].

Thematic analysis differs from other analytic methods that seek to illustrate patterns across qualitative data, such as Grounded Theory (GT) or Interpretative Phenomenological Analysis (IPA). Both GT and IPA seek patterns in the data, but are theoretically bounded. IPA is attached to a phenomenological epistemology, which gives experience primacy and is about understanding peoples' everyday experience of reality in order to gain an understanding of the phenomenon in

question [30]. GT, however, comes in a variety of versions [33]. Regardless, the goal of a GT analysis is to generate a plausible and useful theory of the phenomenon that is grounded in the data [27]. In contrast to IPA and GT, Braun and Clarke [32] argue that TA is a method which is not wedded to any pre-existing theoretical framework. Therefore, TA can be used within different theoretical frameworks and used to do different things within them. Given TA does not require the detailed theoretical and technological knowledge of approaches such as GT and IPA, it can offer a more accessible form of analysis, particularly for those with no previous experiences of qualitative research. Given that this was the principle researcher's first experience of qualitative work, this was a key element in his decision to use TA. Additionally, within their 2006 paper on the use of TA, Braun and Clarke detail a series of decisions that researchers must make in order to understand and make clear their theoretical position towards their own TA. In doing so, it is hoped that others will be able to more easily evaluate the piece of research and to compare and/or synthesise it with other studies. Furthermore, it provides greater clarity for other researchers wishing to repeat or carry out similar/related studies in the future. This focus on transparency of approach was another important factor in selecting TA for this study.

An inductive, semantic and realist approach to TA was carried out (*in accordance with* [32] pp.81-93). The analysis was data-driven, taking a similar stance to exploring participants' views as in IPA [30], as it was concerned with each individual's personal perception/account of LAGB surgery as opposed to an attempt to produce an objective account of the event itself [32; 34-35]. The analysis was an iterative and cyclical process, initially looking for shared themes between the transcripts and searching for patterns in semantic content, followed by interpretation, where there was an attempt to theorise the significance of the patterns and their broader meanings and implications. For each interview a coding sheet was constructed, following repeated reading of the data. This sheet contained all possible themes and sub-themes for each interview. From the individual summary sheets, an overall list of themes was constructed. By continually referring to the transcripts, themes were refined and grouped into clusters to form superordinate themes.

## **Reflexivity**

An inductive, semantic and realist approach to TA was chosen by the principal researcher as he was concerned with understanding the patients' own subjective views on LAGB surgery, which is lacking in the current BS literature. In taking such an epistemological stance, the personal experiences, meanings and the reality of participants could be explored, interpreted and reported. Furthermore, within a semantic approach, patient cognitions are a central analytic concern [32]. As the principal researcher's clinical training has mainly focused on cognitive approaches to the assessment, formulation and treatment of patients' psychological presentations, understanding and interpreting the explicit, surface level meanings of participant data was well within his level of competence. It is important to note, however, that the process of interpreting the participants' cognitions is complicated by the researcher's own conceptions [36, pp218-219; 37]. Whilst the principal the researcher is not obese or had BS, he has previously gained adequate experience of working with obese patients through clinical work to understand the challenges which this population face and was aware of the limitations of non-surgical interventions. Furthermore, he had become impressed with the effectiveness of surgery, but recognised that surgery is not an 'easy' choice and presents with its own difficulties and complications. It is therefore possible that such views influenced the qualitative analysis carried out within this study. Nonetheless, in recognition of the potential for bias in interpretation, a second and experienced qualitative analyst, who had no prior interaction with the members of this patient group either professionally or personally, analysed a sample of three transcripts blind to the principal researcher's analyses and identified the same themes.

## **Results**

Participants were able to communicate and reflect on their beliefs, expectations and experiences prior to and throughout the first year since their surgery, and three broad super-ordinate, or level two themes, were identified. Nearly all the participants commented that they had found it cathartic and valuable to reflect back on their experiences of the past year. Importantly, none of the participants reported any difficulty recalling how they were thinking and feeling prior to their surgery. The findings are discussed and presented under the main themes: 'The Need for Surgery',

'Not a Quick-fix' and 'Importance of Support.' An analytic narrative was constructed and extracts from the transcripts are presented to illustrate the themes [32].

### **The Need for Surgery**

This superordinate theme is comprised of three sub, or level one, themes, which are consistent with the participants need and ultimate decision to have LAGB surgery. The sub-themes are “Long history of struggling to lose weight”, “Motivations for surgery” and “Last and only option”.

#### ***“Long history of struggling to lose weight”***

The experience of trying to lose weight was a shared one for the participants and they each described, in detail, a history of weight cycling, losing and regaining weight. The majority had been overweight for most of their lives and had attempted many methods of weight loss (e.g. slimming clubs, medication, ‘fad’ diets). Participants reported previously losing large amounts of weight, in short periods, but experienced difficulties attempting to maintain the weight that they lost:

*“It was a constant battle with losing lots of weight then putting it all back on and more every time”*  
[Janice, Page (P) 2, Line (L) 12].

Each participant reported experiencing periods of significant frustration with their inability to either lose weight or maintain their weight loss, often comparing themselves unfavourably to other people. They often conveyed a sense of disappointment that weight loss was something that they were constantly pre-occupied with, yet it felt unobtainable to them. Some also felt that reaching the stage of eligibility for surgery was a sign of failure on their part:

*“The way I’ve looked at it...when I got the band, which was maybe the wrong way to look at it, was I’ve failed. Getting the band was a sign of failure, you can’t lose weight!”* [Rachel, P19, L15].

The majority attributed their weight problem to factors such as pregnancy, illness or genetics. Nonetheless, a number recognised the influence that historical (i.e. significant events), contextual (e.g. family support, income, opportunities) and psychological factors (i.e. thoughts, feelings, behaviours) have in maintaining their weight problems. Many described finding it difficult to cope with stressful situations and feeling they had no alternative means of managing other than turning to food:

*“Let me fall in love I would do fantastic, but then something bad happens and I would balloon. It is related to my mood; it goes back to my past experiences of loss”* [Sarah, P5, L28].

### ***“Motivations for surgery”***

All of the participants were knowledgeable about the health implications of obesity and described a desire to be healthy as their main motivation for seeking surgery to lose weight. For example:

*“I found out I have polycystic ovary syndrome, which is one of the things that you have weight gain attached to it and I also had very high blood pressure and constantly sore backs, so it was more for health reasons”* [Fiona, P1, L5].

The impact of their weight and co-morbid health issues on their quality of life was another factor that many highlighted:

*“I just wanted a life back again, to be able to go for a walk without all the painkillers and be able to go outside again”* [Margaret, P3, L18].

Being healthier and fitter for their family and friends, not only themselves, was an additional motivating factor which several participants noted:

*“It’s my goal to be able to be able to live for my family and play with my grandchildren, pick them up and have fun with them”* [Janice, P11, L4].

None of the participants reported the impact of their weight on their psychological health as a key reason for wanting surgery; however, several hoped that having the LAGB might have beneficial effects psychologically through the improvements in their quality of life.

### ***“Last and only option”***

Most of the participants described carefully coming to the decision to have BS. They all reported realising gradually over time that they were not going to lose weight on their own and having exhausted all other weight loss methods, felt that BS was the only option left available to them:

*“I felt surgery was the last option for me...for some people probably surgery isn’t the answer but I felt that because of my eating habits it would be...for me it was over 20 years in the making to get to this point”* [Lesley, P1, L18].

Some of the participant reflections suggested that they perceived their previous weight loss attempts as ‘futile’, requiring unrealistic levels of effort and their subsequent weight re-gain as something that they felt no control over. Several reported feelings of ‘hopelessness’, noting little control over what or the quantity they ate; thus, they were seeking support from an external source. Significantly, some described how both their own fears and their families concerns about their health, specifically that they may die at an early age, left them with no other choice:

*“I was dying a slow death, cause I just couldn’t help myself...I was a prisoner in the house by this time, I couldn’t do any exercise, I couldn’t do anything because I was far too heavy...I was gonna either die a slow death or die on the operating table and if I was gonna die I’d rather die on the operating table”* [Margaret, P1, L30].

### **Not a Quick-fix**

This super-ordinate theme contains three sub-themes, specifically “Miracle cure”, “Learning process” and “Personal responsibility”, which demonstrate participants changing views of surgery.

### ***“Miracle cure”***

When reflecting back on their views of LAGBs prior to their surgery, all of the clients described having high expectations. However, through the process of preparation for surgery, within the GCWMS, which highlights both positive and negatives aspects of surgery, alongside what is required of the patients, some began to approach the surgery from a more realistic viewpoint. For example, Rachel acknowledged that despite her hopes for surgery she tried not to set her expectations too high:

*“I’ll be honest, I tried not to...cause I tried to lose weight so often in the past, I didn’t try to put too much expectation on myself”* [Rachel, P10, L31].

Nonetheless, many retained their high expectations:

*“I thought the band was gonna cure everything, I thought the band was going to be my saviour, I thought I would wake up and everything would fall into place”* [Lesley, P15, L45].

A number of the participants acknowledged that their own desire for surgery, and a “quick-fix”, might have caused them to overlook the advice they had been given:

*“At meetings...you sit there and you go ‘oh it doesn’t do that?’...but there is a little bit at the back of your brain that still thinks that it will”* [Gillian, P12, L43].

Participants described in depth how it soon became apparent to them that any ideas they held of the band being a “miracle cure” were misguided:

*“You think it’s gonna come and clump you over the head if you reach for chocolate biscuits...you think the band is just going to say ‘uh uh’...of course it doesn’t happen like that...it just doesn’t stop you buying rubbish”* [Lesley, P12, L47].

Subsequently, for some, the band failed to live up to the expectations that they previously held. Two patients reported experiencing periods of depression as a result. All the participants anticipated that weight loss would start immediately; however, they described how initially the band provided little restriction. Consequently, the speed of weight loss was an aspect that a number felt let down by:

*“The disappointing part was its taken a year since the surgery before I actually felt that the surgery was effective. All the time up till then I never felt restricted up until the last (band) fill”* [Gillian, P4, L14].

Every participant discussed the role of the media in informing their own perceptions of BS. They all felt misled by the media’s portrayal of LAGB, with many expressing anger and frustration at the messages delivered through TV, magazines and newspapers. Subjects explained that they felt it was important for the public to know the reality of having LAGB surgery in order to dispel the myth that it is a “quick-fix”:

*“I would love to write to one of those magazines and say to them ‘you are painting a rosy picture for everybody, it’s no rosy picture’...they are not pointing out the work that’s got to be done...which is disillusioning people...giving people false hope”* [Margaret, P6, L45].

