

Designing pre-bariatric surgery education: The value of patients' experiences

Corinne Owers, Vanessa Halliday, Adam Saradjian, Roger Ackroyd

Within the field of bariatric surgery, preoperative education to empower patients to adapt to the postoperative lifestyle and get the best outcomes in terms of health and quality of life is not standardised across the UK and is based mainly on clinical experience. In this study, the authors used qualitative research and a structured framework to design a preoperative psychosocial education course for people undergoing surgery. Qualitative interviews were performed to determine issues that previous surgery recipients felt were missing from their preoperative education, and the current educational course was redesigned to include this content. The study provides a template from which other Trusts could evaluate and improve their education.

Preoperative education for new patients is important to improve outcomes following surgical intervention such as bariatric surgery for obesity (Kruzik, 2009). The effects are particularly noticeable in terms of improving health-related quality of life (HRQOL; Shuldham, 1999). Diabetes and bariatric departments often share patients, and many lessons can be learned from one field and used to improve services in the other. There is a paucity of literature on how preoperative educational courses are developed (Kruzik, 2009), with few data on psychosocial preparation before bariatric surgery.

Unlike in diabetes care, within bariatrics there is no standardisation of preoperative education around the UK, and education is predominantly based on clinical experience rather than evidence. Most preoperative education focuses on physical health, complications and diet, with little attention paid to expected lifestyle changes. In order to help people adjust more easily following bariatric surgery, preoperative education must be improved (Jones et al, 2011).

In this study, we aimed to use qualitative

research to inform the design of a psychosocial, HRQOL-targeted preoperative educational course, providing a template that can be used by other Trusts or specialties.

Methods

Informed consent was obtained from all participants included in this study. The study was approved by the South Yorkshire NHS regional ethics committee (12/YH/0385). All participants provided written informed consent.

This was a two-phase study using a mixture of methods, as follows.

Phase 1: Interviews

The primary phase involved performing qualitative interviews, seeking information about what previous bariatric surgery recipients wished they had known before they underwent surgery.

Thirty people who had undergone bariatric surgery within Sheffield Teaching Hospitals NHS Trust between January 2001 and December 2012 were approached using a stratified purposive sampling technique. Participants were selected

Citation: Owers C, Halliday V, Saradjian A, Ackroyd R (2017) Designing pre-bariatric surgery education: The value of patients' experiences. *Journal of Diabetes Nursing* 21: 119–25

Article points

1. In this study, interviews with previous recipients of bariatric surgery were used to redesign the educational content for future surgery candidates.
2. Gaps identified in the previous education programme included potential side effects, public perception of bariatric surgery and the need for psychological support, addiction transference, and changes to social life and clothing.
3. Education programmes for bariatric surgery candidates may be incomplete, and other centres may wish to re-evaluate their own programmes.

Key words

- Bariatric surgery
- Education

Authors

Corinne Owers is Specialist Registrar, Sheffield Teaching Hospitals NHS Foundation Trust; Vanessa Halliday is Senior Lecturer, University of Sheffield; Adam Saradjian is Clinical Psychologist, Sheffield Teaching Hospitals NHS Foundation Trust; Roger Ackroyd is Consultant Upper GI and Bariatric Surgeon, Sheffield Teaching Hospitals NHS Foundation Trust.

Box 1. Core questions asked in the phase 1 interviews.

1. Tell me about when you first realised you had a problem with your weight and why you decided to have weight loss surgery.
2. Tell me about your journey through weight loss surgery, including your experience of being in the hospital.
3. Can you tell me about the preoperative preparation and education you received before surgery?
4. How has your life changed since surgery?
5. If you could go back to the beginning, what would you do differently this time, and what do you wish you had known?
6. What preoperative advice do you have for patients who are considering weight loss surgery?
7. Do you have any tips for patients following surgery?
8. Is there anything you think we haven't covered that you'd like to discuss? If so, tell me about it.

from each operation type and spanned a range of ages, ethnicities and genders. None of the participants were previously known to the researcher. All could speak fluent English. Data collection continued until no new themes emerged, with the result that 12 interviews were conducted by one author (CO) between February and July 2013.

