OBES SURG (2012) 22:1714–1722
DOI 10.1007/s11695-012-0716-y

ALLIED CARE

Obesity and Treatment Meanings in Bariatric Surgery Candidates: A Qualitative Study

Susana Sofia Pereira da Silva · Ângela da Costa Maia

Published online: 22 July 2012

Abstract
Background This study used a qualitative approach to comprehend how the morbid obese conceptualize and deal with obesity and obesity treatment, with the particular aim of exploring the expectations and beliefs about the exigencies and the impact of bariatric surgery.
Methods The study population included 30 morbid obese patients (20 women and 10 men) with a mean age of 39.17 years (SD=8.81) and a mean body mass index of 47.5 (SD=8.2) (reviewer #2, comment #9) interviewed individually before surgery using open-ended questions. The interviews were audiotaped, transcribed, and then coded according to grounded analysis methodology.
Results Three main thematic areas emerged from the data: obesity, eating behavior, and treatment. Obesity is described as a stable and hereditary trait. Although participants recognize that personal eating behavior exacerbates this condition, patients see their eating behavior as difficult to change and control. Food seems to be an ever-present dimension and a coping strategy, and to follow an adequate diet plan is described as a huge sacrifice. Bariatric surgery emerges as the only treatment for obesity, and participants highlight this moment as the beginning of a new life where health professionals have the main role. Bariatric surgery candidates see their eating behavior as out of their control, and to commit to its demands is seen as a big sacrifice. For these patients, surgery is understood as a miracle moment that will change their lives without requiring an active role or their participation.
Conclusion According to these results, it is necessary to validate them with qualitative and quantitative studies (reviewer #2, comment #3); it is necessary to promote a new awareness of the weight loss process and to empower patients before and after bariatric surgery.

Keywords Bariatric surgery · Grounded theory · Morbid obesity · Qualitative studies

Introduction

The prevalence of obesity has increased all over the world in recent years. A recent study conducted by Finucane and colleagues [1] concluded that from 1998 to 2008, mean body mass index worldwide increased by 0.8 kg/m^2 for men and 1 kg/m^2 for women.

For the treatment of obesity, bariatric surgery has become one of the therapeutic choices for patients with clinically significant obesity who want to achieve and sustain significant weight loss and amelioration of the medical co-morbidities of obesity, usually after several previous unsuccessful attempts to lose weight [2].

Although the psychological characteristics of the morbidly obese and how they relate to the outcomes of treatment have been areas of interest for several authors, there are few studies that have evaluated and tried to understand the meaning of bariatric surgery for the candidates and how this

S. S. P. da Silva
Granted by Foundation for Science and Technology (SFRH/BD/37069/2007), Center for Research in Psychology, School of Psychology, University of Minho, Braga, Portugal

Â. da Costa Maia
Center for Research in Psychology, School of Psychology, University of Minho, Braga, Portugal

Â. da Costa Maia (✉)
Escola de Psicologia-Campus de Gualtar Universidade do Minho, 4710-057, Braga, Portugal
e-mail: susanasofiapsilva@gmail.com

Â. da Costa Maia
e-mail: angelam@psi.uminho.pt

affects the outcomes [3, 4]. On the other hand, almost all the studies are conducted in a quantitative paradigm, not allowing the comprehension of the patients' perceptions, expectancies, and beliefs about obesity and its treatment.

Regarding the causes of obesity, the literature has presented different models, some more biological, some more behavioral, and others more social. As far as we know, until now, there has been no study (quantitative or qualitative) that explores how the morbidly obese see their own obesity in terms of its causes and maintenance factors. Contrary to the absence of studies on the causes or origin of obesity in the view of the obese, a recent literature review [5] shows that obesity is, for most of the obese, a source of distress related to negative body image, more interpersonal and intimate problems, and more difficulties in professional issues, namely getting and maintaining a job. This distress is related to the contemporary culture that stigmatizes obese people, which increases the probability of their internalizing negative information about themselves, and this can cause obese people to feel psychologically discomfited about their physical appearance.