### ***“Learning process”***

The majority of participants stated that the year following their surgery had been a “huge learning curve” in which their beliefs and expectations about the role of the LAGB had changed significantly. Particularly, they noted coming to terms with the amount of work that they are required to do in order to have a successful outcome from surgery:

*“It isn’t until you get the band you think ‘oh they’re right...this is gonna be hard’”* [Margaret, P15, L7].

Through a great deal of research and preparation, only a couple of participants felt they were truly prepared for their own role post surgery. Even so, they still recognised that they had learned a great deal during the first year and that some of their views had adapted over time, reporting a process of “trial and error” learning, specifically relating to what they could eat with the LAGB. Their change in eating behaviours was highlighted as the main struggle which they faced post surgery:

*“When it’s been too tight and it’s made me vomit every single day, you know, I have hated it. I have really resented the fact that it is there, just because it has been such a struggle sometimes...it doesn’t stop you eating the wrong food and that’s a problem...because it’s easy to turn to the wrong foods”* [Lesley, P10, L48].

Over time, most described gaining greater control over their eating habits, but stressed that they continue to experience periods of difficulty and frustration. Despite each participant reporting positive outcomes following surgery (e.g. weight loss, greater independence, increased activity, reductions in medication), many noted accepting that surgery hadn’t quite impacted on their weight as much as they had expected. Additionally, a number continued to struggle with psychological issues post-surgery (e.g. low mood, self-esteem, body image distress, emotional eating), that they had hoped might have been helped by having the operation:

*“You just want to be ‘normal’ and not bingeing...my emotions still rule a lot of my eating habits”* [Janice, P14, L11].

As a result of the successes and struggles experienced in the first year post-surgery, most participants described learning to look at the process and outcomes of surgery in different ways. Specifically, many no longer see “success” as simply significant weight loss, taking into consideration the other positive changes in their life. Alongside this, participants highlighted the importance of viewing surgery as an individual process:

*“The whole process is different for everyone...some will lose tonnes of weight really quickly and it is hard not to compare yourself to them...you really have to focus and learn from your own experiences” [Fiona, P6, L44].*

***“Personal responsibility”***

The participants each described their perception of the band changing over time, with most stating that they now viewed the band as an “aid” as opposed to a “cure”. Patients are required to make sustained efforts in order to maximise the outcomes of their surgery, with many viewing themselves as the “key to success”:

*“Well I see it now as about 80% me, 20% the band. Before I think it was probably the other way...I thought the band did most of it for you and you could basically just swan about and it did all the work and now I realise its not that way at all...I know it’s up to me” [Lesley, P12, L30].*

Participants emphasised the serious commitment that is required, with a number explaining that they felt they have had to demonstrate their dedication in order to justify to themselves and others why they deserved this surgery. Some informed that they had encountered resentment from others (e.g. friends, work colleagues) suggesting that it was not “necessary surgery”. As a result, they felt a lot of pressure to succeed:

*“Not only do I have to justify to myself, but also my family, the NHS tax payers. You want to be able to walk back into hospital and show everyone what you have been able to achieve...to make them feel it was worthwhile and not a waste of their time and money” [Janice, P15, L21].*

A number of the participants described frustration at seeing other surgical patients not making the necessary commitment following their operation:

*“I was getting frustrated and angry at people saying ‘oh I can’t eat a full pot of stew’... Why would you want to eat a full pot of stew when you have already had this band on? That’s a waste of resources if you are gonna carry on that way” [Margaret, P7, L13].*

Many discussed the continuing importance of applying lifestyle changes post surgery, emphasising the relevance of information learned during traditional weight loss interventions, relating to behaviour change, dietary advice and exercise. Nonetheless, most stated that they continue to “battle” with their relationship with food and felt that the efforts they were making would be required for the foreseeable future:

*“With this, a lifestyle change is a lifestyle change!...It’s for the rest of your life” [Gillian, P17, L27].*

Finally, every participant advised that anyone considering LAGB surgery take time to consider if it is the right option for them:

*“Think very carefully about it. Know that they can really commit to it and all that it entails... that they do feel confident they can make the effort; it does take a lot...more than I thought it would. I don’t think you can ever be truly prepared for how much you have to work at it everyday. Don’t do it for the wrong reasons. Try and figure out if the timing is right for you” [Sarah, P24, L1].*

### **Importance of Support**

This final super-ordinate theme consists of two sub-themes, specifically “Cannot do it alone” and “Patient perspective”. Participants described in incredible depth the need for patients to be supported (*See Appendix 2.5 for example of interview transcript*).

#### ***“Cannot do it alone”***

As most participants anticipated that the band would do “the majority of the work”, they reported thinking that they would require minimal levels of support following their surgery; however, many reflected on the fact that they could not have coped with the band without supports in place:

*“I thought I was superwoman and I could do it without support but I actually realised that I need that”* [Sarah, P7, L32].

A number did not expect that the preparation process and supports available within GCWMS would be beneficial. Yet, they came to value the role such elements play in maximising their ability to cope with the band:

*“You have been to support groups...you’ve had the counselling...you’ve had the chance to face up to things...speak to the surgeon, and so...yeah I am really pleased...I think I was frustrated at first...but with hindsight, it’s a good thing...I am glad I went to my doctor and she didn’t say ‘okay we’ll send you to a surgeon’”* [Lesley, P2, L21].

Participants often reflected on the need for support from many sources, including professionals (dietitians, psychologists and physiotherapists), family/friends, and fellow surgical patients. They also highlighted the need for support to be available both pre-and-post surgery, and for that support to continue to be available over time. Psychological support and preparation appeared of particular value to this groups of patients:

*“For once in your life you felt as though somebody was actually listening to you because you’re crying out ‘please help me, I can’t do this on my own’ and for once somebody saw that and was there to ‘egg you on’...it was like you come to this hump in the road and you can’t get over that hump...but they gave you that wee push”* [Margaret, P3, L35].

Many also felt support from family was key:

*“My family have been so good...it’s such an important thing to have the people you love around you to keep you realistic about things and give you a boost every now and then” [Sarah, P22, L35].*

Some reported that their family were unsure about whether they should proceed with surgery and subsequently tried to include them as much as possible in the preparation process to help them understand their need for surgery, and what they could do to help. One participant described how she was aware that her “desire” for surgery made it difficult for her to be objective so relied on her family to aid her decision process:

*“I took my sister with me in case I only listened to what I wanted to hear. She was there to ask the sensible questions and about the potential problems. I think that is really important cause its quite natural that I would only want to hear the positive aspects” [Fiona, P4, L19].*

Some stated that family should become more routinely involved in the surgical preparation process, in order to reduce outside influences which may impact on the patient’s ability to adhere to post surgical lifestyle changes.

### ***“Patient perspective”***

Participants overwhelmingly reported the importance of hearing the experiences and views of patients who had also underwent BS:

*“I don’t think that people who don’t have struggles with food really will understand how much the surgery is needed...patients views need to be heard” [Janice, P15, L27].*

Within the GCWMS, the informal support groups ran for surgery patients were deemed an essential resource by all, even those who were unable to attend. Although all the participants noted the value of professional advice, the patients’ perspective was considered essential:

*“To let them know it’s not a miracle cure...rather than just coming from professionals”* [Margaret, P20, L5].

A number of patients reported a sense of stigma around having the band, but having the support of fellow patients helped to ease that feeling. Finally, participants regularly highlighted the need for more accessible forms of support for patients, but particularly the ability to communicate with fellow patients:

*“I only think that you can really learn from others in the same place as you, but with the support of experts. I would like if they could have more support groups or even online support group networks or something. Even on Facebook, that would be great”* [Janice, P16, L38].

## **Discussion**

The main aim of this study was to explore patients’ beliefs and expectations about LAGB surgery from before and during the year following their operation. Three emergent superordinate themes, specifically ‘The Need for Surgery’, ‘Not a Quick-fix’ and ‘Importance of Support’, were identified.

The first theme suggests that people decide upon obesity surgery as a result of long histories of repeated failed attempts at more traditional solutions. Differing to previous studies [e.g. 16, 38], participants endorsed a more biopsychosocial approach towards understanding their weight problems, as opposed to a biological model that shifts responsibility away from their own behaviours. This may have been influenced by the psychological input they received through the GCWMS. Participants recognised a sense of lack of control over their weight and weight loss attempts, fuelling their desire for something that would assist them with losing weight. This, alongside significant and longstanding motivational factors, appears to have influenced their final decision to have surgery.

Within their accounts, participants reflected on their experiences of surgery, focusing both on the consequences specific to surgery and those resulting from weight loss. Specifically, most participants reported greater control over their eating behaviours, resulting in weight loss and improved quality of life, consistent with previous qualitative and quantitative findings [e.g. 7, 15].

The second and third qualitative themes identified are unique to this study. The participants noted that their expectations before surgery were often unrealistic, many believing surgery would be a “quick-fix”, despite receiving professional led surgical preparation. Those who were particularly unrealistic in their beliefs appeared to “struggle” the most following their operation. Despite imposed control over their eating, some participants’ psychological state appeared to play a part in their behaviours, often resulting in difficulty adhering to the lifestyle changes required post-surgery and seemingly poorer weight loss outcomes. Participants highlighted the role of the media in influencing their pre-surgery beliefs about LAGBs, and expressed anger and concern at the “misleading” messages portrayed by the media to the wider public. Patients felt they had to justify their need for surgery in order to manage other people perceptions, similar to Throsby’s [20] findings.

Each participant described “learning” over time from their successes and struggles with the LAGB, comparable to the ‘journey’ described by patients in Ogden et al.’s study [16]. Significantly, they recognised that their views about the role of the band, their own role and future weight loss, had changed. Participants emphasised their own role in maximising successful weight loss following surgery, with many reporting that they now believe that they themselves hold the “key to success” and advise that patients must be fully committed in order to successfully work with the band. Finally, although they see themselves as ultimately responsible, participants expressed a need for support from professionals, particularly psychology and family/friends. They stressed, however, the power of the patient perspective in educating those who were either thinking about having surgery, or have had surgery and require support.

Obesity management guidelines [39, 40] provide little information on the preparation and support required for patients undergoing LAGB surgery, particularly those with mental health difficulties, merely suggesting that dietetic and psychological support would be advisable. Research is emerging, however, that suggests that patient support plays an important part in the outcome of bariatric patients, echoing the views of participants' in this study. Albano et al. [41] examined the psychological status of 128 patients who underwent LAGB surgery and found better outcomes for clients who received psychological input. Alongside this, Scholtz et al. [42] evaluated the long-term outcomes in LAGB patients for a full range of DSM-IV defined psychiatric and eating disorders. One third of the patients studied were diagnosed with a mental health disorder and they found that the development of postoperative binge eating disorder (BED) or depression strongly predicted poor surgical outcome, but pre-surgical psychiatric factors alone did not. This emphasises that pre-surgical psychiatric assessment alone cannot predict outcome; an absence of preoperative psychiatric illness does not preclude the possibility of postoperative psychiatric sequelae, particularly BED. Both studies recommend that services must care for patients individually by providing an integrated biopsychosocial model of support in bariatric teams.