The interviews focused on aspects of education and care that the participants thought were lacking. Discussions explored in detail what participants wished they had been told before surgery and what issues they thought new bariatric surgery candidates should know in order to make the most of the surgical opportunity afforded to them. The core interview questions are listed in *Box 1*. All interviews were recorded using a digital audio recorder and were transcribed verbatim.

Data were analysed with the use of NVivo qualitative analysis software (QSR International, Doncaster, Vic, Australia) using a general inductive approach (Thomas, 2006). Data were grouped into categories on a detailed level, with any statement remotely relating to preoperative education and information, or lack thereof, being coded. For quality assurance, the data and its emergent themes were also reviewed by a second author (AS). The list of categories was then compiled into similar groupings (subordinate categories), and then again to produce superordinate categories, or "themes".

The third stage involved placing similar categories into subordinate groups (e.g. all comments relating to change in body image).

This began to demonstrate the most important topics for patients. Further exploration of these subordinate categories and how they linked together was performed by hand, using spider diagrams. Finally, each subordinate category was placed into a superordinate category. Throughout the analysis, the researcher (CO) sought to interpret how the participants' experiences of having surgery meant that this information was important to adapt into an educational course.

At each interview, the researcher was clear that, although she was a doctor within the bariatric department, she was there for research purposes and that no medical advice would be given, although queries would be passed to an appropriate professional. It was noted that the researcher's background could potentially influence participants' comments; for this reason, at the end of each interview, the researcher summarised the discussion with the patient, seeking clarification that her initial interpretation of their comments was correct.

Phase 2: Redesign of the existing preoperative course

This phase used results from the interviews to redesign the preoperative psychosocial HRQOL education offered to bariatric surgery candidates within our Trust.

Prior to the study commencing, a preliminary course had been designed, developed and run by two of the authors (CO and AS), based on clinical experience and existing literature. This provided psychosocial information and included the aspects of surgery which patients had anecdotally reported as being important to understand before undergoing a bariatric operation. For example, the topics included weight regain, expected weight loss, relationships with food and how personal relationships may change following surgery. This course was offered to prospective bariatric surgery recipients at the Trust. Using principles of adult learning theory (Kaufman, 2003), the course included auditory, visual and kinaesthetic learning techniques, and the information was reinforced with case studies. Practical exercises, such as mindful eating techniques and keeping a diary on the emotional relationship with food, were included, along with group discussions.

This course supplemented the education already provided in the preoperative seminar and preoperative consultations.

A list of subordinate categories identified during the interview analysis in phase 1 was created, and the topics included in this list were compared with the information provided in the existing preoperative group seminar, consultations and educational course. Any topics felt to be missing from the existing preoperative material were then added to the pre-existing educational course.

Feedback was sought from service users who had attended the preliminary educational course, and suggestions for improvement were utilised and fed back into the design of the course, such as adapting the language to make it more understandable and changing the colour scheme so it would be easier for those with red-green colourblindness to read.

Findings

Of the 12 people who took part in the phase 1 interviews, 11 (92%) were women, 11 (92%) were of white or Caucasian ethnicity, seven (58%) were employed and five (42%) were retired. The average age was 55 (range, 41–76) years, and 11 participants (92%) were married or cohabiting. This sample is relatively characteristic of the population of bariatric surgery recipients within our Trust.

Analysis of the interviews identified three superordinate (overall) themes: “realities of surgery”, “understanding perceptions and seeking a support network” and “tips and tricks”. Within these themes, 29 subordinate categories were identified, of which, following the evaluation process in phase 2, seven were identified as being missing from any existing educational material (Figures 1–3). The subthemes identified as missing are presented in grey in the figures and are discussed below, along with quotes from the interviews demonstrating their need for inclusion in preoperative educational material.