Eating behavior is highly related to the outcomes of surgery, and this is recognized as an important risk factor that might influence patients' commitment to the diet plan before and after surgery. There is a growing area of research in this field that is trying to understand the role of food in the lives of the obese [see 6–10]. Some authors [11] have suggested the expression "emotional eaters" to describe patients who use food to deal with and regulate negative emotional states, i.e., people who eat, usually sweet food, to overcome boredom, to reduce stress, or to cope with sadness and loneliness. Bocchieri et al. [11] stated that these patients had more difficulties in adapting their eating behavior after surgery and suggested the need to understand this behavioral pattern as uncontrollable behavior. Other authors [12] have referred to the eating behavior pattern of the obese as an addictive one, in which food can be considered as a form of addiction, emphasizing the personal difficulties to control it and the dependence relation between the subject and the substance (food).

Obesity surgery is included in the treatment when previous attempts to lose weight have failed and there has been deterioration in the patients' health and social life [4, 13, 14]. In this way, bariatric surgery is one element of the answer in the search for a mechanism that can help to control overeating.

In this sense, expectations of surgery as a solution for a multitude of problems are very high, and surgery is viewed as the last alternative after several unsuccessful attempts to lose weight and as an important strategy to gain a mechanism that will control eating behavior [13, 14]. This conclusion was stated by Kaly et al. [15], who argued that bariatric surgery candidates exhibit unrealistic expectations of weight loss as well as the belief that weight loss will affect their lives. In a study with 284 bariatric surgery candidates, this team [15] concluded that bariatric surgery candidates had unrealistic weight loss expectations despite being well-informed about the surgically induced weight loss and its effects on their quality of life. The patients expected aesthetic and physical improvements and a significant weight loss in a brief period related to a huge change in body image, without thinking about the body's transformation and the personal effort required for the weight loss.

In the same way, Engström et al. [4] stated that bariatric surgery candidates do not include themselves as a part of the treatment and have the idea that they do not have any power to lose weight. According to this view, they expect that the surgery itself will give them control over their eating behavior, weight loss, and lives. These same authors [4] analyzed the meaning of awaiting bariatric surgery by trying to understand the waiting period, finding that the need for surgery is interpreted as an event involving loss of control in relation to food and a feeling of hopelessness regarding future weight loss unless patients are operated on. The need for surgery was understood by the obese as an addiction to food and dependence on others for managing their eating behavior and lives. Loss of control meant not only having no power over the desire for food, but also stigmatization from other people and health care environments. In this study, being scheduled for bariatric surgery was denoted as coming to a realization of how completely dependent on it the patients were for surviving and for being healthier. The obesity condition implied that these subjects looked at themselves with shame, guilt, or disgust. The hope of a new future, the ability to socialize with friends, and to keep or obtain a job nurtured not only a desire to lose weight through surgery, but also the belief that they would recover and regain their freedom and independence (see [4, 13, 14]).

This study is the first step of a longitudinal mixed-design study where the ultimate aim is the construction of a theory that typifies the psychosocial phenomena associated with bariatric surgery. The present study attempts to contribute to the knowledge on the characteristics of obese before bariatric surgery and clarify (reviewer #2, comment #4) the expectancies, perceptions, and beliefs about obesity and treatment before surgery directly from the patients' perspective, while honoring the uniqueness of each individual's experience [16, 17]. Qualitative research was conducted in order to provide the richness of detail currently missing in the literature, especially on the conception of the obese of their obesity, to escape researchers' assumptions, and to guide the relevance of future qualitative outcome studies and intervention plans [16–18].

Method

Sample

Thirty patients (20 women and 10 men) from a multidisciplinary treatment center for obesity in northern Portugal were interviewed before bariatric surgery (adjustable gastric band and sleeve gastrectomy). All patients had several failure previous attempts to lose weight and were integrated in several consultations, namely eating education their characteristics are shown in Table 1.

