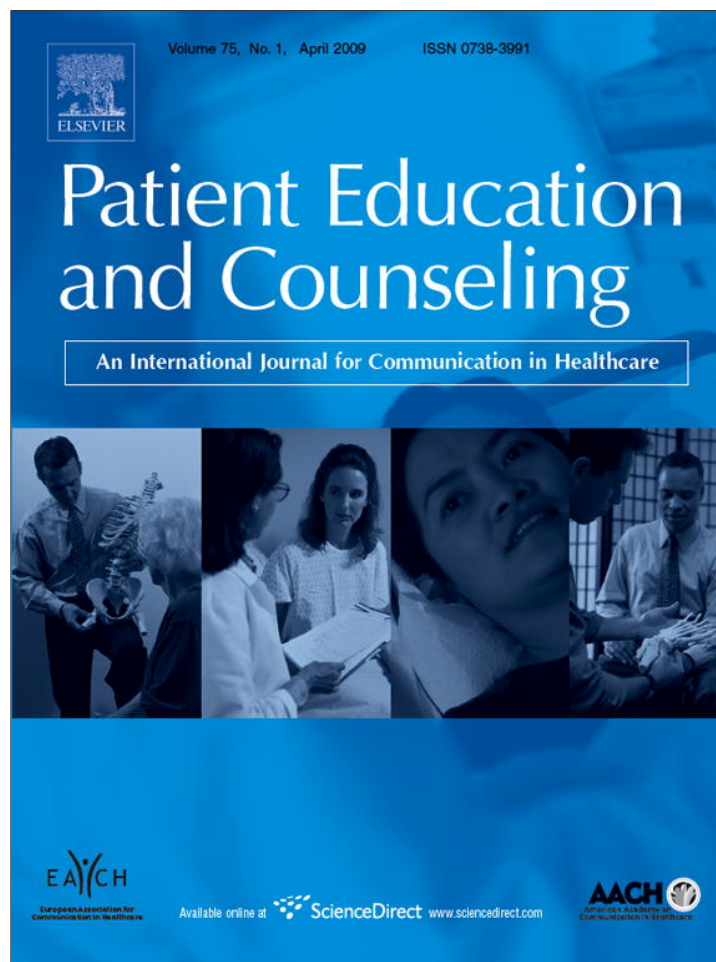


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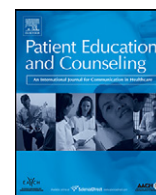
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Patient Education and Counseling

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Patient Perception, Preference and Participation

Patients' explanations for unsuccessful weight loss after laparoscopic adjustable gastric banding (LAGB)

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ARTICLE INFO

Article history:

Received 10 October 2007

Received in revised form 17 September 2008

Accepted 17 September 2008

Keywords:

Morbid obesity
 Bariatric surgery
 Gastric banding
 Body mass index
 Quality of life
 Self-regulation

ABSTRACT

Objective: Not all morbidly obese patients attain sufficient weight loss after laparoscopic adjustable gastric banding (LAGB). We examined patients' explanations for unsuccessful weight loss and self-awareness regarding food intake.

Methods: Interviews with 11 patients (10 female/1 male; mean age 46 years) with unsuccessful weight loss were transcribed and analyzed with the MAXqda2 program.

Results: Interviewees were disappointed with the postoperative outcome. Some showed no awareness of their own role, while others were inefficient to continue the actions needed to maintain weight loss, especially during times of stress. Typical statements that distinguished interviewees were: 'It didn't work out', 'I don't care anymore', 'I know I have to do it', 'I know I can do it'.

Conclusion: Some patients with unsuccessful weight loss after LAGB are insufficiently aware that their own effort is needed to maintain weight loss. Others have self-awareness, but find it difficult to turn awareness into action.

Practice implications: This group could perhaps be helped by tailoring postoperative guidance to the stage of change of an individual patient. Counseling could include increasing awareness of the need to self-control eating and offering assistance to turn intentions into action and to deal with stress, emotions and physical problems.

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1. Introduction

Morbid obesity, a body mass index (BMI) of more than 40 kg/m², is a life-threatening condition with significant co-morbidity [1] and severely reduced quality of life [2]. Bariatric surgery generally results in dramatic reduction of weight and obesity-related morbidity [3,4], improvement of functioning and quality of life [5–7], and a change in patients' relationship with food and perception of control over eating [8]. Although most patients benefit from bariatric surgery, not all patients achieve a successful weight outcome. Our study focuses on patients' explanations for lack of success.