Realities of surgery (Figure 1)

Patient expectations following surgery often correlate with outcomes such as weight loss and adherence to dietary rules, coping ability and satisfaction with surgery; however, these expectations do not always correlate with reality

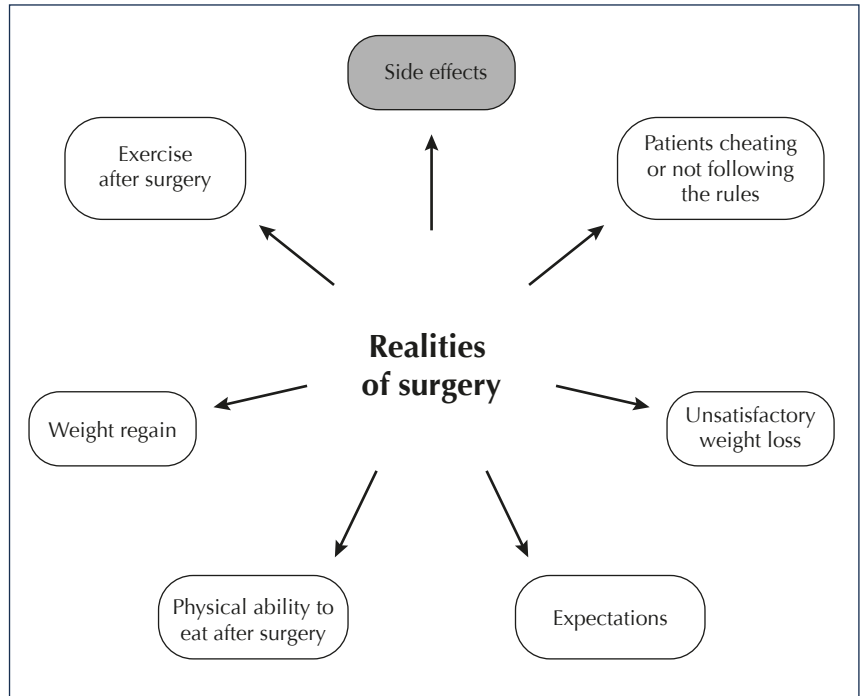


Figure 1. Subthemes within the superordinate category of “realities of surgery”. The grey box depicts material that was not included before the course redesign.