Procedure

Participants signed that they gave informed consent to inclusion in the study and for audiotaping the interviews, which were approved by the Clinical Research Ethics Committee of the Hospital of Braga. The interviews took place at the hospital before surgery. All interviews were audiotaped and transcribed verbatim. The interviews lasted between 20 and 80 min and included open-ended questions such as *"How was it for you, living with the weight gain?""What led you to seek this treatment?""What is your relationship with food like?" "What do you expect to happen after surgery?"*.

Data Interpretation and Analysis

Interview data was analyzed using initial steps of the grounded analysis method of qualitative research [16–19]. The basic premise essential to grounded analysis is that the phenomena comprehension must emerge from the data rather than from preconceived notions formulated by the researcher. This must go beyond a purely descriptive account to a theoretical formulation of the phenomenon being studied. The data collection and analysis were deliberately interweaved, a process known as theoretical sampling, so that subsequent questions could be revised to reflect and check the emergent categories [20]. Theoretical saturation was used to compose the sampling.

The interviews were transcribed verbatim and consecutively analyzed with NVivo 8.0 software according to the constant comparative method. Following these guidelines, the first step of the analysis was open coding. Data were examined line by line in order to identify the participants' descriptions of thought patterns, feelings, and actions related to the themes mentioned in the interviews. The derived codes were formulated in words closely resembling those used by the participants. This was an attempt to maintain the semantics of the data. Codes were compared to verify their descriptive content and to confirm that they were grounded in the data. As a second step, the codes were sorted into categories. This was done by constant comparisons between categories, and between categories, codes, and interview protocols. Data collected at later stages in the study were used to add, elaborate, and saturate codes and categories. In practice, the steps of analysis were not strictly sequential; rather, we moved forward and backward, constantly reexamining data, codes, categories, and the whole model.

Core categories were identified, allowing the attaching of all concepts together and unifying them allowing to understand the obesity phenomena. To ensure the validity of the analysis and the coding process, a second researcher was consulted as auditor (an independent researcher that discussed and validated the categories) throughout the entire data analysis process to assist the primary author by challenging ideas and assisting in the construction of the categories [16–19].

Table 1 Socio-demographic characterization of the sample

Variable		Mean	SD
Age		39.17	8.81
Weight (kg)		122.43 kg	14.10
Bone body mass index (kg/m^2)		47.50	8.20
		N	%
Gender	Female	20	67
	Male	10	33
Marital status	Married	28	94
	Divorced	2	6
Education	4 years	6	20
	9 years	15	50
	High school	9	30
Professional status	Full-time	21	70
	Part-time	2	6
	Unemployed	5	18
	Retired	2	6

Results

Three core processes emerged: obesity, eating behavior, and treatment. *Obesity* is, mainly, understood as an internal immutable problem, affecting all life dimensions (professional, interpersonal, and personal). *Eating behavior* seems to play an important role in the maintenance of obesity, and it is always present and controlling the patient's life. At the same time, it is perceived as a coping strategy to deal with some events and imbued with negative feelings, and it is perceived as a loss of control. The *treatment*, especially the surgery, seems to be perceived as a miracle moment that will solve all life's problems.

Table 2 shows a more elaborate description of the categories and patients' transcriptions to illustrate and facilitate understanding.