Interestingly, a recent systematic review evaluated the role of social support and its association with weight loss following BS [43]. Ten studies were identified, five reporting on support groups and five relating to other forms of social support (e.g. family). All the studies examined found a positive association between post-operative support and weight loss, with support group attendance after BS associated with greater outcomes. This study therefore adds weight to the argument that post-surgical support is not only beneficial but also crucial in achieving best possible outcomes.

In order to avoid imposing constraints on the analysis, the interviews were not analysed within the context of Leventhal's SRM of illness behaviour. Nevertheless, themes about the participants' illness representations are reflected in the analysis. All of the participants interpreted social messages from health care professionals, family and/or friends about their weight and their main motivations for seeking surgery were predominantly health reasons. They were knowledgeable about the consequences of obesity and were able to articulate their reasons for attending the

GCWMS for treatment. They appeared to recognise that they lacked control over their eating, affecting their chances to lose weight. As a result, they saw BS as the only intervention left available to them. Over time, they appear to have re-evaluated the role of surgery and its effectiveness, specifically from a “cure” to an “aid”.

### **Conclusions**

Overall, this study highlights that although LAGB surgery results in many beneficial outcomes for patients, the expectations that they hold about surgery may affect their ability to cope post-surgery and possibly influence their weight loss outcomes. Specifically, the participant accounts highlight that they see the band as an ‘aid’ and that they themselves play an important role in managing their eating behaviours, contrary to what many had anticipated prior to surgery. Additionally, patients require support from a range of sources (i.e. professionals, family/friends and patients) in order to gain maximum benefit.

### **Study Limitations**

It is important to acknowledge that the sample recruited was small and less than hoped for; however thematic saturation was evident, therefore a larger sample may have been of little additional benefit. Although the findings cannot be generalised due to the small sample size, it is important to consider theoretical generalisability and the contribution that this study makes to the existing literature about LAGB surgery. Furthermore, it is important to recognise that the three superordinate themes presented resulted from the researcher’s own interpretation of the data. Positively, however, the second analyst also identified the same superordinate themes. Additionally, given the use of a retrospective approach, it must be acknowledged that participants’ recall of events prior to surgery may be inaccurate. Moreover, only females, who were seen within the GCWMS, participated in the current study. Again, this limits the generalisability of the findings given the views of male patients are not examined. Finally, patients who have undergone surgery in different clinical settings, where the surgical protocol may be more or less rigorous than in the current context, may differ in their views.

### **Implications for Clinical Practice**

The findings from the current study provide some important considerations for clinical practice. Patients' expectations for surgery need to be addressed, not only before surgery, but also after. Thorough multidisciplinary preparation and follow-up support appears to be beneficial. Psychological support appears of particular value and should be routinely provided, especially for those meeting psychiatric diagnoses. Furthermore, the use of patient support groups appears beneficial and should be incorporated into the follow-up, alongside encouraging family involvement for these patients. Support groups can be provided at various stages in the surgery process. Separating into pre and post groups would perhaps allow for the discussion and support to appropriately match patient-need at various stages. With current resource pressures on health services, from a service provision perspective, groups can also be an efficient way to provide after-care.

### **Implications for Future Research**

It would be desirable to prospectively follow-up clients in order to accurately gain their views before and following surgery. It would be of interest to investigate how long patients require support and whether gaining support not only enhances weight loss, but also weight loss maintenance. The mechanisms which make support groups effective need to be further examined in order to establish what is most beneficial to patients. Additionally, the current qualitative data could be utilised as a basis for developing a questionnaire that would assess patients' expectations of BS. This would allow for a larger scale study of whether those who are more realistic in their views prior to surgery do statistically better in terms of weight loss than those holding less adaptive beliefs. Finally, female bariatric patients form the majority of those participating in psychological research; therefore, it is imperative that male views are examined in order to ensure services meet the needs of all clients.

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**Table 1: Inclusion & Exclusion Criteria.**

<b>Inclusion Criteria</b>	<b>Exclusion Criteria</b>
<ul style="list-style-type: none"><li>• Participants aged 18 and above, who were 12 months (+/- 2 months) post LAGB procedure.</li><li>• Participants currently attend the GCWMS for post-surgical follow-up.</li><li>• Participants have completed a range of lifestyle interventions through the GCWMS before being considered for surgery.</li><li>• Each participant was deemed suitable for surgery following: a medical review; a surgical information session; psychological assessment; and, a dietetic assessment including completion of a trial diet (over a two week period).</li><li>• Written informed consent was required from all participants prior to the start of interview.</li></ul>	<ul style="list-style-type: none"><li>• Do not speak English as a first language.</li><li>• Unable to give informed consent.</li><li>• Have a severe visual or hearing impairment, which prevented them from engaging with the research materials.</li><li>• Clients who had experienced any traumatic experiences because of their surgery excluded as this may bias their recollection of events surrounding their surgery.</li></ul>

**Table 2: Details of interviewees.**

<b>Participants (Pseudonym)</b>	<b>Sex</b>	<b>Age</b>	<b>Weight at operation in kg</b>	<b>Time since LAGB surgery</b>	<b>Weight at time of interview in kg</b>	<b>Weight Lost in Kg</b>
<i>Rachel</i>	F	48	121.6	14 months	103.4	18.2
<i>Gillian</i>	F	50	123.8	12 months	105.1	18.8
<i>Margaret</i>	F	49	155.0	13 months	120.3	34.7
<i>Lesley</i>	F	39	133.5	12 months	122.4	11.1
<i>Sarah</i>	F	50	170.0	12 months	136.7	33.3
<i>Valerie</i>	F	56	95.6	13 months	90.4	5.2
<i>Janice</i>	F	51	113.6	12 months	103.6	10.00
<i>Fiona</i>	F	40	117.2	12 months	101	16.2

CHAPTER THREE: ADVANCED CLINICAL PRACTICE I  
CRITICAL REFLECTIVE ACCOUNT

**New responsibilities: a reflective account**

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

## **Abstract**

Trainee Clinical Psychologists are actively encouraged to reflect on all aspects of their training experience in order to build a greater awareness of their developing skills and aid their continuing professional development. The National Occupational Standards (NOS; 2002) for Psychologists outline key roles in which applied psychologists must be competent. This reflective account details a series of reflections concerning a significant training experience, where I was asked to lead the re-development of a psychological treatment programme. The process of this project is described and a number of reflections relating to my professional growth in key NOS skill areas are highlighted. Gibbs' (1988) model of reflection is used to inform the reflective process. The utility of this model is considered, alongside areas of my practice that require further development.

CHAPTER FOUR: ADVANCED CLINICAL PRACTICE II  
CRITICAL REFLECTIVE ACCOUNT

**Clinical psychology in a medical setting: a reflective account**

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## **Abstract**

Clinical psychologists are increasingly expected to demonstrate reflective practice concerning their continuing professional development, both within their initial training and career post qualification. This reflective account enabled me to consider my own development during a six month placement working in a specialist medical setting. Elements of Johns' (1994) model for structured reflection were used to guide the reflective process, specifically relating to the establishment and subsequent leading of a clinical psychology service within a medical ward environment. Johns' model enabled me to reflect on my own feelings and actions both during and following the experience, and identify growth in a number of fundamental National Occupational Standard (NOS; 2002) skills required of psychologists. Skills requiring further development are discussed, alongside the value of Johns' model for encouraging reflective practice.

## APPENDICES

### Appendix 1.1 – Publication Guidelines

#### **Obesity Reviews - [An Official Journal of the International Association for the Study of Obesity](#)**

##### **Author Guidelines**

##### **All contributions should meet the following criteria:**

Not be published elsewhere. All authors must give consent to publication in a cover letter and disclose potential conflicts of interest by filling in the new disclosure form that has been adopted by all journals that are members of the International Committee of Medical Journal Editors (ICMJE). The form can be downloaded from the Journals website or [here](#), and no paper can be published before the information has been received from all the authors of a submitted paper. Please see <http://www.icmje.org>

The corresponding author should provide, if possible, a fax number and e-mail address to speed communication with the Editors.

The Editors retain the usual right to modify the style and length of a contribution (major changes being agreed with the corresponding author) and to decide the time of publication.

##### Manuscripts

Papers (in English) should be submitted online at <http://mc.manuscriptcentral.com/obr>. Authors will need their entire manuscript in electronic format.

They must be written in English and are subjected to editorial review. Articles should be the equivalent of 8-10 printed pages. It means that the text and references included should not exceed 5000 words. It does not include tables and figures. Any manuscript exceeding this length will have to be reduced during the revision process to less than 5,000 words. Alternatively, authors unable to limit their articles to 5,000 words, may opt to pay a page charge of £80.00 for each additional printed page. Full details and guidance on the preparation of all material (text, tables and figures) can be found [here](#).

Possible comments and suggestions of the editor may be sent to the author(s), who authorise(s) the publication of the article in the revised form. Proof reading will be reduced to a minimum.

##### *General advice about the presentation of manuscripts:*

- All pages should be numbered.
- The name and address and telephone and fax numbers of the author to whom correspondence and proofs should be sent should be included on the title page and the covering letter.
- Do not use abbreviations.
- All scientific units should be expressed in SI units.
- A copy of the manuscript should be kept by the authors for reference.
- An acknowledgement of receipt of the manuscript will be sent by the Journal.
- Manuscripts rejected for publication will not be returned.
- Once a paper is accepted the authors are asked to sign a form assigning copyright to International Association for the Study of Obesity. Authors will be required to assign copyright in their paper to the International Association for the Study of Obesity. Copyright assignment is a condition of publication and papers will not be passed to the Publisher unless copyright has been assigned. To assist authors an appropriate Exclusive Licence Form will be supplied by the editorial office. Alternatively, authors may like to download a copy of the form from the journal website at [www.blackwellpublishing.com/pdf/OBR\\_ELF.pdf](http://www.blackwellpublishing.com/pdf/OBR_ELF.pdf)

##### **Title Page**

The title page should contain: (1) the title of the article, (2) the name of each author (first name and surname preferred), (3) the name of the department(s) and institution(s) to which the authors belong, (4) three to four key words, (5) a running title, (6) acknowledgements, (7) address of corresponding author and e-mail address, (8) potential conflicts of interest.

