

Original article

# Unrealistic weight loss expectations in candidates for bariatric surgery

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## Abstract

**Background:** Unrealistic expectations of weight loss are prevalent in obese patients and can negatively affect their adherence to dietary and health goals. We sought to examine the expectations and perceived notions about weight loss in candidates for bariatric surgery.

**Methods:** A total of 284 consecutive and prospective bariatric patients were surveyed using a validated Goals and Relative Weights questionnaire before an educational seminar. The participants categorized their weight loss expectations as “dream,” “happy,” “acceptable,” and “disappointed” and rated the effect of surgically-induced weight loss on 21 indicators of health, quality of life, social functioning, and self-image on a 1–10 scale. The data are presented as the mean  $\pm$  standard deviation.

**Results:** Of the 284 patients, 230 were women and 54 were men (age  $45 \pm 10$  years; body mass index  $50 \pm 8$  kg/m<sup>2</sup>). These patients stated that their “dream” weight would be  $89\% \pm 8\%$  excess body weight loss and that  $77\% \pm 9\%$ ,  $67\% \pm 10\%$ ,  $49\% \pm 14\%$  excess body weight loss would be their “happy,” “acceptable,” and “disappointed” weight, respectively. Participants ranked health, fitness, body image, work performance, and self-confidence as the most important benefits of bariatric surgery. Women had greater “happy” and “acceptable” weight loss expectations and put more emphasis on physical presence ( $r = .17-.33$ ,  $P < .01$ ). Younger patients put more emphasis on attractiveness and improvements in social and sex life after bariatric surgery ( $r = .15-.19$ ,  $P < .01$ ).

**Conclusion:** The results of our study have shown that although the candidates for bariatric surgery understand its benefits, they have unrealistic expectations of weight loss. In our study, the patients’ most modest weight loss expectation, the “disappointed” weight, was equivalent to what providers would consider a successful weight loss outcome after bariatric surgery. Setting realistic expectations is an important aspect of the preoperative evaluation and education, especially for younger women. (Surg Obes Relat Dis 2008;4:6–10.) © 2008 American Society for Metabolic and Bariatric Surgery. All rights reserved.

**Keywords:** Weight loss expectations, Morbid obesity, Gastric bypass, Bariatric surgery

Bariatric surgery has become the treatment choice for patients with clinically significant obesity who want to achieve and sustain significant weight loss and amelioration of the medical and psychological co-morbidities of obesity

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[1,2]. Roux-en-Y gastric bypass is the most commonly used operation for clinically significant obesity in North America and is associated with sustainable and durable weight loss [3]. Adjustable gastric banding has been gaining more popularity because of its low perioperative morbidity.

Despite the significant benefits of bariatric surgery, the variability in the delivery of care and patient outcomes is wide. Because of the major lifestyle changes that bariatric surgery patients face, significant effort has been made to examine the medical, surgical, psychosocial, psychiatric, and behavioral factors that might be predictive of the post-operative outcomes. However, consistent predictors, partic-

ularly psychosocial, behavioral, and psychiatric variables, have remained elusive. Moreover, patient expectations regarding weight loss, the effect of bariatric surgery on their lives, and the link between patient's preoperative expectations and the perception of postoperative outcome have received relatively little attention.

The lessons learned from nonoperative weight loss programs have demonstrated that unrealistic expectations of weight loss are pervasive and are potentially linked with poor long-term outcomes [4,5]. More importantly, unrealistic expectations can lead to the abandonment of goals and decreased performance with regard to goal attainment [4]. Additionally, behavior is significantly affected by expectations according to the self-efficacy theory [6,7]. It is expected that candidates for bariatric surgery will exhibit similarly unrealistic expectations of weight loss, as well as how the resultant weight loss might affect their lives.

Emerging research with surgical weight loss patients and weight loss expectations has indicated findings similar to those with the nonoperative weight loss population in that bariatric patients have generally unrealistic weight loss expectations [8–11]. However, despite exhibiting unrealistic weight loss expectations, it appears that the little evidence that does exist is equivocal regarding the effect of these expectations on outcome. Specifically, White *et al.* has demonstrated that, at least in the first postoperative year, unrealistic weight loss expectations were not associated with any negative outcomes [8]. In consideration of the centrality of patient expectations and the obvious link between patient satisfaction and expectations, we sought to examine the weight loss expectations of candidates for bariatric surgery and the factors that determined patients' perception of what would constitute a successful outcome.

## Methods

The institutional review board at the University of South Florida Health Science Center approved this study, which was conducted in compliance with Health Insurance Portability and Accountability Act guidelines and regulations.