Table 2 Categories descriptions and patients statements

Categories				Statement
Obesity	Meaning construction	Disease		"It is a disease. I have several problems, too much weight, feel bad every day. Almost nobody is aware of this problem, this epidemic… there is a big, big lack of information…"
		Identity	Immutable	"It is a hereditary problem, people are born like that… everyone in the family has the same problem"
			Personal	"I see an obese person as a very fat person who for some reason went haywire with the body and food, each for his own motives. Everyone is different. I think some people have strong reasons and others may not have any reason. There are no acceptable reasons for obesity… it depends on the person!"
	Cause	Modifiable	Lifestyle	"I stopped the exercise… Before I used to do physical exercise almost every day, then I stopped and started to gain weight", "When I changed my eating habits, I used to always eat at home, and now I need to eat in restaurants and shops"
			Life events	"Everything started after the pregnancy", "The problem began when I went to university"
		Unmodifiable	Metabolism	"It was always like this, it is my metabolism, I cannot change…"
			Health problems	"The biggest problem was my diabetes… after this diagnosis and the beginning of insulin-therapy, I started to gain weight"
			Hereditary	"Everyone in my family has this problem, my grandmother… she was also fat"
	Impact	Personal	Daily tasks	"Is very difficult. I cannot climb stairs, do anything at home… I started to leave all my domestic chores"
			Hygiene	"I have many difficulties in doing my hygiene… Sometimes I have to ask my husband for help. It is very sad, you cannot do your personal things"
			Mobility	"I am always tired… I cannot lift my son onto my lap or go out with him… I have to make many stops"
			Health problems	"Now I have everything: hypertension, diabetes, sleep apnea… too many pains. I have to take many drugs"
			Image	"I am a monster… I look at myself and I see a monster, a person with this body"
			Panic of the scale	"I cannot look at it… I do not have one at home but when I go to my sister's house… I avoid the bathroom… there is panic just thinking about getting on the scale!"
			Clothes	"Sometimes I have to go out… I try on every piece of clothing and nothing fits me… it is awful! I start to cry… and I prefer to stay at home", "You know, a woman…, it is different. I cannot look in the mirror… When I put on my body lotion, I look in the mirror but I am not seeing me… it is only a task"
		Interpersonal	Close people	"My family and friends are always saying that I have to lose weight", "It is a problem. No one wants to have an intimate relationship with a person like this. When I was in school I had several friends; they all talked to me… but no one wanted to date or go out with me"
			Unknown people	"You know, when you go to a shop to eat, everybody looks at you differently. When you try to buy clothes… and in the street people are always staring and whispering with others"
			Intimacy	"Things started to go wrong with my husband. You know, a body like this… it is normal. I cannot look at myself in a mirror… I do not blame him… it is normal not to have sexual interest in a thing like this"
			No impact	"It was always fine… when I met my husband, I was already obese. He always knew me like this… we do not have that kind of problem"
		Professional	Difficulties	"I started to have difficulties in climbing stairs. Everything in my job was difficult. I began to feel too tired"

Table 2 (continued)

Categories				Statement
			Fewer opportunities	"It is a big problem. Everybody looks at us like, like abnormal people, like a disabled person. And you know, there is no boss who wants to work with a person like this… I understand. If I had a company… it would be the same, I would prefer a person who did not have this…"
			No impact	"There is no problem in my professional life"
	Previous attempts	Type	Lifestyle changes,	"I tried to go on a diet, eat correctly"
			Food restriction	"I started to eat less, only a little in the meals… and I avoided several meals"
			Physical exercise	"I bought a bicycle… every day I went to the gym"
			Pharmacotherapy	"I have tried everything, all kinds of diets, exercises… drugs… everything!! Nothing works with me…"
		Approach	Help from friends/family	"I had a friend… she lost weight and then she gave me some help… she told me what to do"
			Help from health professionals	"I have tried with a specialist in nutrition"
			Self-decision	"I have tried alone… by myself"
		Efficacy-worked	First month	"At the beginning I saw some results. I did almost everything and things went well…"
			Self-control	"I had to control everything… I could not distract myself… always paying attention to what to eat… it was forbidden to eat something… something good!"
			Diet plans and exercise	"I had to eat only that… the diet. And there was the exercise. I had to go to the gym or at least go for a walk"
		Efficacy–did not work	Tired of the diet	"I was tired… every day, always the same… I could not handle any more"
			Frustration	"So many sacrifices… and then there were no results… It was a great frustration. You know, you've made a huge sacrifice every day, every single day… and then, then no results… I gave up, it was too hard, I couldn't do it…"
			Psychological changes	"I was always nervous and depressed. My husband was always saying that I was very irritable… no one could bear me"
			Hungry	"I tried… in the beginning it was easy but then I was hungry… very hungry. At that moment I could eat anything… it was an inexplicable hunger"
			No family support	"My husband was always saying things. He did not understand why I was doing that kind of thing… why I did not eat… and my friends, when we had dinners it was very difficult"
			Metabolism	"The problem is my body. I have a low metabolism… everything makes me fat"
			Financial difficulties	"The treatment was very expensive, the drugs, the consultations… I could not afford everything"
			Hereditary	"This is a family problem; my sisters are obese, too, my mother, my grandmother… every woman in my family has this problem"
		Meaning	Sacrifice	"You cannot imagine, all the sacrifices… you want to eat, you are tired of everything, you have problems. You want to eat but you cannot eat, problems, problems… sacrifices… and then there is not one single outcome"
Eating behavior	Moment	Weekend		"The major problem is the weekend… I am at home… and there is always something to eat"
		Always		"I think it is always… I am always available to eat. Even my friends know that for a meal… they can always count on me"
		End of day/night		"After work, at the end of the day and in the evening… I do not always have to be running… At home, at this moment, I want to eat everything"