##### Text

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

##### Tables

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

### Figures

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

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

### References

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

#### *Examples of journal references:*

1. Castonguay TW, Dallman MF, Stern JS. Some metabolic and behavioural effects of adrenalectomy in obese Zucker rats. *Am J Physiol* 1986; 251: R923-R933.
2. Cann PA, Rovati LC, Smart H, Spiller RC, Whorwell PJ. Loxiglumide, a CCK-A antagonist, in irritable bowel syndrome: a pilot multicentre clinical study (Abstract). *Gastroent* 1993; 104: A486.
3. Maher VMG, Thompson GR. Analysis of evidence from cholesterol-lowering and regression trials. *J Drug Dev Suppl* 1990; 3/1: 199-203.
- 4.

#### *Examples of book references:*

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

#### *Examples of web references:*

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

### Abbreviations

Abbreviations should be explained at the beginning of the manuscript and listed in the order in which they appear. Avoid abbreviations in the title and in the abstract. Drug Names. Generic names should, in general, be used. If an author so desires, brand names may be inserted in parentheses.

## **Appendix 1.2 – Detailed Search Strategy**

### **Text Word Search Terms**

#### **Psychological Therapies:**

1. ((art or aversion or behavior or cognitiv\* or cognitiv\* analytic or color or dance or dialectical behavior or gestalt or interspers\* or Mentalization based or music or milieu or mindful\* or person cent\* or client cent\* or psychodynamic\* or play or psychoanalytic\* or reality or rational emoti\* or relax\* or transactional or motivational or counsel\* or acceptance or interpersonal) adj1 (psychotherap\* or therap\*)).tw.
2. (behavior modific\* or CAT or CBT or crisis intervention\* or DBT or IPT or MBT or mindful\* meditation\* or MBCT or mindful\* based cognitive\* therap\* or psycho\*drama\* or paradoxical\* techni\* or psycho\*education\* or role play\*).tw.

#### **Obesity, Overweight or Weight Loss:**

1. (weight adj1 (reduc\* or loss or lose or losing or gain\* or cycling or maint\* or decreas\* or watch\* or diet\* or control\*)).tw.
2. (Body mass index or BMI).tw.
3. (obes\* or adipos\* or over\*eat\* or over\* feed\* or overnutrition or binge eating disorder\* or fat overload syndrom\* or hyperphagia or Pickwick\* syndrom\* or Prader willi syndrom\*).tw.

#### **Randomised Control Trials:**

1. ((RCT or random\* or alloc\* or assign\* or control\* or FOLLOW\*UP or prospectiv\* or cross\*over or clin\*) adj1 (stud\* or trial\* or design\*)).tw.
2. ((singl\* or doubl\* or trebl\* or tripl\*) adj1 (blind\* or mask\*)).tw.

#### **Adult Population:**

1. (adult\*).tw.

### **Subject Heading Search Terms**

#### **Psychological Therapies:**

exp Psychotherapy/

#### **Obesity, Overweight or Weight Loss:**

body weight/ body weight changes/ or weight gain/ or weight loss/ or adiposity/ or body mass index/ or waist circumference/ or waist-hip ratio/ weight change/ or weight control/ or weight fluctuation/ or weight reduction/ Hyperphagia/ obesity/ or body weight disorder/ or abdominal obesity/ or morbid obesity/ exp overweight/ exp Overnutrition/ exp body fat distribution

#### **Randomised Control Trials:**

exp Epidemiologic Research Design/ exp epidemiologic study characteristics as topic/ exp epidemiologic studies/ controlled clinical trial/ or exp clinical trial/ or exp controlled study/ or exp randomized controlled trial/ exp randomization/ clinical study/ or intervention study/ or longitudinal study/ or major clinical study/ or prospective study/ or retrospective study/ experimental design/ or between groups design/ or followup studies/ or repeated measures/ or quantitative methods/ treatment effectiveness evaluation/ or clinical audits/ or mental health program evaluation/ or psychotherapeutic outcomes/ or treatment outcomes/ or evidence based practice/

#### **Adult Population:**

adult/ or middle aged/ or young adult/ exp middle aged

### Appendix 1.3 – Quality Criteria Assessment Sheet

Quality Checklist: Psychological Interventions for Obesity in Adulthood: A Systematic Review			
Author:			
Title:			
Year of publication:			
Journal Title:			
Completed by:			
PAPER SECTION And Topic	ITEM	DESCRIPTOR	INCLUDED
<b>TITLE &amp; ABSTRACT</b>	1.1	How participants were allocated to Psychological vs. comparison interventions (e.g., “random allocation,” “randomized,” or “randomly assigned”)	Yes = 1 No = 0
	1.2	In the abstract, description of the 1. experimental treatment, 2. comparator, 3. care providers, 4. centres, and 5. blinding status	All 5 = 2 2-4 = 1 No = 0
			<b>MAX SCORE = 3</b>
<b>INTRODUCTION</b> Background	2	Scientific background and explanation of rationale	Yes = 1 No = 0
			<b>MAX SCORE = 1</b>
<b>SAMPLE</b> Participants	3.1	The population, and how it was identified/recruited clearly stated	Yes = 1 No = 0
	3.2	The characteristics of the participants and controls included in the study clearly described to allow adequate comparisons to be made	Yes = 1 No = 0
	3.3	Participants matched to an appropriate control/comparison group (i.e. do not differ significantly)	Yes = 1 No = 0
	3.4	Population homogenous with respect to diagnosis (i.e. all clients are overweight or obese)	Yes = 1 No = 0
			<b>MAX SCORE = 4</b>
<b>DESIGN / METHOD</b> Assessment	4.1	Inclusion/exclusion criteria clearly specified and appropriate to test hypotheses	Yes = 1 No = 0
	4.2	Generally accepted diagnostic criteria used to confirm obesity diagnosis (e.g. BMI $\geq$ 25-30 kg/m <sup>2</sup> ; waist measurement; waist-to-hip ratio)	Yes = 1 No = 0
	4.3	Potential co-morbid physiological disorders assessed / screened for	Yes = 1 No = 0
	4.4	Psychological well being / psychological disorders/symptoms measured using reliable and valid tools (e.g. BDI-II, BAI, HADS, SF36)	Yes (minimum anxiety and depression / QoI) = 1 No = 0
	4.5	Are assessments independent of treatment i.e. carried out by independent assessors not therapists	Yes = 1 No = 0
	4.6	Clear explanation / justification for assessment criteria / measures used	Yes = 1 No = 0

	4.7	Measurement tools been used at appropriate time points in relation to the design and focus of the study	Yes = 1 No = 0
Interventions	5.1	Precise details of the interventions (experimental treatment and Comparator) intended for each group and how, by who and when they were actually administered	Yes = 1 No = 0
	5.2	Description of the different components of the interventions and, when applicable, descriptions of the procedure for tailoring the interventions to individual participants	Yes = 1 No = 0
	5.3	Details of how the interventions were standardized (i.e. manualised, length of treatments etc)	Yes = 1 No = 0
	5.4	Details of how adherence of care providers / participants with the protocol was assessed / enhanced	Yes = 1 No = 0
Objectives	6	Clearly described and specific aims / objectives / hypotheses	Yes = 1 No = 0
Outcomes	7.1	Clearly defined outcome. Preferably defined as primary (i.e. change in weight or BMI / size measurement) and secondary outcome measures (e.g. morbidity i.e. diabetes, cardiovascular disease, osteoarthritis; mortality i.e. death from myocardial infarction, stroke; well-being and quality of life; psychological functioning)	Yes = 1 No = 0
	7.2	Methods used to enhance the quality of measurements (e.g., multiple observations, training of assessors)	Yes = 1 No = 0
Sample Size	8	Sample size is greater than 27 in each therapy group or how sample size was determined (i.e. a described and adequate Power calculation)	Yes = 1 No = 0
Randomisation – Sequence Generation	9	Method used to generate the random allocation sequence, including details of any restriction (e.g., blocking, stratification)	Yes (use of computer-generated random number tables) = 2  Partly (use of alternation, case record numbers, birth dates etc) = 1  No (or randomised, but methods not described) = 0
Randomisation – Allocation Concealment	10	Method used to implement the random allocation sequence (e.g., numbered containers or central telephone), clarifying whether the sequence was concealed until interventions were assigned	Yes = 1 No = 0
Randomisation - Implementation	11	Who generated the allocation sequence, who enrolled participants, and who assigned participants to their groups	Yes = 1 No = 0
Blinding (Masking)	12.1	Whether or not participants, those administering the interventions, and those assessing the outcomes were blinded to group assignment	Yes (all 3) = 2 Partly (1/2 of 3) = 1 No = 0
	12.2	Whether or not those administering co-interventions were blinded to group assignment	Yes = 1 No = 0
	12.3	If blinded, method of blinding and description of the similarity of interventions	Yes = 1 No = 0
Statistical Methods	13	Statistical methods used to compare groups for primary outcome(s) and, if applicable, methods for additional analyses, such as subgroup analyses and adjusted analyses	Yes = 1 No = 0
Overall Design	14	Study design appropriate to test the hypotheses	Yes = 1

			No = 0
			<b>MAX SCORE = 25</b>
<b>RESULTS</b>			
Participant Flow	15	Flow of participants through each stage (a diagram is strongly recommended, but can be described in text)—specifically, for each group, report the numbers of participants randomly assigned, receiving intended treatment, completing / not completing the study protocol, and analyzed for the primary outcome; describe protocol deviations from study as planned, together with reasons	Yes = 1 No = 0
Implementation of Intervention	16.1	Details of the experimental treatment and comparator as they were implemented (i.e. within results section, description of treatment groups and their implementation as the trial progresses e.g. satisfaction, changes to protocol, quality of intervention etc)	Yes = 1 No = 0
	16.2	Assessment of adherence to treatment protocol or treatment quality reported	Yes = 1 No = 0
	16.3	Assessment of therapist competence reported	Yes = 1 No = 0
Recruitment	17	Dates defining the periods of recruitment and follow-up	Yes = 1 No = 0
Baseline Data	18	Baseline demographic and clinical characteristics of each group analysed	Yes = 1 No = 0
Numbers Analysed	19.1	Number of participants (denominator) in each group included in each analysis and state the results in absolute numbers when feasible (e.g., 10/20, not solely percentages; can be reported like 10/20 (50%))	Yes = 1 No = 0
	19.2	Part of Analysis was by "intention-to-treat"	Yes = 1 No = 0
	19.3	Analyses appropriate to the design and the type of outcome measure	Yes = 1 No = 0
Outcomes and Estimation	20	For study outcomes, a summary of results for each group and comparisons included (i.e. means, SDs, p-values, confidence intervals), plus estimated effect sizes	Effect size, plus summary statistics = 2 Summary statistics only = 1 No = 0
Ancillary Analyses	21	Address multiplicity by reporting any other analyses performed, including subgroup analyses and adjusted analyses (e.g. increasing the significance level), indicating those pre-specified and those exploratory	Yes = 1 No = 0
Adverse Events	22	All important adverse events or side effects in each intervention group (e.g. why people have dropped out, have people reported dissatisfaction with treatment, has there been any difficulties during treatment)	Yes = 1 No = 0
			<b>MAX SCORE = 13</b>
<b>DISCUSSION / CONCLUSIONS</b>			
Interpretation	23	Interpretation of the results, taking into account study hypotheses and limitations	Yes = 1 No = 0
Generalisability	24	Generalisability (external validity) of the trial findings discussed	Yes = 1 No = 0
Recommendations	25	Recommendations for clinical practice or future research discussed in relation to the findings	Yes = 1 No = 0
Overall Evidence	26	Conclusions drawn directly link to the results achieved	Yes = 1 No = 0
			<b>MAX SCORE = 4</b>