The outcome of restrictive types of bariatric surgery such as laparoscopic adjustable gastric banding (LAGB) depends on the

degree to which the patient succeeds in adopting healthy and enduring dietary changes. These changes are intertwined with beliefs about one's capability to control eating and obesity [9,10]. Paradoxically, patients with successful weight loss after LAGB, described feeling better able to self-manage their weight after relinquishing control to the gastric band [11]. However, anxiety may arise after surgery and skills related to dealing with emotions may change [12]. Emotions and poor stress management can hinder the control of food [11,13,14]. To be able to help patients with an unsatisfactory outcome after LAGB, it is important to gain insight into the patients' awareness of their own role in controlling food intake and into the patients' self-efficacy (one's self-perceived capability to accomplish a desired effect such as to regulate one's eating behavior) [15]. Both 'being aware of one's own role in controlling food intake' and 'being capable to control food intake' are considered important aspects of self-regulation and are related to changes in health behavior [16]. An influential theory of health behavior is the stages of change model that describes the modification of health

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behavior as a cyclical progression through six stages with frequent relapses [17].

Patients who achieve insufficient weight loss after bariatric surgery have been studied as part of the whole, mostly successful group that underwent an operation [5,8,10–12]. Our qualitative study is unique, because the voices of the unsuccessful patients after LAGB are heard. They tell us about their unsuccessful outcome in relation to expectations of the operation and experiences afterwards. Our particular aim was to examine patients' explanations for unsuccessful weight loss with particular emphasis on awareness of their own role in controlling food intake and on self-efficacy.

2. Methods

2.1. Sample

Between May 2000 and July 2003, 110 patients underwent a LAGB procedure [18] at the St. Antonius Hospital Nieuwegein, the Netherlands, using the Lap-Band system (INAMED Health, Santa Barbara, CA, USA). Surgical indications were a BMI ≥ 40 or a BMI between 35 and 40 with serious co-morbidity. Postoperatively, patients visited a nurse for medical and weight assessment and a dietician for diet education.

Unsuccessful weight loss was defined as a BMI ≥ 40 and less than 10 BMI points weight loss at the time of the interview and 2 years after the operation when transition from weight loss to weight maintenance had occurred [19,20]. Of the 24 LAGB patients who fulfilled these criteria (22%), 6 already had gastric bypass surgery and were excluded, leaving 18 evaluable patients of whom 12 were randomly selected and invited to participate. Eleven agreed and were interviewed 2–5 years postoperatively (10 female, 1 male; mean age 46 years (range 30–61); mean preoperative BMI 50 kg/m² [range 46–54]; mean BMI 2 years postoperative 46 kg/m² [range 41–52]). The characteristics of the initial population of 110 patients were: 99 female (90%) and 11 men, mean age 43 years (range 26–63); mean preoperative BMI 47 kg/m² [range 37–61]; mean BMI 2 years postoperative 36 kg/m² [range 23–59].

The study protocol was approved by the research and ethics committee of the St. Antonius Hospital Nieuwegein and informed consent was obtained.

2.2. Data collection and analysis

An interpretive methodology was chosen that emphasized the participant's perspective [21]. Semi-structured interviews collected detailed information on the participants' views and behavior. Constant comparison within and between interviews was used to analyze the data. The interviews were carefully coded to preserve the meaning of participants.

The interviews that lasted between 1 and 1.5 h were tape-recorded and fully transcribed. Interviewees were encouraged to speak freely about themes such as the origin of their obesity, their motivation for and expectations before the operation, their experience with their past and current eating, the received social support, and expectations of future weight loss.

In qualitative data analysis, the data were disassembled into categories, examined for patterns and relationships and reassembled to provide an interpretation and explanation of the research questions. To realize this, three types of coding were used: open coding, axial coding and selective coding. Data collection and data analysis were alternated in order to utilize emerging ideas from earlier interviews in later ones.

Open coding began with the first interviews. The interviews were read and categorized. The categories were labeled with

relevant headings or codes [22]. Some of the categories were anticipated and clearly informed by the literature, like 'control', 'weight cycling', and 'expectations of the operation'. Others were derived from the data, such as 'vicious circle', 'setbacks', 'disappointment', 'guzzling', and 'testing the limits'.