Table 2 (continued)

Categories				Statement
	Motives for eating	Physiological need		"Everybody has to eat. We need to eat… to have energy for things…"
		Pleasure		"It is a big pleasure. I really enjoy eating… it is one of my biggest pleasures…"
		Coping strategy	Life's problems	"When I have a problem, it is worse. I can only eat. I need to be always eating, with something in my mouth… When I am eating, I forget my problems… it is good"
			Sadness	"When I am sad… at that moment a chocolate can make a miracle"
			Loneliness	"When I am alone, thinking about my life… I have to eat something"
			Anxiety	"When I am nervous, anxious… if I eat something, it seems, I know it could be stupid, but it seems that I can relax with the food"
	Food-related feelings	Positive	Pleasure	"In those moments… it is only me and the food. I really like to eat, to taste the food… it is a pleasure… my only pleasure!"
		Negative	Anxiety	"it is a problem. I am always thinking about food. I am always anxious about what to eat"
			Guilt	"When I am eating it is… I feel guilty… it's always the same"
			Hate	"I hate myself… I cannot even control what I eat… it is bigger than me"
			Agony	"It is always like a grip, an agony for not being able"
			Regret	"I had eaten, made all the mistakes, and then, then… it is awful… a big regret… but then, then it is done"
	Pattern of consumption	Without		"I do not, I cannot say to you, I do not think there is a pattern"
		Adequate		"I do everything… everything the doctor said. I really do not know what the problem is"
		Restriction/ compulsion		"The problem is at home. I get on well all day, do not eat anything wrong. Sometimes I do not eat during the day… but at night, when I am at home, it is strange, a huge hunger…. never satisfied, always food… worse, only big mistakes"
		Excessive and continuous		"I am always hungry. I have to eat continuously… and it is not a little… but I have a big stomach"
	Perception	Impulsive/ unconscious		"I cannot stop thinking about food… When I see a cake or a chocolate… I have to eat it", "I do not know, when I realize it is done… I cannot change it…"
		Uncontrollable		"It is stronger than me", "I cannot control it…"
		Critical appreciation	Sacrifice	"A big sacrifice. You want to eat that but you cannot. No one can imagine… the sacrifice. Nobody understands us. How bread or some meal can be so important… but there are so many problems, difficulties in life… and this, you cannot have or eat what you really want"
			Inconsistency	"Sometimes it is wrong. I ate something that I should not have… but mostly I can eat well, do everything right"
			Wrong	"Always making the same mistakes… always eating in the wrong way"
			Adequate/healthy behavior	"Sometimes I can… sometimes I can follow my diet"
Treatment	Reference to multidisciplinary team	Family/friends		"My mother… she was already here… and knowing my problem, she talked to the doctors…"
		Health professionals		My family doctor, she was always saying that I had to lose weight. She tried everything but I could not lose weight, so she thought this was better, something more, more radical"
	Type of treatment	Pharmacotherapy		"I had tried everything, all kinds of drugs, with doctor A and with doctor B. In the beginning it was alright, but when I stopped the treatment… then the problems were worse…"
		Lifestyle changes	Physical exercise	"I know that I have to do more exercise"
			Diet plan	