### Patient population

Data were collected prospectively for 284 consecutive patients who attended an educational session for bariatric surgery (gastric bypass and adjustable gastric banding) from May 2005 to December 2005. All patients were surveyed before the start of the session using a validated Goals and Relative Weights questionnaire (GRWQ) [5]. An attending bariatric surgeon and the bariatric coordinator facilitated the session and described the surgical procedures, risks, preoperative evaluation, postoperative diet and lifestyle changes, follow-up care, and typical weight loss.

Table 1  
Weight loss expectations

Expectation	Description
Dream weight	"A weight you would choose if you could weigh whatever you wanted"
Happy weight	"This weight is not as ideal as the first one. It is a weight, however, that you would be happy to achieve"
Acceptable weight	"A weight that you would not be particularly happy with, but one that you could accept, since it is less than your current weight"
Disappointed weight	"A weight that is less than your current weight, but one that you could not view as successful in any way. You would be disappointed if this were your final weight after the program"

### Goals and Relative Weights questionnaire

The GRWQ was developed and validated to assess the weight loss expectations of obese patients seeking nonoperative weight loss treatment [5]. The GRWQ is divided into 2 sections. The first assesses patients' weight loss expectations along 4 categories "dream," "happy," "acceptable," and "disappointed" by asking participants to assign a numeric value in pounds to each of the 4 categories (Table 1). The second section assesses the expected effect of weight loss on 21 indicators related to health, quality of life, social functioning, aesthetic features, and self-image on a 1–10 Likert scale (1, extremely negative to 10, extremely positive). Those indicators are health, social life, sex life, work performance (inside or outside of house), attractiveness to spouse or significant other, physical presence, others' perception of participant's competence, comfort in social situations with strangers, assertiveness, likeability, ability to physically defend yourself, physical strength, comfort at family gatherings, fitness, stress, anxiety, depression, self-confidence, attention from others, sexual attention/interest from others (not including your spouse/significant other), and body image. Appropriate modification of language in the GRWQ was made to fit the candidates for bariatric surgery.

One additional item was added to the original GRWQ to ask patients to identify the "single most important thing in your life that you expect to change as a result of weight loss surgery" from the following list: (1) improved overall medical condition, (2) decreased chronic pain, (3) increased mobility and activity level, (4) improved quality of life, (5) improved self-esteem, (6) improved interpersonal relationships (social, family, romantic), (7) improved occupational life, and (8) all of the above.

### Psychometrics

Foster *et al.* [5] normed the measure on obese patients seeking nonoperative weight loss treatment and reported

satisfactory reliability coefficients for the GRWQ, with test-retest reliability coefficients for the 4 weight loss categories of  $r > .96$  ( $P < .0001$ ) for all, and  $r = .60-.82$  ( $P < .001$ ) for the 21 factors affected by weight loss [5].

### Statistical analysis

The mean values of the parametric continuous data were calculated and are reported as the mean  $\pm$  standard deviation. Pearson correlations were conducted to assess the levels of the associations between the specific weight loss expectations and the 21 quality-of-life factors, with  $P < .05$  considered significant.

## Results

### Weight loss expectations

The 284 patients (230 women and 54 men; age  $45 \pm 10$  years; body mass index [BMI]  $50 \pm 8$  kg/m<sup>2</sup>, 100% response rate) stated that their “dream” weight would be  $89\% \pm 8\%$  excess body weight loss (EBWL), and that  $77\% \pm 9\%$ ,  $67\% \pm 10\%$ , and  $49\% \pm 14\%$  EBWL would be their “happy,” “acceptable,” and “disappointed” weight, respectively (Fig. 1).

### Gender versus expectations

Women had greater “happy” ( $r = .17$ ,  $P < .01$ ) and “acceptable” ( $r = .19$ ,  $P < .01$ ) weight loss expectations than did the men. Women expected weight loss to have the most positive effect on social and physical attributes: assertiveness ( $P < .01$ ), likeability ( $P < .05$ ), attention from others ( $P < .01$ ), others’ perception of participant’s competence ( $P < .05$ ), physical defense ( $P < .01$ ), and physical strength ( $P < .01$ ).

### Age versus expectations

Younger patients had greater BMIs ( $r = .12$ ,  $P < .05$ ). Younger patients also expected weight loss to have the most positive effect on social aspects: social life ( $P < .01$ ), sex life ( $P < .01$ ), and sexual attention from others ( $P < .05$ ).