Axial coding started after completion of additional interviews when we began to grasp the subject of study. The categories were further organized and main categories were distinguished from subcategories. For instance, the main category 'life before LAGB' included 'childhood experiences', 'comforting', 'first explanations', 'vicious circle' and 'unsuccessful dieting', and the category 'vicious circle' was constituted of the related categories 'psychological problems', 'health problems', 'overweight' and 'eating behavior'.

Selective coding took place after all interviews were conducted. A typology could be construed distinguishing participants with respect to three main categories: 'awareness of control', 'expectations of health behavior' and 'prospects'. We used quotes from the interviewees to summarize the core of a distinct type, such as 'It didn't work out' and 'I know I can do it'.

MAXqda2, a software package for qualitative data analysis [23], assisted in coding the data and retrieving text segments that were assigned a code later on. The researchers analyzed the data interdependently and compared and discussed the interpretations in order to prevent selective perception and interpretive bias [24].

3. Results

3.1. Being overweight as a youngster

All interviewees had experienced problems with excess weight for 20–40 years. Some attributed their weight gain to pregnancy or oral contraceptives. Several claimed to have been overweight since childhood. Some started dieting at a very young age.

The participants who remembered themselves as overweight children mentioned that weight problems ran in the family. While some believed that their obesity was hereditary, some felt that most family members were overweight because of similar cooking habits and diet. Several participants intended not to become like 'them' only to observe that they subsequently had.

3.2. Explanations for gaining weight

Generally, study participants viewed their obesity as inseparable from their overall physical and mental health status. Ailments that decreased physical activity were seen as particularly detrimental to establishing and maintaining weight loss. Ann, who was injured in an automobile accident, shared the following:

'I had to stay at home for eighteen months because of chronic whiplash. Instead of working full-time, I was inactive. That's when I started eating because of my feelings. I gained 70 kilograms [...] because of emotions and physical inactivity.'

The automobile accident left her immobile and unable to work. A cycle of inactivity compounded by frustration and emotional distress contributed to the development of new health problems such as respiratory difficulties, fatigue, and back and joint pain.

Participants frequently attributed the reason for their weight gain to an emotional setback such as bereavement or divorce that was said to cause anxiety, depression and isolation. Five participants obtained help from a psychologist. It is well documented [5], and confirmed by our study participants, that being overweight can increase mental problems, social isolation, and

feelings of shame. Physical activity was reduced in cases of social isolation and feelings of shame. Stressful life events and mental health problems triggered unhealthy food intake. Overeating was a common strategy for coping with difficult emotions. For Clara it began in childhood:

'When I was young, I comforted myself by eating. That's about it. In times of stress, I ate everything I could lay my hands on: dry cornflakes, dry muesli and when there was nothing else at home, even dry bread. Whenever I was having a rough time.'

This pattern of eating when feeling down was intensified when she entered into an unhappy marriage and had children at a young age:

'It turned out that I had to support my husband more than he could support me. And I ate away all this misery. I hardly express myself. I cannot put it into words, but then I feel ignored and disappointed. And sad and rebellious. And I stuff my anger with food.'

Deborah became pregnant when she was a teenager. When shortly after her pregnancy, three close family members died, in order to cope she kept on eating and gained 70 kg. At that time she had a very low level of physical exercise because of chronic back pain. The interviewees comforted themselves with food and entered a vicious circle of excess weight and health and emotional problems. None of them experienced control over their psychological problems.

3.3. A history of unsuccessful dieting

When asked why they wanted to lose weight, patients indicated that they wanted to achieve improved health, well-being, and functioning. All but one interviewee had dieted intensively. After years of ineffective dieting, the LAGB seemed to be a procedure that would physically support them to finally and definitely restrict their food intake. Although some had reservations, the expectations of LAGB were high. Their own role in eating after the operation seemed undervalued as they believed that the gastric band would curb their eating and do the dieting for them:

'I expected that it would be easier to choose what to eat; that I would be able to choose the sandwich instead of the chocolate, cookie, crisps, etc. I thought I would manage this easily and that in the next year I would lose thirty kilograms. That it would work out that way...' (Wendy)

3.4. Testing the limits of the gastric band

After the first postoperative weeks, when all interviewees quickly lost weight due to a liquid diet, patients discovered that they could eat only small amounts. Most felt hungry soon after completing a meal, solid food was problematic and, when the limits were exceeded, it could lodge in the gullet, causing pain and possible vomiting. The gastric band prevented the ability to eat excessive amounts and to eat quickly, as Clara said:

'The gastric band prevents bingeing, eating too fast, and guzzling. It stops you going on and on with eating. You just cannot go on and on, that will not do. You will get sick and feel terrible.'