Table 2 (continued)

Categories			Statement
			"The biggest problem is the food. We only have to eat the things that the doctor puts in the plan in those amounts"
	Surgery		"I was not feeling good. There were too many problems. Then I decided that it was the moment to change my life, I could not continue like that", "The doctor said I had to come here. He could not do anything for me… this was my last chance"
	Decision	Information	"They told me everything, gave me a handout and told me to speak with other people, to look on the internet… to have more information to decide and understand what will happen"
		Responsibility	"It is my responsibility, my health and my life…", "I want this… everyone is always saying that this is better for me. My doctors, they were always talking about my weight, my problems related to weight"
		Power	"The doctors said that it was the best thing, I had to do something… and I trust them, they know what they are doing…"
	Reasons to lose weight	Personal	
		Obligation	
	Meaning construction	Positive	"It is my opportunity to change… the help I need to do things right", "I think it will be like starting again… like I will be born again and someone is giving me a second chance",. "Everything will be different… all the problems will go away… I will be very happy… without problems", "It is my opportunity to get a job", "I will start to feel good, to be a regular person… to go out and no one is staring at me… to move better, do everything… it will be my quality of life"
		Negative	"I am afraid that it is always surgery… and if anything goes wrong, if it hurts… I do not know…", "In the beginning it will be difficult, the diet plan… you cannot eat like others… I think it will be difficult"
	Adherence	Personal objectives	"In the beginning it is fine, it is not difficult, but every day, it, it is very hard to maintain the exercise because it is cold, it is raining, you do not want to do it… it is better to watch TV or just stay at home. And the food, that is the big problem. You start to lose less weight or even stop losing weight… and there is always food asking for you, even at parties or when you go out. And then you think that it is just this time, it is no problem… then, then it is every day… and when you look, you have regained the weight and it is not worth it. So it is hard, but you have to maintain it, to motivate yourself to do everything, every day… right"

Discussion

Following the recognition that bariatric surgery is not always successful [15], recent research has been interested in exploring the factors that contribute to the outcomes of bariatric surgery. The comprehension of the bariatric patients, their perceptions, expectancies, fears, and difficulties before surgery have rarely been studied [4, 15].

This study is the result of an effort to increase our knowledge about how the obese conceptualize their obesity and how they perceive their treatment. When patients had the opportunity to elaborate freely on their experience of life before bariatric surgery, their answers were organized into three core categories: obesity, eating behavior, and treatment, highlighting their experiences, beliefs, feelings, and thoughts about the phenomena of obesity and provided by the existing literature mostly based on how professionals see the obese and their problems [16]. The categories that emanated from the data suggests that the meaning of eating, the impact of obesity, and the treatment expectations are more complex than can be captured by existing standardized measures. While the quantitative paradigm has several potentialities in different dimensions, they fall short in accounting for and explaining the patients' perceptions about different processes, namely obesity. As stated by Bocchieri et al. [11], the understanding of patients' perception of obesity, eating behavior, and treatment may be crucial to their commitment and the success of bariatric surgery.

Even when recognizing the contribution of behavioral dimensions, the obese see the impact of these controllable dimensions as the result of an immutable characteristic with an internal cause affecting patients' lives in every dimension.