		<b>Total:</b>	<b>/50 = %</b>
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- QUALITY RATING:**
- A HIGH QUALITY (75%+)**
  - B MODERATE QUALITY (50-74%)**
  - C POOR QUALITY (0-49%)**

**RATER COMMENTS / NOTES:**

### Appendix 1.4 – Inter-Rater Outcomes

Article	Score	Overall Quality Rating / %	Comments / Resolution
Munsch et al. 2007	RS = 40/50 JS = 40/50	A (80%) A (80%)	N/A.
Ash et al. 2006	RS = 37/50 JS = 38/50	B (74%) A (76%)	- <i>Difference of opinion on whether raters were independent of treatment. On review of article it was agreed that raters were independent. Rater RS raised his score to 38, resulting in both agreeing the paper warranted an A rating.</i>
Jeffery et al. 2009	RS = 37/50 JS = 35/50	B (74%) B (70%)	- Disagreement on clarity of inclusion exclusion criteria. After discussion on review of the paper it was agreed that the criteria were established to an acceptable level and JS increased her rating by 1 (36/50 = 72%).  - Disagreement about clarity of details on interventions. Agreed after discussion that the paper did not provide the necessary detail and RS subsequently reduced his score by 1 (36/50 = 72%).  - <i>Changes made did not influence overall rating.</i>
Manzoni et al. 2009	RS = 29/50 JS = 29/50	B (58%) B (58%)	N/A.
Wilfley et al. 2002	RS = 41/50 JS = 43/50	A (82%) A (86%)	- After discussion JS agreed that co-morbid physiological conditions had not been accounted for and reduced her score by 1 (42/50 = 84%).  - JS also acknowledged that the method of blinding had not been made clear, again reducing her score by 1 (41/50 = 82%).  - <i>Changes made did not influence overall rating.</i>
DiMarco et al. 2009	RS = 31/50 JS = 31/50	B (62%) B (62%)	N/A.
Stahre et al. 2005	RS = 27/50 JS = 25/50	B (54%) B (50%)	- After discussion RS agreed that the inclusion exclusion criteria was not clearly specified and reduced his score by 1 (26/50 = 52%).  After discussion JS agreed that the groups were appropriately matched and increased her score by 1 (26/50 = 52%).  - <i>Changes made did not influence overall rating.</i>
West et al. 2007	RS = 40/50 JS = 40/50	A (80%) A (80%)	N/A.

**QUALITY RATING:**      **A** HIGH QUALITY (75%+)  
   **B** MODERATE QUALITY (50-74%)  
   **C** POOR QUALITY (0-49%)

## **Appendix 2.1: Obesity Surgery Authors Submission Guidelines**

### **CONFLICT OF INTEREST DISCLOSURE**

All potential benefits in any form from a commercial party related directly or indirectly to the subject of this manuscript or any of the authors must be acknowledged. If no conflict exists, authors should state the following note in a separate section of the manuscript document text, before the list of references: The authors declare that they have no conflict of interest.

### **ORGANIZATION OF MANUSCRIPTS**

Please type manuscripts (including references) double-spaced with one-inch wide margins. Number the pages consecutively and organize the manuscript in the order indicated below.

#### **MANUSCRIPT FORMAT**

Title Page. The title page should include:

- The name(s) of the author(s)
- A concise and informative title
- The affiliation(s) and address(es) of the author(s)
- The e-mail address, telephone and fax numbers of the corresponding author
- Include a short title (not to exceed 30 characters in length, including spaces between words) for use as a running head
- The authors must disclose any commercial interest that they may have in the subject of study and the source of any financial or material support

**ABSTRACT.** The Abstract for Research Articles and Clinical Reports must be not more than 250 words and should be written under the headings: Background, Methods, Results and Conclusions. The Abstract should not cite any references. Spell out each abbreviated term in full and follow with the abbreviation the first time a particular term is used. For example, ultrasound (US). Three to ten key words should follow the abstract. Where possible, the key words should be taken from the Medical Subject Headings (MeSH) of the Index Medicus.

**TEXT.** Since each of the manuscript types noted above can cover a great number of topics and concepts, word limits are difficult to set. We instead request that your article remain succinct and to-the-point, providing a detailed account of your findings and observations. The peer review process typically will verify whether or not the paper is too long or too brief.

The text should typically be organized into the following sections/headings: Introduction, Materials and Methods, Results, Discussion, References, Tables, Legends for Figures.

- Use a normal, plain font (e.g., 12-point Times Roman) for text
- Double-space the text
- Use italics for emphasis
- Use the automatic page numbering function to number the pages
- Do not use field functions
- Use tab stops or other commands for indents, not the space bar
- Use the table function, not spreadsheets, to make tables

**REFERENCES.** The list of References should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text. Do not use footnotes or endnotes as a substitute for a reference list. Reference list entries should be numbered consecutively.

Citations in the text should be identified by numbers in square brackets. Some examples:

1. Negotiation research spans many disciplines [3].
2. This result was later contradicted by Becker and Seligman [5].
3. This effect has been widely studied [1-3, 7].

For Journal Articles: The sequence for a journal article should be: author(s); title of paper; journal name abbreviated as in the Index Medicus, year of publication, volume number and first and last page numbers. When there are more than three authors, shorten to three and add 'et al', e.g.

Cadiere GB, Himpens J, Vertruyen M et al. The world's first obesity surgery performed by a surgeon at a distance. *Obes Surg* 1999; 9: 206-9.

For Chapters of a Book: The sequence for chapters of a book should be: author(s), chapter title, editors, book title, edition, place of publication, publisher, year, page numbers, e.g.

Angel A, Winocur JT, Roncari DAK. Morbid obesity – the problem and its consequences. In: Deitel M, ed. *Surgery for the Morbidly Obese Patient*. Philadelphia: Lea & Febiger 1989: 19-26.

Authors are responsible for ensuring that the list contains all references cited in the text, in order, accurately.

**ACKNOWLEDGMENTS.** Acknowledgments of people, grants, funds, etc. should be placed in a separate section before the reference list. The names of funding organizations should be written in full.

#### **TABLES**

- All tables are to be numbered using Arabic numerals
- Tables should always be cited in text in consecutive numerical order
- For each table, please supply a table heading
- The table title should explain clearly and concisely the components of the table
- Identify any previously published material by giving the original source in the form of a reference at the end of the table heading
- Footnotes to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data) and included beneath the table body

#### ***STATEMENT OF HUMAN AND ANIMAL RIGHTS***

When reporting experiments on human subjects, authors should indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000.

#### ***STATEMENT OF INFORMED CONSENT***

Patients have a right to privacy that should not be infringed without informed consent. Identifying information, including patients' names, initials, or hospital numbers, should not be published in written descriptions, photographs, and pedigrees unless the information is essential for scientific purposes and the patient (or parent or guardian) gives written informed consent for publication. Informed consent for this purpose requires that a patient who is identifiable be shown the manuscript to be published. Identifying details should be omitted if they are not essential. Complete anonymity is difficult to achieve, however, and informed consent should be obtained if there is any doubt. If identifying characteristics are altered to protect anonymity, such as in genetic pedigrees, authors should provide assurance that alterations do not distort scientific meaning and editors should so note.

## Appendix 2.2: Research Participant Information Sheet and Consent Form



University  
of Glasgow



### Patients' beliefs and expectations relating to bariatric surgery

We would like to invite you to take part in a research study. Before you decide, you need to understand why the research is being done and what it would involve for you. Please take time to read the following carefully. Please ask if there is anything that is not clear or if you would like more information.

**Who is conducting the research?** The research is being conducted by Ross Shearer and Dr Sarah Wilson from the Department of Psychological Medicine, alongside Dr Susan Boyle from the Glasgow & Clyde Weight Management Service.

**What this study is about?** The present study aims to explore and compare patients' beliefs and expectations about bariatric/obesity surgery, as well as looking at the impact it has had on their lives, both positive and negative. This is important because if we can understand more about people's experience of gastric band surgery and the impact it has had on their life, it will help the hospital services know what supports are required in order to make the surgery as successful, for each patient, as possible.

**Why have I been invited to take part?** We would like to speak to people who have had their gastric band for around a year to find out more about their experience of having the band.

**Do I have to take part?** It is up to you to decide. We will describe the study and go through this information sheet, which we will then give you. You will be asked to sign a consent form to show you have agreed to take part. You are free to withdraw at any time, without giving reason. This would not affect the standard of care you receive or your future treatment.

**What is involved?** I would ask to meet you for around 60-90 minutes at a Glasgow Weight Management Service site, normally within Mansionhouse Unit, Langside, or an alternative community NHS location, if possible. If you find this is too long I could come back to finish the interview, with your consent. There are no right and wrong answers, and you are free to decline to answer any question you do not feel happy to answer. If you give me consent I will audio record the interview. This recording will only be used for the purposes of this research. Some of your comments may be directly quoted when the research is written up; however, each comment will be completely anonymised. If you made a disclosure suggesting that you or others are at risk, I would act professionally and appropriately, respecting limits to your confidentiality. If I felt you were deemed in need of medical or psychological input, this would be discussed with the you and I would recommend that the appropriate figure at the hospital contact your GP.

**What happens to the information?** Your identity and personal information will be completely confidential and known only to the researchers. The information will remain confidential and stored within a locked filing cabinet. The data are held in accordance with the Data Protection Act, which means that we keep it safely and cannot reveal it to other people, without your permission.