Participants often felt tempted to substitute meat, bread, vegetables, and fruit for sweets and tastier snacks that passed the gastric band more easily, especially when they experienced distress, loneliness or failure. Binge eating, a breakdown in the control of eating, is an important feature of the morbidly obese

[25–27]. More than half of the participants indulged in periods of overeating. None of them abandoned 'unhealthy' food altogether. Eating was part of a complex behavior pattern that reflected a lack of synchronicity between the intention to eat moderately and the transformation of this intention into action, as Francis explained:

'The scales show weight gain. On the one hand I don't care, but on the other hand I think 'damn'. This often happens on a Thursday, and at that moment I plan to start again on Monday. In this way I allow myself to eat through the weekend. On Thursdays I start eating extra huge portions. And when Monday comes, I think now I'm going to try and do my very best. But I start out wrongly'.

All interviewees were disappointed with the outcome of the gastric band. For three the only consolation was that it could have been worse. Three others anticipated gastric bypass surgery. Disappointment stemmed from the belief that too much food could pass the band, as Simon expressed:

'The gastric band should have been made tighter right away. A friend of mine had this operation and his band was tighter. He is just unable to eat much. I have seen him puking. He weighed one hundred and forty kilograms and lost about forty kilograms.'

When the band stretched, larger portions of food could pass the gastric band. Instead of asking the surgeon to tighten the band, the limit of the band was tested by trying what, how much, how often and how fast they could eat. Three participants failed to realize that the gastric band could help them, but eight became aware of the influence of the band on their eating behavior:

'Now I have more control over how I eat meals and sweets. I think I am stronger now, and somewhat older. It is not the gastric band, because all the others talk about puking, and I do not have that. I can eat a lot, but now I have the right attitude.' (Clara)

After the operation, all participants engaged in some form of exercise. However, these efforts were mostly short-lived. Four persons stopped due to physical hindrances. Others stopped because they did not enjoy it and were disappointed with the results. Three stopped due to serious life events such as illness, although they resumed their efforts as soon as they could.

The participants attended hospital every few months. Support was derived from sharing experiences with fellow sufferers. Although satisfied with the medical guidance, nine considered dietary guidance insufficient. Two valued the dietician's role only after realizing that the outcome did depend on their diet:

'Everyone knows what healthy food is, but you have to do the eating yourself. That's why I stopped visiting the dietician. Perhaps I was stupid.' (Francis)

To summarize, participants hoped and expected that the gastric band would do the work for them; that it would prevent them from overeating. Their own efforts, i.e. changing their eating patterns or asking for the band to be tightened, were poorly understood. The idea that the operation had not the desired effect was disappointing.

3.5. Patterns of adjusting to LAGB

Eight interviewees realized that they exercised control over their weight after the operation, whereas three did not. None of them could turn awareness into behavior, although three tried.

Table 1
Patterns of adjustment in 11 patients after laparoscopic adjustable gastric banding.

Criteria to distinguish patients	Patterns of adjustment			
	It didn't work out (<i>n</i> = 3)	I don't care anymore (<i>n</i> = 1)	I know I have to do it (<i>n</i> = 4)	I know I can do it (<i>n</i> = 3)
Awareness of control	No	Neutral	Yes	Yes
Expectations of health behavior eating physical exercise support	No No real change Not appropriate Unhelpful	No No dieting No efforts No	Yes Adjustment required Find appropriate Worthwhile	Yes Adjusted Appropriate Useful
Prospects	Medical intervention (i.e. gastric bypass)	Acceptance of overweight	Uncertain, action plans required	Uncertain, positive reinforcement
Stage of Change	Precontemplation	Precontemplation	Contemplation	Action with frequent relapse to Preparation

Participant's expectations differed with respect to future weight loss and their ability to maintain health behavior.

Analysis of the interviews revealed four patterns (Table 1), which we matched with the stages of change model that describes the modification of eating behaviors as a progression through six stages with relapses: precontemplation, contemplation, preparation, action, maintenance, and termination [17]. The "It didn't work out" participants had a long history of unsuccessful dieting and had become disillusioned with LAGB. Weight loss was minimal and, as soon as the band allowed them to eat 'as usual', they did. Their hope was focused on the gastric band's doing the work for them. They did not express awareness of self-control, but referred to external sources for weight loss, in particular medical interventions. The interviewees who had already registered for gastric bypass surgery did not expect that a change in behavior, such as dieting or exercising would have any effect (anymore). Nothing had worked. These participants may match the 'Precontemplation' stage of change. They are not aware of a health behavior problem and are not intending to take action to change.