Curiously, despite patients having referred to the amount of food they have eaten, when elaborating the cause of this disease, that dimension does not emerge or it is explained on the basis of genetic or metabolic reasons. Our participants see themselves as unable to change this condition due to their previous failed attempts to lose weight and maintain weight loss. According to this understanding and as stated in previous studies [21, 22], obesity seems to be a "trait", where personal efforts to change it do not have any impact, moving all the responsibilities to change this situation from the subject to an external factor, i.e., health professionals, medication, or surgery. These results are in line with those of Engström et al. [4], who found that surgery candidates see themselves as passive elements of the treatment. On the other hand, previous attempts to lose weight are understood as a big sacrifice with several demands and impossible to commit to. Therefore, as supported in other research [23], obesity is understood as a stable dimension where personal behavior plays a secondary and passive role.

Additionally, eating behavior is an ever-present dimension related to thoughts and feelings highlighting the external locus of control. The eating behavior is understood as impulsive, uncontrollable, and inconsistent, and the possibility of changing this pattern is seen as a huge sacrifice where healthy eating behavior is comprehended as behavior almost impossible to commit to. Therefore, for bariatric patients, food seems to control and organize their lives. There are always motives and occasions to eat, increasing the centrality of this behavior, that, at the same time, seem to play an important mediating role, namely regulating negative feelings. As different authors [6, 7, 24] have stated, eating behavior seems to be a coping strategy. This kind of pattern has been described in the literature as *emotional eating*, i.e., eating in response to emotions and as a strategy to deal with negative feelings.

According to this understanding of obesity and eating behavior, treatment, seen as consisting mainly of bariatric surgery, emerges as a miracle moment in patients' lives, where the surgeon will release them from obesity forever [6, 16, 18].

Our data indicates that, as reported in existing literature [25], bariatric patients have greater vulnerability to external factors as well as a huge propensity for idealizing surgery, i.e., the miracle that will solve all life's problems.

In conclusion, our data showed that, for most of our participants, obesity is an immutable characteristic; healthy eating behavior is conceptualized as a huge sacrifice where bariatric surgery is the only miracle that will solve all the problems.

In attending to the limitations of our study, it is important to refer to the fact that all participants came from the same hospital, implying that the results may reflect only one particular environment and medical tradition. Nevertheless, it is not the medical treatment itself that is under evaluation, but the meaning of the experiences associated with awaiting bariatric surgery. Therefore, we think that these experiences might be transferable and are, in some aspects, universal, independently of the bariatric surgery setting.

According to these results, it is of vital importance that patients are aware that bariatric surgery is not the only key in obesity treatment and that it is fundamental to develop realistic and reasonable expectations highlighting the central and active role of the person and the lifestyle changes needed for the success of obesity intervention. Moreover, patients should be aware that obesity treatment, namely bariatric surgery, does not always lead to positive and simple outcomes but that there are also difficulties and cases of failure. The core domains before bariatric surgery that emerged from our data have brought us one step closer to the actual experience lived by patients with morbid obesity. The need to identify the characteristics of candidates for bariatric surgery and to understand their challenges, expectancies, and difficulties is conspicuously lacking in existing literature. It is also important to validate this study with a larger sample and with other quantitative data (reviewer #2, comment #6). A valuable next step may be the understanding of challenges, difficulties, and needs in adjusting to life following bariatric surgery. Longitudinal studies are needed to evaluate the relationship between weight loss, quality of life 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 exert their influence in the very long term.

Acknowledgment Acknowledgement is due to the Foundation for Science and Technology for financial support (SFRH/BD/37069/2007) for the study; to Dra. Aline Fernandes, Dra. Maria Lopes Pereira, and Dr. Maia da Costa, members of the Multidisciplinary Evaluation Team for the Treatment of Obesity; and to the Hospital of Braga for their collaboration.

Conflict of interest The authors declared that there are no conflicts of interest.