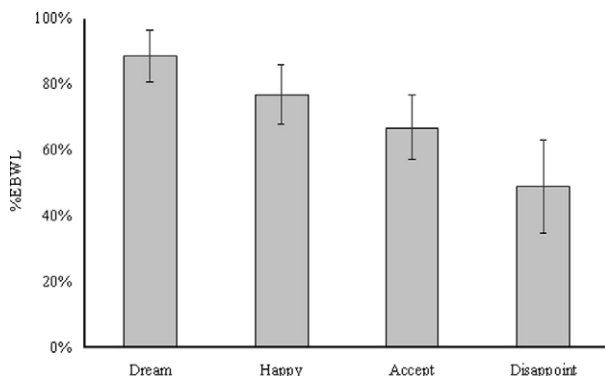


Fig. 1. Weight loss expectations of 284 prospective bariatric patients: Accept = acceptable; Disappoint = disappointed.

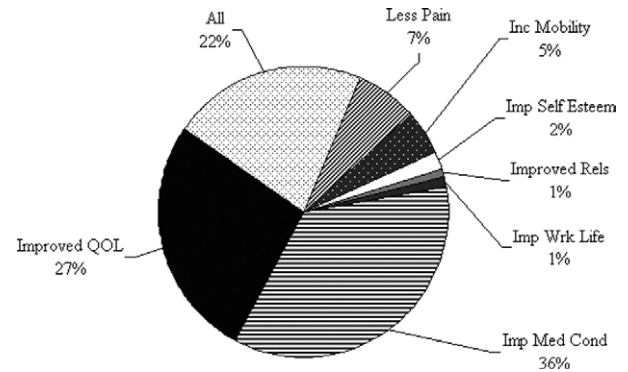


Fig. 2. Benefits of bariatric surgery as reported by 284 prospective bariatric patients. Imp Med Condition = improved overall medical condition; Imp QOL = improved overall quality of life; Less Pain = less pain; Inc Mobility = increased mobility; Imp Self Esteem = improved self esteem; Improved Rels = improved relationships; Imp Wrk Life = improved work life; All = all of the above.

### BMI versus expectations

A greater BMI was associated with greater “acceptable” ( $r = .13$ ,  $P < .05$ ) and “disappointed” ( $r = .13$ ,  $P < .05$ ) weight loss expectations. Patients with a greater BMI expected weight loss to have the most positive effect on the following (in descending order of association): work performance ( $r = .18$ ), depression ( $r = .16$ ), and likeability ( $r = .15$ ; all  $P < .01$ ), followed by anxiety ( $r = .13$ ), social life ( $r = .13$ ), ability to physically defend oneself ( $r = .13$ ), assertiveness ( $r = .12$ ), stress ( $r = .12$ ), and physical presence ( $r = .12$ ; all  $P < .05$ ).

### Benefits of bariatric surgery

The participants indicated the following benefits of bariatric surgery to be of greatest importance: improved medical condition (36%), improved quality of life (27%), “all of the above” (22%), less pain (6%), increased mobility (5%), improved self-esteem (2%), improved relations (1%), and improved work life (1%; Fig. 2).

## Discussion

The results of this study have confirmed that candidates for bariatric surgery have unrealistic weight loss expectations. The most modest weight loss expectation, the “disappointed” weight was  $49\% \pm 14\%$  EBWL according to the participants, within the range of what most bariatric surgeons consider a successful weight loss outcome after bariatric surgery.

Although these candidates for bariatric surgery exhibited unrealistic weight loss expectations, they were well-informed of the benefits of surgically induced weight loss and its effect on their quality of life. However, the question remains as to whether the salutary effects of weight loss are considered sufficient for all patients to sustain

health-promoting behaviors in the long term. The only study we could find to date that specifically addressed patients' expectations of surgically induced weight loss and the effects on multiple quality-of-life factors confirmed that patients generally believed that physical benefits, social relationships, and mood improved as a result of weight loss [10]. However, that study was limited by its retrospective design, use of mailed questionnaires, and a 47.9% response rate, making the potential for selection bias great.

Our data have confirmed the findings from the nonoperative weight loss data. Foster et al. [4,5] have clearly shown that participants in nonoperative weight loss programs have equally unrealistic expectations of weight loss. They reported that nearly one half (47%) of the study participants did not meet even their "disappointed" weight after a 48-week structured behavioral weight loss program [5]. Participants rated their actual weight loss at the end of the 48-week program more positively than they had anticipated because of improvements in physical and psychosocial benefits; however, they remained dissatisfied with their degree of weight loss.