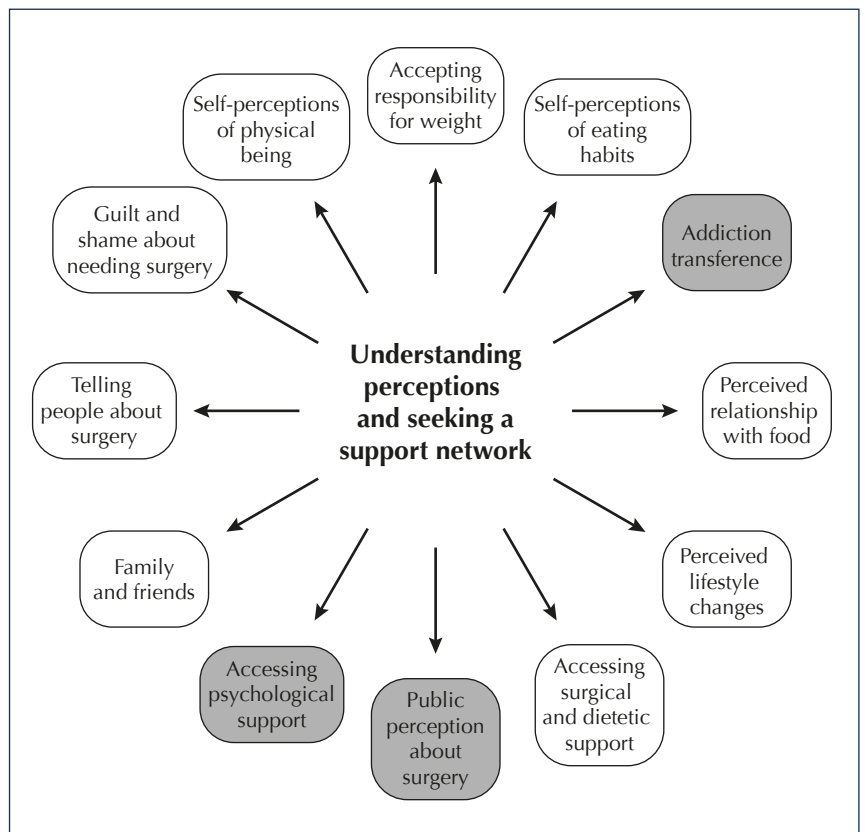


Figure 2. Subthemes within the superordinate category of “understanding perceptions and seeking a support network”. Grey boxes depict material that was not included before the course redesign.

Page points

1. Participants in this study felt that side effects (particularly loose skin, malabsorption and changes to hair, teeth and nails) were not discussed sufficiently in pre-bariatric surgery education.
2. Participants were also surprised by the negative public reaction to bariatric surgery, and by the guilt and shame that many of them felt about their obesity and weight loss surgery.
3. The need for social and psychological support, both within the health service and outside of it, should be emphasised.

post-surgery (Wee et al, 2006; Rankinen et al, 2007; Kaly et al, 2008). This was surprising to many of our participants. They discussed topics such as exercise and eating, the likelihood of weight regain, why weight regain occurred and how their expectations pre- and postoperatively influenced them.

The only category in this superordinate theme felt not to have been included in sufficient detail in any educational material before the course redesign was "side effects". These mostly comprised the issues of loose skin, malabsorption and changes to hair, teeth and nails:

"All my teeth started dropping out and crumbling, and eventually they put me on these little capsules and these big chalk tablets... must be about eight or nine years before [the] department told me I should have been on special vitamins and calcium tablets."

Participant 4

A presentation and discussion on what to expect and how to help prevent these issues was, therefore, added to the redesigned course.

Understanding perceptions and seeking a support network (Figure 2)

Support following bariatric surgery has been shown to have a significant impact on postoperative recovery and adaptation to lifestyle (Clark et al, 2003). The perceptions of bariatric surgery from family and friends may possibly influence this. Participants frequently stated that they did not realise how their and the public's perceptions would influence them, or how much support they would need following surgery. Each subtheme presented in Figure 2 was related to seeking that support, how participants felt about themselves, their perceptions of how they became obese, perceptions of how their lifestyle changed following surgery or their perceptions of how people viewed them. In some cases, this was related to emotional and psychological health, while in others this was related to the types of support they felt they needed.

Given the number of concerns described by participants relating to emotional and psychological health (i.e. self-perceptions), as well as perceptions about surgery, it became apparent that accessing support was a particular concern for many people.

"You need someone to sit down with you when you're feeling really awful and you're having a day where you can't cope. You need someone to phone up, they come to meet you and have a cup of coffee, you talk to them, and if you have to do that all the way through your plateau, that would help you get through. If you could do that, it would be successful, you wouldn't give up, and that's what's important."

Participant 1

It seemed necessary to highlight just how important this support is, both psychologically and socially, in order to make bariatric surgery a success. Few of the participants felt this message had been adequately conveyed. Therefore, in the redesigned course, information was included about the importance of finding an adequate support network, both within the healthcare system and from friends, family or the wider community, preoperatively. Teaching candidates more about the issues associated with support after surgery, how perceptions may influence them and how to adapt to these perceptions, rather than concentrating on medical problems, is a unique part of this course design for bariatric surgery candidates.