References

1. Finucane MM, Stevens GA, Cowan MJ, et al. National, regional, and global trends in body-mass index since 1980: systematic analysis of health examination surveys and epidemiological studies with 960 country-years and 9·1 million participants. Lancet. 2011;377(9765):557–67.
2. Fried M, Hainer V, Basdevant A, et al. Interdisciplinary european guidelines for surgery for severe (morbid) obesity. Obes Surg. 2007;17(2):260–70.
3. Van Gemert W, Severeijins R, Greve J, et al. Psychological functioning of morbidly obese patients after surgical treatment [Internet]. 1998; Available from: http://www.nature.com/ijo/journal/v22/n5/abs/0800599a.html

4. Engstrom M, Wiklund M, Olsén M, et al. The meaning of awaiting bariatric surgery due to morbid obesity. Open Nurs J. 2011;5:1–8.
5. Makara-Studzińska M, Zaborska A. Obesity and body image. Psychiatr Pol. 2009;43(1):109–14.
6. Fischer S, Chen E, Katterman S, et al. Emotional eating in a morbidly obese bariatric surgery-seeking population. Obes Surg. 2007;17(6):778–84.
7. Guerdjikova A, West-Smith L, McElroy S, et al. Emotional eating and emotional eating alternatives in subjects undergoing bariatric surgery. Obes Surg. 2007;17(8):1091–6.
8. Heatherton T, Baumeister R. Binge eating as escape from self-awareness. Psychol Bull. 1991;110(1):86–108.
9. Troop N. Eating disorders as coping estrategies: a critique. Eur Eat Disord Rev. 1998;6:229–37.
10. Walfish S, Brown TA. Self-assessed emotional factors contributing to increased weight in presurgical male bariatric patients. Bariatr Nurs Surg Patient Care. 2009;4(1):49–52.
11. Bocchieri LE, Meana M, Fisher BL. Perceived psychosocial outcomes of gastric bypass surgery: a qualitative study. Obes Surg. 2002;12(6):781–8.
12. Petry N, Barry D, Pietrzak R, et al. Overweight and obesity are associated with psychiatric disorders: results from the national epidemiologic survey on alcohol and related conditions. Psychosom Med. 2008;70(3):288–97.
13. Ogden J, Clementi C, Aylwin S. The impact of obesity surgery and the paradox of control: a qualitative study. Psychol Heal. 2006;21(2):273.
14. Ogden J, Clementi C, Aylwin S, et al. Exploring the impact of obesity surgery on patients' health status: a quantitative and qualitative study. Obes Surg. 2005;15(2):266–72.
15. Kaly P, Orellana S, Torrella T, et al. Unrealistic weight loss expectations in candidates for bariatric surgery. Surg Obes Relat Dis. 2008;4(1):6–10.
16. Glaser BG. Basics of grounded theory analysis: emergence vs. forcing. Mill Valley, CA: Sociology Pr; 1992.
17. Corbin JM, Strauss AC. Basics of qualitative research: techniques and procedures for developing grounded theory. 3rd ed. Thousand Oaks, CA: Sage Publications, Inc; 2007.
18. Strauss AC, Corbin JM. Basics of qualitative research: grounded theory procedures and techniques. 2nd ed. Thouasnd Oaks, CA: Sage Publications, Inc; 1990.
19. Glaser B, Strauss A. The discovery of grounded theory: strategies for qualitative research. Chicago, IL: Aldine Transaction; 1967.
20. Richards PL. Handling qualitative data: a practical guide. Second Edition. Thousand Oaks, CA: Sage Publications Ltd; 2009.
21. Jeffery RW, Drewnowski A, Epstein LH, et al. Long-term maintenance of weight loss: current status. Health Psychol. 2000;19(1 Suppl):5–16.
22. Kitsantas A. The role of self-regulation strategies and self-efficacy perceptions in successful weight loss maintenance. Psychol Heal. 2000;15(6):811.
23. Wadden T, Stunkard A. Handbook of obesity treatment. London: The Guildford Press; 2006.
24. Rydén A, Karlsson J, Persson LO, et al. Obesity-related coping and distress and relationship to treatment preference. Br J Clin Psychol. 2001;40(Pt 2):177–88.
25. Epstein LH, Paluch R, Coleman KJ. Differences in salivation to repeated food cues in obese and nonobese women. Psychosom Med. 1996;58(2):160–4.