The prevalent attitude of a single person was "I don't care anymore". She perceived the operation as a failure. She said that she now accepted her weight and was no longer preoccupied with dieting. She ate the food that her family was eating without self-imposed constraints. Her weight was more or less stable. Overall she felt well since she did not have to cope with the disappointment of unsuccessful dieting. Because she was aware of a health behavior problem (but didn't care anymore) and was not intending to take action, she appeared stuck in the 'Precontemplation' stage of change.

The "I know I have to do it" participants had also a long history of unsuccessful dieting. The operation had raised an awareness that controlling their eating behavior was needed, although they had yet to achieve this. They were planning on changing their behavior only when the time was right. Two reported needing extra advice and encouragement before they could translate their plans into action. The outcome of this group was uncertain. These participants are in the 'Contemplation' stage of change. They are aware of the necessity to change and have an intention to take the steps that are needed to change.

The "I know I can do it" participants had the same experiences as the third group. The operation had raised an awareness that controlling their eating behavior was needed and they had started to do this:

'I am more aware of what I eat and how I eat. I know I have to eat quietly and chew well. (...) When one eats too fast or too carelessly, it gets stuck and one thinks 'I have the gastric band and that is not without reason!'. (Jane)

These participants tried to change their eating patterns and were sometimes successful until a setback obstructed the process, like Jane said:

'When I am just eating I can use my common sense and stop, but when I am tense or stressed, yes, then I am inclined to eat my troubles away and unfortunately I can eat quite a lot with the gastric band.'

Whereas they needed their energy to cope with setbacks, their understanding of their own role remained. These participants may match the 'Action' stage of change. They made modifications in their lifestyle, but setbacks trigger relapse to the 'Preparation' stage. People are intending to take action in the immediate future and have typically taken significant action in the past year.

None of our participants matched the 'Maintenance' or 'Termination' stage of change. In the 'Maintenance' stage of change people are working to prevent relapse but they do not apply change processes as frequently as do people in the 'Action' stage. They are less tempted to relapse and increasingly confident that they can sustain their changes. Patients with successful enduring weight loss will likely match the 'Termination' stage of change.

4. Discussion and conclusion

4.1. Discussion

Our qualitative study in a small group of patients with insufficient weight loss after surgery for morbid obesity, examined how patients explained their unsuccessful outcome. The disappointing experience of this "failure" group sharply contrasts with the positive experiences of most patients [11,12]. Our particular focus was on the patients' awareness of their own role in controlling food intake and on self-efficacy. We summarized the experiences of the patients in four patterns of adjustment, which match the precontemplation, contemplation and action stages of change. Some patients reverted to old eating habits as soon as the gastric band allowed them to and they had minimal realization of their own role. A single patient had resigned to her fate and had accepted her severe obesity. Other patients were aware of their own role in the control of food intake, but they were stuck in contemplation and waited for the right moment to change their behavior. A last group of patients had adapted their behavior, but was unable to sustain it due to major setbacks. They intended to continue dieting as soon as possible.

Our group was a rather homogenous group in terms of a poor weight outcome. Based on our former quantitative study [10] and a qualitative study [11], the focus of our study was on awareness and self-efficacy. The interviewees described themes that were related to lack of self-awareness and lack of control abilities that are known to play a role in the maintenance of obesity such as restraint eating [28], emotional overeating [14,20], binge eating [20,27,29], and poor styles of coping [26] and emotion regulation [30]. We did not assess binge eating according to clinical standards [31,32], but the breakdown in the control of eating, especially in times of stress and distress was a frequent theme. A childhood history of being overweight and multiple unsuccessful dieting attempts reflected an enduring perceived lack of self-control over food intake. Interviewees frequently described that lack of self-control was closely intertwined with affective problems. This suggests that education and interventions aimed at (behavioral) self-control and (cognitive) self-awareness will likely not be effective if affective problems such as overwhelming emotions and emotion regulation strategies are not also attended to.