**What are the possible risks and benefits of taking part?**

Risks: There are no direct risks from taking part, although some people may feel uncomfortable talking about their experiences.

Benefits: It is hoped that by taking part in this research, you will be providing valuable information regarding your beliefs and expectations about bariatric surgery. This would be extremely helpful, because if we can understand more about your, and others', experience of gastric band surgery and the impact it has had on your life, it will help us know what we can do to support patients in the future who are thinking of having bariatric surgery.

**Who has reviewed the study?** This study has been reviewed by an NHS Greater Glasgow & Clyde local research ethics committee.

**If you are interested in taking part?** If you would like to take part, please complete the tear-off slip below and return it in the stamped addressed envelope provided (**No stamp required**). Alternatively, please contact Ross Shearer on \*\*\*\* \* \*\*\*, or Susan Boyle on \*\*\*\* \* \*\*\*. If you would like some further information about the study, please do not hesitate to contact us. Alternatively, if you would prefer to talk to an independent person, out with the research team, please contact Dr Marie Prince, Clinical Psychologist, on \*\*\*\* \* \*\*\*.

**If you have a complaint about any aspect of the study?** If you are unhappy about any aspect of the study and wish to make a complaint, please contact the researcher in the first instance, but the normal NHS complaint mechanisms is also available to you.

Thank you for your time and co-operation.

(Tear off Slip)

-----

Research Study: **Patient's beliefs and expectations relating to bariatric surgery**

Chief Investigator: Ross Thomas Shearer

Trainee Clinical Psychologist (University of Glasgow / NHS Greater Glasgow & Clyde)

Participant Name

Signature

Telephone

***For office use: An exploration of obese patient's beliefs and expectations relating to bariatric surgery, using Thematic Analysis. Participant number:***

-----



Patient's beliefs and expectations relating to bariatric surgery

Consent Form

Please initial box

I confirm that I have read and I understand the participant information sheet (Version 4) for the above study and that I have been given the opportunity to ask any questions relating to the study. [ ]

I understand that I am under no obligation to participate in this study. It is entirely voluntary and I can withdraw at any time, without giving a reason and that this will not affect any aspect of my care. [ ]

I am aware that the interview will be recorded by the researcher, Ross Shearer, and only used for the purposes of the research study, as described in the participation information sheet. [ ]

I am aware and understand that the researcher, Ross Shearer, may publish direct quotations said by me during the interview, but that these will be anonymised. [ ]

I understand that all names, places and anything that could identify me will be removed and nothing that identifies me will appear for others to see. [ ]

I understand that sections of my medical notes may be looked at by the research team, where it is relevant to my taking part in the research. I give my permission for the research team to have access to my records. [ ]

I agree to take part in the above study. [ ]

Name of participant:
-----

Signature of participant:
-----

Name of researcher:
-----

Signature of researcher:
-----

Date:
-----

### **Appendix 2.3: Topic Guide**

*The following questions were used as a guide and provide topic prompts for the interviewer to utilise throughout the patient interviews:*

- Can you tell me a little about how you came to need a gastric band surgery?
  - How do these beliefs compare to those held prior to your surgery?
- What do you believe is the role of band you have had fitted?
  - How do your current beliefs about your role compare to those you held prior to your surgery?
- What are your current expectations for change (weight loss) from having the band fitted?
  - How do your current expectations about change compare to those held before having the band fitted?
- What are your beliefs/expectations about the time scale for change (weight loss)?
  - How do your current expectations about the time scale for change compare to those held before having the band fitted?
- What are your current beliefs about the role of food and exercise in your life?
  - Has your beliefs about the role of food and exercise changed since having the surgery?
- How long do you expect you will have to make the lifestyle changes required for the gastric band to be effective?
  - How do your current expectations about the length of time you will be required to make these changes compare with the views you held prior to surgery?
- What has been the impact of the surgery on your quality of life? (adjustment in general)
  - Relationships? (role etc); Views of significant others?; Activity?; Work?
  - Has the surgery had the impact you expected?
- What has been the impact of the surgery on your body? (i.e. losing weight, effects on skin etc).
  - Has your body changed as you expected?
- What are your current views on bariatric surgery?
  - How do your current views compare to your views held before your surgery?
- What do you now think is the best / worst thing about having the surgery?
  - What did you expect would be the best / worst thing about having the surgery?
- How have you coped with successes / disappointments following the surgery?
  - What do you do to cope with having the gastric band? (i.e. Coping strategies - Linking to previous treatments – what have they learned so far that has helped, skills they have to bring, supports they can draw on etc).
  - Has how you cope changed from before you had the band fitted?

- What do you now think about your future having had the gastric band surgery?

How do your current views about the future compare to those held prior to surgery?

- Would you have the surgery again?

- What advice would you give some who is going for a band now?

**WoSRES**  
**West of Scotland Research Ethics Service**

West of Scotland REC 4  
Ground Floor – The Tennent Institute  
Western Infirmary  
38 Church Street  
Glasgow G11 6NT  
[www.nhsggc.org.uk](http://www.nhsggc.org.uk)

Date 11 September 2009

Your Ref  
Our Ref  
Direct line 0141 211 2482  
Fax 0141 211 1847  
E-mail [rose.gallacher@ggc.scot.nhs.uk](mailto:rose.gallacher@ggc.scot.nhs.uk)

Dear Mr Shearer

**Study Title:** An exploration of obese patient's beliefs and expectations relating to bariatric surgery, using Thematic Analysis  
**REC reference number:** 09/S0704/52  
**Protocol number:** 1

The Research Ethics Committee reviewed the above application at the meeting held on 04 September 2009. Thank you for attending to discuss the study.

**Ethical opinion**

The Committee thanked Mr Shearer for attending to discuss the study.

The Committee asked the researcher several questions which were answered to their satisfaction, namely:

- (1) Why the study was being conducted retrospectively. The Committee suggested that he consider adding a pre bariatric surgery group for comparison to the study.
- (2) Why there was a gap of one year between contact with participants.

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**

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.

*For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) 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 the only involvement of the NHS organisation is as a Participant Identification Centre, management permission for research is not required but the R&D office should be notified of the study. Guidance should be sought from the R&D office where necessary.*

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

**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).**

### **Approved documents**

The documents reviewed and approved at the meeting were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering Letter	2	20 August 2009
REC application		
Protocol	1	20 August 2009
Investigator CV		
Participant Information Sheet	2	20 August 2009
Participant Consent Form	2	20 August 2009
Letter of invitation to participant	2	20 August 2009
Letter from Sponsor		10 August 2009
Interview Schedules/Topic Guides	4	20 August 2009
CV for Academic Supervisor		20 August 2009
Letter from Dr Jason Ellis (MRP Proposal)		14 July 2009
A letter from Dr Sue Turnbull		08 June 2008
Research equipment, consumables & expenses form	2	20 August 2009

### **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 (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

### **After ethical review**

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

---

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.

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
- 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.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email [referencegroup@nres.npsa.nhs.uk](mailto:referencegroup@nres.npsa.nhs.uk).

---

**09/S0704/52**

**Please quote this number on all correspondence**

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

Yours sincerely

*R Gallacher*

pp **Dr Brian Neilly**  
**Chair**

Email: [rose.gallacher@ggc.scot.nhs.uk](mailto:rose.gallacher@ggc.scot.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: Darren Gibson, Research & Development Management Office*

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## Appendix 2.5: Example of Interview Transcript

**I = Interviewer**  
**P = Participant**

	Interview	Notes / Codes
	.....	
I	Okay... you'd mentioned there that you had different preparation and follow-up meetings with psychologists, with dieticians...	
P	Uh hu, I went to physiotherapy as well...but again, it was quite painful because I was so heavy...but I did give it my all, I really tried it... I wanted to make the most of the supports available to me.	- Valuing supports
I	From what you have been saying it really sounds like you put a lot of effort in.... so you had those different meetings before and after the surgery... can you tell me a little more about how those periods were for you?	
P	It was brilliant, absolutely brilliant... because for once in your life you felt as though somebody was actually listening to you because you're crying out 'please help me, I can't do this on my own' and for once somebody saw that and was there to 'egg you on'...it was like you come to this hump in the road and you can't get over that hump...but they gave you that wee push .... 'you can do it, you will'... which was brilliant, it was absolutely brilliant...	- Positive experience of support - Lacked self belief - Help with motivation
I	Yeah... it sounds as though that gave you a lot of hope...	
P	Yeah, but I mean, don't get me wrong, a lot of tears and that when I wasn't losing weight but they were so sympathetic to you and understood your feelings and things was taken into account as well, which I thought was absolutely marvellous...I mean they told you about the loose skin and things like that you were going to have to face because now the plastic surgeons are not so keen to remove this unless there is a medical reason, so how were you going to deal with this?...well... to me I just put a jacket on over it, its only loose skin, I can deal with that... it's the fat I cant deal with...because I mean that wisnae a problem... I thought well a wee bit loose skin that's not gonna harm anybody, you can cover that up... ehm, and I mean, psychology-wise... Gill really really got you really prepared for it so that you knew exactly what was going to happen and, I mean I also had Sean and then Leanne (Dietician's) took over, and they were with me all the way, all the way through helping me with the food side of things...	- Difficult periods / struggles - Felt understood - Prepared for difficulties - Coping with effects of surgery - Importance of psychological preparation - Range of supports
I	It seems as though that's been something that you've really valued?	
P	Yeah, I mean I would recommend this weight management team to anybody because it is much better than trying to go it alone... if you have got the support of the group, yeah, it's a lot better than trying to go it alone... if you've got the willpower to do it on your own then fine, but my willpower was low, my self-esteem was low so I needed the help.	- Support a positive thing - Seeking external support
I	Okay... seems though that was really important for you to have that help there ...	
P	And as I say as for the run up for the surgery, the help was there all the way... I mean, if you had any quibs about it you just phoned up and one of them would meet up or tell you over the phone whatever you wanted answered... I really wasn't sure what help I would need before the surgery. From what I had heard prior to considering the surgery in the media, I thought I probably wouldn't need much support from anybody, but soon after my surgery I realised I needed support.... There was so much happening in my body, my mind that I wasn't sure about...even with preparation before hand. I wanted somebody there if there was a problem I could get in touch with...so I presume.... no I needed the help there, so that the information was there and the help was there if you needed it... it is important that support is available after the surgery in my eyes.	- Unsure of level of supports required prior to having surgery - Influence of media - Quick shift in views relating to support - Post surgery support essential
I	Okay, so it... that information and support was available for you...	
P	They were only a phone call away... Yeah... and it was, I was totally amazed...	- Valued support