Related to this was the public perception of bariatric surgery, and the way patients often experience guilt or shame about their obesity or weight loss surgery, making them less likely to seek support or surgery:

"What I said about people's perception about people being fat – and they're actually quite open and nasty about sometimes: 'You're costing us all this money on the National Health'. Somebody actually said that; you know, 'What right have you got to have... to spend all that money on an operation when all you've got to do is go on a diet?' And I said, 'Do you drive a car?' 'Yeah.' What if you have an accident? Why should we treat you if you have an accident? You know, it's National Health and, you know, if you have a disorder there would be some intervention to stop it."

Participant 11

"So there is that, like, shame of 'I'm embarrassed cause of what I do and I can't control it' and the guilt of spending NHS money on something that is elective really... So there is a lot of judging about

wasting NHS money and things like that, so when I was looking into it this time, I particularly wanted to do it privately because... I would feel less guilty."

Participant 6

The public perception of bariatric surgery has an important role in how service users feel about themselves, and it is possible that providing education or at least discussing the concepts of shame and public perceptions preoperatively may help them to understand that negativity following surgery is a natural reaction experienced by many and that, with a little help and support, they can learn to combat the negative feelings associated with these attitudes.

The other aspect of seeking support was related to addiction transference:

"I've ended up an alcoholic... That's my personality, I have to be addicted to something... I've done quite a lot of research about it and I've spoken to the dietitian at length, and she did say that quite a lot of people have had this problem with alcohol... And it's actually been quite frightening because it's been even more of a compulsion than eating was."

Participant 11

Although a controversial and not universally recognised phenomenon, many participants mentioned addiction transference. Numerous studies have mentioned the potential for this issue (Sarwer et al, 2008). Within our study, one participant had become an alcoholic and two others had friends who developed alcohol addiction following bariatric surgery. Other addictions, such as clothes, exercise and sex, were also mentioned briefly, with a number of participants knowing others who suffered from addiction transference. It was therefore deemed important to advise bariatric candidates on how to recognise potential addictions, and how/where to seek help if they occur.

Tips and tricks (Figure 3)

Participants were very keen to share their advice and tips about how to prepare for surgery, and how to make the necessary lifestyle changes afterwards. Many of these had already been included in the pre-existing education at our Trust; however, it was felt that more information was needed about eating

out in public, changes to social life and clothing.

"It's taken me nearly three years to learn how to eat out. I can do that now successfully but I couldn't [before], and that upset me terribly... I eat a starter usually for my main meal. I'll either pick a starter or I won't have a starter – I'll try a mouthful of his and then he'll eat the rest of my main meal."

Participant 8

Eating out was often described as a significant part of the preoperative lifestyle. Therefore, tips such as choosing a starter as a main meal, sharing with a friend or taking leftovers home for a meal the following day were incorporated into a presentation in the redesigned course.

Clothing was also a significant issue. Participants described how quickly clothing sizes changed, how they went about replenishing their wardrobe and how to accessorise in order to cover loose skin and make clothing last longer:

"Initially, there's groups online that swap and sell clothes. Through the bariatric sites, there's a

Page points

1. Addiction transference, such as developing alcoholism in place of detrimental eating behaviours, was mentioned by several participants, and advice should be given on recognising potential new addictions and on seeking help.
2. Changes to social life following surgery are common, and participants felt that more advice on eating out and adapting clothing to accommodate rapid changes in body size/shape was required.