Some hospitals provide a program to help patients deal with life as a non-obese person [33]. The obligation to participate in a preoperative program as an inclusion criterion for bariatric surgery may perhaps prevent inclusion of candidates who do not have the skills to maintain the weight reduction induced by the gastric band. However, it is also possible that the operation is necessary to be able to discover who will and who will not achieve a poor outcome. It is difficult to predict the postoperative weight outcome from preoperative psychological variables [10,29,34–36]. One study even concluded that the impact of bariatric surgery appears sufficiently potent to negate whatever preoperative differences might otherwise affect weight management [35]. This suggests that it is time to cease the search for surgical outcome predictors and focus instead on improving postoperative guidance of patients who do not achieve a successful outcome.

Our study offered a possibility to discover and describe the adjustment patterns in this sample, but we are – due to the small sample size and qualitative design – not able to conclude that these are the only patterns seen in these patients. Furthermore, our findings apply only to patients with a poor weight outcome after surgery. It is unlikely but possible that the observed lack of self-control in our failure group equally applies to the broad group of preoperative morbidly obese patients of whom many achieve a successful outcome. A prospective study in patients with successful and unsuccessful outcomes is needed to examine that our observations would preoperatively have been predictive of postoperative failure. This restriction with respect to generalizability of findings does not disconfirm the importance of our observations in the group with an unsuccessful weight outcome.

Our qualitative study was meant to inform and describe rather than statistically analyze and generalize. It is the first study that exclusively focuses on the perspective of patients who are not successful after bariatric surgery. Variables relating to awareness, self-control, and emotional setbacks turned out to be crucial. Over and above insight into these variables that have also been observed to obstruct healthy eating in preoperative morbidly obese patients, a particularly new feature of this study is the obtained insight into the way in which patients bypass the food restriction imposed by the band. The analysis of the interviews in terms of the stages of change describes the core problems that hamper a successful outcome. It also indicates practice implications that can be used to try to help this unsuccessful group by increasing awareness of the need to self-control eating and offering assistance to turn intentions into action and to deal with stress, emotions and physical problems.

4.2. Conclusion

Patients' explanations for unsuccessful weight loss after surgery for morbid obesity differ in terms of awareness of self-control, difficulty to turn awareness of the need to self-control into action, health behavior, and expectations of future weight loss. Patients sought explanations for their unsuccessful weight outcome in the complex interaction between health, psychological problems, and being overweight. Frequent reported explanations reflected a reduced awareness of self-control and lack of perseverance, especially in times of setbacks. Typical statements distinguishing patients were 'It didn't work out', 'I don't care anymore', 'I know I have to do it', and 'I know I can do it'.

4.3. Practice implications

Considering that our interviewees constitute the most unsuccessful sample of LAGB patients, they might represent the worst cases in terms of resistance to eating and behavioral interventions. Moreover, in this specific failure group, physiological processes may have taken over control of eating in such a way that willpower and weight management are doomed to fail [37,38]. It needs to be shown whether thorough postoperative psychological guidance will result in an improved outcome, but it is worth trying.

In overweight and obese adults, a behavioral weight managing intervention based on the stages of change model resulted in healthier eating, exercise, managing emotional distress, and progressing to the action and maintenance stages [39]. This specific program was tailored to the stage of change of the individual. The patients in our study are in the precontemplation, contemplation and action stages of change. Extrapolating findings of the above study to our group with an unsuccessful outcome, it is suggested that it could be useful to tailor postoperative guidance strategies to the stage of change of an individual patient.

Awareness of self-control is considered an essential prerequisite for behavioral change. We suggest that for the patients in the precontemplation stage postoperative guidance should first focus on increasing awareness of self-control by progressing to the preparation and contemplation stages. Most of our patients were in the contemplation or action stages (with relapse). Interventions using elements such as prior planning, rehearsal and relapse prevention can enhance individual control and maintenance of action [40,41]. In case of type 2 diabetes, a program was developed to increase patients' proactive skills, goal attainment and confidence in dealing with self-management issues [42]. These types of interventions might be tried also for obese patients after gastric banding who have the proper awareness, but need encouragement to continue what they have started and to turn their intentions into action. Finally, all patients from the failure group including the groups who did recognize their own role, might achieve a better outcome with cognitive-behavioral guidance aimed at dealing with stress, emotions and physical problems to prevent relapse.

Statement of authors

We confirm that all patient identifiers have been removed or disguised so that patients described are not identifiable and cannot be identified through the details of the stories.

Acknowledgements

The authors would like to thank Mrs. Bliemer for her help in recruiting participants for this study and the participants for speaking so openly.

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