	<p>although I was really quite hungry for a long time after the surgery, but I also had my fiancé at home.... he was weighing everything out for me and tried to help me to not eat anything I wasn't allowed to get which was absolutely brilliant.... You know things that I might not be able to eat with the band, that might get stuck.... I never really thought I would be having to think about food in this way....it was hard but my fiancé was really great... We actually call him 'Police Dietician' now because at one point I had to get Gill and Leanne to write him a letter to tell him to let me have another Wheatabix (Laughter)....he would only let me have half of one...two or three beans less as well, so yeah, I would get them to write home to him to say 'look shes allowed a wee bit more extra now...' (more laughter)... but ehm I had that support now at home as well which was absolutely great so that, I think that's what works, the support in it all was absolutely brilliant.</p>	<ul style="list-style-type: none"> <li>- Family support alongside professionals</li> <li>- Unanticipated change in relationship with food</li> <li>- Range of supports appreciated</li> </ul>
I	So that support at all levels then...	
P	<p>Uh hu you really need support at home as well, I mean, some days I mean my fiancé's gonna keep you in touch with reality... I do have a Saturday, that's my cheat day so I go down to my sisters and she'll maybe get a Chinese meal in or an Indian meal, whereas mine is just a wee tea plate and I just have a wee bit of her meal and I get a bar of chocolate on a Saturday and its really fun (laughter)...I look forward to a Saturday and then its diet all the rest of the week again... you have to keep on top of things you know, but have a life as well otherwise you would never keep it up. I came to realise that it was a lifetime change soon after my operation, which I hadn't really expected before I got the band. I somehow thought it would be for a few years then I would be able to manage myself. But the band is what helps me cope and the people around me....I think it would be really hard to cope with the band on your own....</p>	<ul style="list-style-type: none"> <li>- Family support alongside professionals</li> <li>- Life balance</li> <li>- Treating self to maintain motivation</li> <li>- Lifetime change – change in expectation</li> <li>- Band as "aid"</li> <li>- Supports essential to process</li> </ul>
I	And now, looking back having had the surgery, do you feel that having the support is something that is necessary for people?	
P	<p>Definitely... definitely... uh hu, because I mean a lot of people read these magazines, they read, they put in the good bits about the gastro band, they don't put in the work you have to do with the gastro band, its no an easy option, and its very hard because you don't have any restriction at first, you have got to be restrictive to yourself... and I mean, its up to you if you want to go through that operation and have benefit at the end of it you have to be you have to be 100% sure that's what you want to do...and I was at that stage, that's what I wanted...I wanted it more than anything else...but at the same time I still thought beforehand that the band would do a lot of the work, even with the professionals telling me I would have to do a lot of the work myself otherwise I would be unsuccessful.</p>	<ul style="list-style-type: none"> <li>- Misleading media messages</li> <li>- Personal responsibility</li> <li>- Knowing it's the right option</li> <li>- Expected band to do work despite preparation (unrealistic)</li> </ul>
<p>.....</p>		

**Appendix 2.6: Major Research Project Proposal**

*Major Research Project Proposal in part fulfilment of the Doctorate in Clinical  
Psychology qualification (University of Glasgow)*

**An exploration of obese patients' beliefs and expectations relating to bariatric  
surgery, using Thematic Analysis**

Date of Submission: 13/7/09

Matriculation Number: 0207328

Version: 7

Word Count: 3569

## **Abstract**

This study aims to explore and compare obese patients' beliefs and expectations, from before and after their bariatric surgery, specifically relating to: their views regarding the procedure; the role of the gastric band; their own role following surgery; and, the impact of the surgery, both positive and negative.

### **Participants:**

Ten to twenty patients will be interviewed 12 months (+/- 1 Month) after undergoing bariatric surgery. Prior to the main study, a pilot phase will be conducted (n=3). Participants will be purposively recruited from the Glasgow and Clyde Weight Management service, on a first come basis.

### **Method:**

Each participant will be asked to complete an in-depth interview, informed by a topic guide, in order to explore his or her beliefs and expectations about bariatric surgery.

### **Analysis:**

Qualitative data from the in-depth patient interviews will be subject to Thematic Analysis.

### **Practical Applications:**

This exploratory study will allow an initial comparison between client's beliefs and expectations before and after surgery, and investigate whether there are differences between the two stages. This information will be useful clinically, as patients' beliefs and expectation are known to affect their adherence to treatment. In addition, this may guide which supports are required at each stage, in order to maximise surgical outcome for each patient.

## **Introduction**

Bariatric surgery has become an increasingly popular weight loss intervention for individuals diagnosed as “obese” (ICD-10; WHO, 1994), for whom lifestyle approaches such as dietary and activity advice, behavioural skills training and pharmacological interventions have failed to produce significant improvements. In the past decade, a great deal of research has been published evaluating the effectiveness of such surgery, finding in most cases that surgery results in both weight loss and weight loss maintenance (Torgerson et al., 2001; Lang et al., 2002). However, obesity surgery does not only affect weight, with a number of studies finding significant improvements in quality of life in terms of mood disorders, mental well-being, health perceptions, social interaction and physical activity (De Zwann et al., 2002; Karlsson et al., 1998; Boan et al., 2004; Weiner et al., 1999). Encouraging results have been found relating to psychological morbidity, with Horzwarth et al. (2002) reporting a decrease in antidepressant use following bariatric surgery. Additionally, two further studies found reductions in psychological morbidity including depression and emotional distress (Vallis et al., 2001; Van Gemert et al., 1998). Finally, a systematic review of the psychosocial outcomes of bariatric surgery by Herpertz et al. (2003) concluded that mental health and psychosocial status improve for the majority of people after bariatric surgery resulting in improved quality of life.

The vast majority of research looking into psychological factors related to bariatric procedures has used quantitative methodology, using pre-existing validated measures taken from other health problems. Recently, however, a small number of studies have used qualitative approaches in order to explore in greater depth the experiences of patients undergoing such procedures. For example, Ogden et al. (2005) suggested that improvements in health status, following surgery, may not only be the result of the non-specific consequences of surgery brought about by weight loss. In particular, they highlighted the specific impact of the surgery itself, suggesting that bariatric surgery enforces a reduction in food intake, which subsequently alters patient’s relationship with food, helping them to re-establish a feeling of control over their eating patterns. At this time, the National Health Service (NHS) aims to empower patients, encouraging self-control and patient choice. In a further qualitative study, Ogden et al. (2006) once again provided evidence in opposition to this

perspective, as they found imposing control and limiting patient choice paradoxically resulted in a renewed sense of control in many of the patients they interviewed.

It would be anticipated that this type of surgery would have a huge impact on patients' lives, especially relating to their eating behaviour. To date, however, the results of published studies have been surprisingly inconsistent. A number have found post-surgical decreases in binge eating (Boan et al., 2004), hunger (Lang et al., 2002), and emotional eating (Horchner et al., 2002); however, other studies have proposed contradictory findings. For instance, Karlarchian et al (2002) and Saunders (2004) both revealed that pre-surgical eating patterns and problems can persist following bariatric surgery. Specifically, patients reported continued binge eating, 'grazing' or a general lack of control over the quantity they eat.

Despite the vast amount of positive research in this area, it is also often found in clinical practice that many patients continue to struggle with their weight following bariatric surgery, especially those who receive a band as opposed to a bypass. Unfortunately, the media often portrays such surgery as a "quick-fix" and society label's obese individuals as "lazy" and lacking self-discipline. This view is somewhat uninformed, as those who receive a band are required to be proactive following surgery and asked to apply many of the behavioural strategies previously attempted. In addition to this, obese individuals often find themselves needing to justify their size in order to refute suggestions of moral failure. Recently, Throsby (2007) carried out a qualitative study looking at the origins of patient's obesity. She found that individuals who had either had or were waiting for weight loss surgery, drew on three core dialogues in order to deny any idea of individual failure: (1) the fat-prone body; (2) childhood weight gain; and (3) life events disrupting weight management efforts. Obese individuals not only have to deal with their own beliefs about their weight, but also the wider communities often ignorant and cruel perceptions.

Health research has found that patients' beliefs and perceptions about their illness are key determinants of recovery (e.g. Petrie et al., 2002). In recent years, many studies investigating patients' illness beliefs or perceptions have been based on Leventhal's Self-Regulatory Model. This

starts from the premise that individuals are active problem solvers who make sense of a threat to their health by developing their own cognitive representation of the threat, which, in turn, determines how they respond. Early research identified five dimensions within the cognitive representation of illness: identity; consequences; cause; timeline; and cure or control (Leventhal, 1984). Patients' illness representations vary considerably within any illness population; they not only determine the selection of illness related behaviour but also serve as a conceptual framework for making sense of information from health care professionals and for evaluating the appropriateness and efficacy of recommended treatment or advice. Therefore, Leventhal's Self-Regulatory Model would appear a useful and appropriate theoretical framework to inform the exploration of patients' beliefs and expectations relating to bariatric surgery.

### **Aims / Objectives**

Qualitative research exploring bariatric surgery has thus far focused on patients' experiences of surgery and the impact it has had on their lives; however, there has been little consideration of patient's views prior to surgery. Therefore, this study aims to explore and compare obese patients' beliefs and expectations, from before and after their surgery, specifically relating to: their views regarding bariatric surgery; the role of the gastric band; their own role following surgery; and, the impact of the surgery, both positive and negative. Thematic analysis will be utilised in order to analyse the data (Braun and Clarke, 2006).

### **Plan of Investigation**

#### **Design**

The study will use a retrospective, qualitative design with in-depth interviews, exploring participants' beliefs and expectations from both before and after their surgery.

A follow-up methodology would have been preferable, however, with the limited time available to complete the study, this was deemed unfeasible. Subsequently, a cross-sectional approach was also considered; however, following consultation with leaders in the field of qualitative research and specifically in the area of health research (Personal Communication: Coyle, A., 2009 & Ogden, J.,

2009), it was felt that there would be many methodological issues resulting from a qualitative cross-sectional approach. Therefore, a retrospective interview design was considered the most viable option.

In choosing such an approach, it is important to acknowledge that concerns regarding the reliability of retrospective reporting have previously been noted, specifically relating to recall bias (Moss & Goldstein, 1979). As a result, longitudinal methodology has generally become the preferred method of study, as it mostly eliminates the issue of recall bias. However, numerous limitations of longitudinal research have been highlighted (e.g. practicality and doubts about representativeness). Additionally, research evidence exists to suggest that retrospective reports and autobiographical memory are not necessarily and inevitably inaccurate and unstable, especially experiences which are particularly salient for an individual (e.g. Blane, 1996; Norris et al., 1992). Therefore, considering this information, we feel confident and justified in the use of retrospective accounts given that bariatric surgery would be expected to be a highly significant event in a person's life. Additionally, given that the principal researcher observed a support groups for clients who had received this surgery in which a great deal of the dialogue consisted of clients reflecting on their views of surgery from both before and following surgery, it is not anticipated that it would be difficult to make comparisons. However, if it proved to be difficult to elicit and compare participant's beliefs and expectations from before and after their surgery, a greater exploration of other emerging themes in the study would be carried out.