The few studies that have examined the weight loss expectations of surgical weight loss patients have found similar results. A study of a smaller cohort of 44 bariatric surgery patients found that patients expected to lose 81% EBWL, and that patients would be dissatisfied if they did not reach at least a 52% EBWL [11]. Another recent study of 139 gastric bypass patients found that weight loss expectations averaged a 35% total body weight reduction [8]. However, at least at the 12-month follow-up visit, the unrealistic weight loss expectations were not predictive of less weight loss, and a modestly statistically significant finding was found that more unrealistic weight loss expectations were actually associated with greater weight loss. However, the more unrealistic weight loss expectations were associated with lower self-esteem at the 12-month follow-up visit. The investigators admitted that "the clinical significance of these unrealistic goals remains unclear" [8].

Our data have indicated that aesthetic, relational, and physical comfort features are among the most important benefits of weight loss for bariatric surgery candidates. Although most of our cohort indicated that improved health conditions and improved quality of life were the most important aspects that they expected to have improve as a result of surgically induced weight loss, those very same patients went on to rate aesthetic, social, and physical comfort features as their primary concerns. These results are consistent with the findings in the surgical and nonoperative weight loss populations, suggesting that despite significant health improvements, patients continue to be disappointed if their weight loss expectations and changes in appearance and physical comfort are not achieved [4,5,11,12]. Additionally, our data suggest that younger women with a greater BMI are at the greatest risk of exhibiting the most unrealistic weight loss expectations and placing primary impor-

tance on physical and social features and lesser importance on the medical and health benefits of weight loss. One recent report has corroborated this finding, indicating that women with a greater BMI have more unrealistic expectations of surgically induced weight loss [9].

Our concerns about unrealistic weight loss expectations in bariatric surgery patients stems from the findings that expectations are linked to motivation and compliance, particularly long-term compliance with health-promoting behaviors. These concerns have been substantiated by our understanding of research in the self-efficacy theory and health-promoting behavior [5,7]. In a large-scale analysis of 1785 obese nonoperative weight loss patients who were surveyed from 23 medical centers in Italy in 2005, the investigators found a high rate of attrition (>50%) from the weight loss programs at 1 year of follow-up [13]. The single most significant predictor of attrition was unrealistic weight loss expectations [13]. In addition, our findings that indicate a high association between unrealistic weight loss expectations and more emphasis on social quality-of-life factors are of concern because of those findings in the nonsurgical weight loss field that indicate ongoing disappointment with successful weight loss if these quality-of-life factors do not also change [4,5,12]. These findings highlight the critical importance of addressing the unrealistic expectations of weight loss in prospective bariatric patients.

This study had some limitations because of its observational design, nonrandom assignment, and lack of a control group. Also, the candidates received an informational booklet before the educational session, which could have influenced their responses about their improvement in medical co-morbidities and quality of life. Future studies of patients' expectations would benefit from using prospective designs, including control groups and before and after tests.

Moreover, future longitudinal research is needed to assess the relationship between weight loss expectations, global quality-of-life expectations, and the relationship between these expectations and long-term compliance and outcomes. It seems quite possible that unrealistic weight loss and quality-of-life expectations, and the subsequent potential for disappointment, could exhibit their influence over the very long term, years after surgery.

As a result of our data and findings, we have implemented a comprehensive educational component related to realistic expectations with weight loss and the effect that weight loss can have on the medical, psychosocial, and quality of life for patients postoperatively. Patients in our program receive extensive written information that discusses expected weight loss from bariatric procedures, attend an orientation session where this information is discussed, undergo a comprehensive evaluation with a bariatrician, dietician, and psychologist where this information is reiterated, and finally discuss their weight loss expectations with the bariatric surgeons. During each of these

encounters, a consistent message of realistic expectations is delivered to the prospective patients.

Simply providing education does not in itself lead to changes in expectations and behavior. Recent research has shown that just educating patients before nonoperative weight loss programs about the expected weight loss has not significantly changed patients' unrealistic expectations or rates of attrition [14]. However, motivational interviewing has shown promise in decreasing unrealistic expectations and improving retention in weight loss programs [15].

## Conclusion

The results of our study have shown that candidates for bariatric surgery understand its benefits but have unrealistic expectations of weight loss. The most modest weight loss expectation, the "disappointed" weight, was equivalent to what would be considered a successful weight loss outcome for bariatric surgery. Setting realistic expectations is an important aspect of the preoperative evaluation and education process.

## Disclosures

*The authors have no commercial associations that might be a conflict of interest in relation to this article.*

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