### **Participants**

It is the aim of the principal researcher to interview eight to ten patients, around 12 months after undergoing bariatric surgery. The results of gastric banding are usually gradual. Thus, in light of clinical experience, a year was chosen as an appropriate time to speak to patients who have received a band, as it is thought this should be sufficient time for the gastric band to have had an effect and impact on the client's life. This should allow for useful comparisons between their beliefs and expectations before and after surgery.

### **Inclusion Criteria**

All individuals who will be invited to take part currently attend the Glasgow and Clyde Weight Management Service, Glasgow Royal Infirmary. They will therefore have completed a range of lifestyle interventions before being considered for surgery. Each participant will have been deemed suitable for surgery following: a medical review; a surgical information session; psychological assessment; and, a dietetic trial diet (over a two week period). Only participants who are around 12 months (+/- 1 month) post procedure, will be considered. Written consent will be required from all participants.

### **Exclusion Criteria**

Individuals will be excluded if they do not speak English as a first language, or are unable to give informed consent. Individuals with a severe visual or hearing impairment, which might prevent them from engaging with the research material's will also be excluded.

### **Research and Recruitment Procedures**

#### Recruitment

All patients who underwent bariatric surgery within Glasgow and Clyde Weight Management Service (GCWMS), who are roughly 12 months post procedure, will be sent an information pack detailing the purpose of the study and how they can participate. The principal researcher and the field supervisor (Consultant Clinical Psychologist for GCWMS) will both sign the recruitment information pack. Those interested in participating will be advised to contact the principal researcher directly. Participants will be purposively recruited on a first come basis and recruitment will continue until the required number of participants has been met. Informed consent will be sought if they wish to proceed.

#### Method

A topic guide, which will inform the patient interview, will be developed through discussion with the principal researcher and supervisors. It is hoped that the topic guide will help participants reflect on their pre and post beliefs and expectations about bariatric surgery. Leventhal's Self-Regulatory

Model will be used as a theoretical framework to inform the topics of discussion within the interview. This model is one of many possible frameworks that could have been consulted. However, it was felt the most appropriate framework for this area of investigation, due to the models focus on illness related behaviour, how clients make sense of health related information, and how they evaluate the efficacy of recommended treatment or advice. The topic guide will then be piloted with a subset of the sample (n=3), in order to practice interview technique and to assess the appropriateness of the topic areas. Subsequently, the interview topics will be revised according to the emerging themes in the pilot interviews.

Interviews will be conducted by the principal researcher (RS) within an available private room in GCWMS base (currently Glasgow Royal Infirmary Hospital). The aim is for interviews to last between 60 and 90 minutes. The interviews will be audio recorded and then transcribed verbatim by the principal researcher, allowing him to become familiar with the transcripts and data even before the analysis begins (Riessman, 1993; Bird, 2005). All identifying information will be removed to preserve anonymity and participants will be informed of this. The audio recordings will be stored at the research site (Glasgow Royal Infirmary). Once the transcription process has been completed and checked, each recording will be destroyed. A second researcher, experienced in the use of thematic analysis and in health related research, but who does not work with this specific client group, will conduct a second analysis of a sample of the transcripts, independently, in order to ensure reliability of the analysis and that the main themes have been recognised.

### **Settings and Equipment**

All interviews will take place within the hospital in which the participants were recruited. Allowing for initial visits to the hospital to prepare and send participant information packs, as well as the completion of the individual patient interviews, it is likely the study will involve return travel to the hospital on approximately 15 occasions.

### **Justification of Sample Size**

In accordance with qualitative methodology, the aim is to find a small homogenous sample for whom the research question was significant. There is an emphasis within qualitative methods on the use of small sample sizes (Lyons & Coyle, 2007). For example, it has been suggested that five is the minimum number of subjects required for a reasonable student project (Smith and Osborn, 2003), but that eight to twenty participants should be aimed for (Turpin et al, 1997). Smaller sample sizes allow the researcher to explore the participant's narratives in more depth allowing for a greater understanding of the participants' experiences rather than producing a 'superficial qualitative analysis' which one may get through using a larger sample size (Smith & Eatough, 2006). Given that the estimated number of subjects who will meet the inclusion criteria within the time period of the study is estimated to be around 30, it is therefore felt that having a post-surgery sample of ten to twenty, will provide an appropriate opportunity for an informative analysis. Once theoretical saturation is apparent (i.e. gathering further examples of meaningful themes as one proceeds through the transcripts until no new instances of a particular category emerge), this will serve as an indication for data collection to cease (Lyons & Coyle, 2007).

### **Data Analysis**

As mentioned, a Thematic Analysis will be carried out. This is a method of identifying, analyzing and reporting patterns (themes) within qualitative data (Braun & Clarke, 2006). The transcripts will be read by the principal researcher and a random selection will be re-read by a second researcher to ensure familiarity with the data and reliability of the themes identified. For each interview a coding sheet will be constructed, following repeated reading of the data. This sheet will contain all possible themes and sub-themes for each interview. From the individual summary sheets, an overall list of themes will be constructed. With continuous reference to the transcripts, themes will be refined and connections across the list of themes will be made.

Thematic analysis was chosen as it is a highly flexible approach that can be used across a range of epistemologies and research questions. It helps to usefully summarise key features of a large body of data in rich detail, highlighting similarities and differences across the data set. It also provides a

platform for a clear and transparent definition of the theoretical position a study is taking in its approach to analyzing its data (Braun & Clarke, 2006).

With regards to the present study, an inductive, semantic and realist approach to thematic analysis will be carried out. Firstly, an inductive or ‘bottom-up’ approach means that the themes identified are strongly linked to the data themselves. The themes identified may bear little relation to the specific questions asked and will not be driven by the researchers theoretical interests in the area or topic. In this sense, this form of thematic analysis is data-driven. The analysis takes a similar approach to exploring participant’s views as in Interpretative Phenomenological Analysis (IPA) (Smith and Osborn, 2003). The approach is phenomenological in that it is concerned with an individual’s personal perception/account of an event as opposed to an attempt to produce an objective account of the event itself (Smith, 1996; Murray & Chamberlain, 1999). One is striving to get close to the participant’s personal world, however, it is important to note that this process is complicated by the researchers own conceptions, which in IPA are required in order to make sense of participant’s perceptions through a process of interpretative activity (Murray & Chamberlain, 1999; Lyons & Coyle, 2007).

Secondly, with a semantic approach, the themes are identified within the explicit or surface meanings of the data and the analyst is not looking for anything beyond what a participant has said or what has been written (Braun & Clarke, 2006). Ideally, the analytic process involves a progression from description, where the data have simply been organized to illustrate patterns in semantic content, and summarized, to interpretation, where there is an attempt to theorise the significance of the patterns and their broader meanings and implications.

Finally, utilizing a realist approach will allow the researchers to theorise motivations, experience, and meaning in a straightforward way, since a simple, unidirectional relationship is assumed between meaning, experience and language (i.e. language reflects and enables us to articulate meaning and experience) (Braun & Clarke, 2006). Taken as a whole, this will enable a rich analysis

of the individual's own experience and the ways in which they derive meaning from this experience, whilst acknowledging the role of the researcher's own perspective.

### **Health and Safety Issues**

#### **Researcher safety issues**

Interviews will be conducted in a private room within the Glasgow and Clyde Weight Management Service, Glasgow Royal Infirmary. Interviews will take place within normal working hours and will comply with standard safety procedures. When participants are being interviewed, hospital staff will be in an adjacent room(s). No domiciliary visits will be conducted.

#### **Participant safety issues**

Confidentiality will be explained to participants at the outset and an opportunity will be given to ask questions. If any participant makes a disclosure suggesting that they themselves or others are at risk we will act professionally and appropriately, respecting limits to confidentiality. If any participant is deemed in need of medical or psychological input, this would be discussed with the participant and the researcher will recommend that the appropriate figure at the hospital contact the person's GP.

### **Ethical Issues**

Patients will not be coerced into taking part and will have the option to decline or withdraw without detriment or antagonism, particularly relating to their ongoing treatment. Standardised written information will be provided to every patient. It will be explained to the patient that their responses are confidential and will not influence their future treatment in any way. Written consent will be sought from all participants. Data will be handled in accordance with the Data Protection Act and other guidance mentioned in NHS guidelines. All identifying information will be removed to preserve anonymity. Audio recordings will be stored at the research site (Glasgow Royal Infirmary) until the transcription process has been completed, when each recording will then be destroyed.

### **Ethical Approval and Management Submissions**

Approval will first be sought from the Glasgow and Clyde Weight Management Service research leads/heads, followed by the Glasgow Royal Infirmary Research Ethics Committee and Research and Development Department.

### **Financial Issues**

- Paper, labels, envelopes, postage and photocopying = £39.10
- Digital Voice Recorder = £0.00 (No cost) – to be borrowed from Department of Psychological Medicine, University of Glasgow.
  - **Total cost = £39.10**

### **Timescale**

May 2009:	Submit proposal to University
June/July 2009:	Proposal assessed
Aug/Sept 2009:	Apply for ethical approval
October 2009:	Begin recruitment
Feb/March 2010:	Analysis
April-June 2010:	Write up research
July 2010:	Submit research to University
September 2010:	Viva

### **Practical Applications**

Thus far, there is a void in research considering patients views prior to bariatric surgery and this study hopes to provide an initial exploration into obese patients' beliefs and expectations about the role of bariatric surgery and their own role following surgery. Importantly, this study will allow an exploration of client's beliefs and expectations before and after surgery, and whether there are differences between the two stages. This information will be useful clinically, as patients' beliefs and expectation are known to affect their adherence to treatment. This may then highlight areas that require further intervention to maximise surgical outcome for each patient, both prior to and following surgery. Specifically, it may raise issues that affect each client's ability to adhere to the

limitations imposed by the band regarding their food intake. During the initial set up process of this research proposal, the principle researcher was fortunate to meet with many of staff from the Glasgow Weight Management team and a number of service users, at a support group for those with gastric bands. It was clear from these discussions that there is a great deal of enthusiasm and stakeholder interest in research relating to gastric band surgery.

## References

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