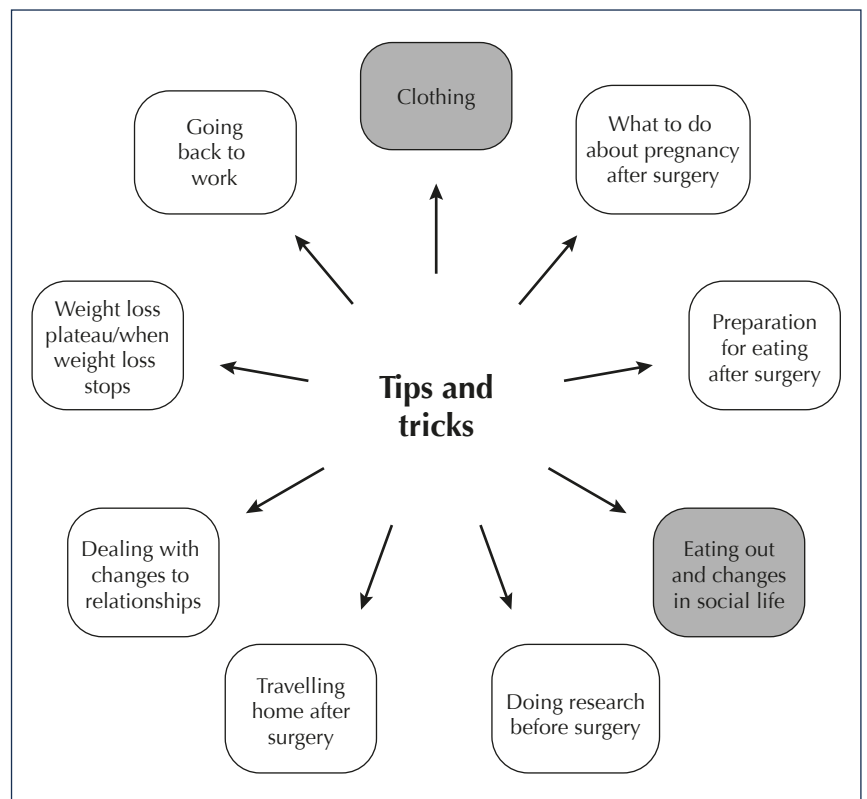


Figure 3. Subthemes within the superordinate category of "tips and tricks". Grey boxes depict material that was not included before the course redesign.

Page points

1. Existing patients can be an invaluable resource when designing preoperative educational courses for people with obesity and other chronic conditions.
2. Previous surgery recipients can provide advice from real-life experience, and it is important to address issues that patients feel are important, not just those that healthcare professionals deem most relevant.
3. Providing preoperative education can particularly improve a patient's health-related quality of life.

few where people will either swap... There's a lot of places online that sell, groups that you can go through. When you first come out of hospital you can go through a size of clothes in two or three weeks."

Participant 5

Although these tips and tricks may not be relevant to all new patients, providing examples of how other patients have changed their lifestyle may be beneficial.

Discussion

This study has demonstrated that existing patients can be an invaluable resource when designing preoperative educational courses for people with chronic conditions. Many of the lessons learned may be relevant to diabetes care. From our participants' perspective, there were seven topics identified as being important that were missing from their preoperative education. It is unclear why these particular topics were not included in the initial education package; it may be that we did not appreciate their importance to service users, or it is possible that the cohort recruited for this study were more expressive compared to postoperative patients who are routinely seen in clinic, as they had been given the opportunity to discuss their postoperative lifestyle during this study. Findings from this study suggest that we as healthcare professionals should seek to explore and address issues that patients feel are important, rather than those that we deem most relevant. The advantage of involving service users in the design of educational material is that they are able to provide advice from real-life experience.

Providing preoperative education can particularly improve a patient's HRQOL (Lagger et al, 2010). HRQOL can be evaluated or measured in many ways, with aspects including physical, psychological and social health, following surgery (Bakas et al, 2012). Evaluating HRQOL should include the patient's perspective, and preoperative education designed to improve HRQOL should also be developed from this standpoint (Kushner and Foster, 2000; Crosby et al, 2003). Given the increasing use of patient-reported outcomes after surgery, HRQOL measurement should perhaps become a standard postoperative evaluation tool.

Using qualitative research, which best facilitates exploring the issues most significant to service users, is an effective way to ensure that patient education is of the best possible quality (Merriam, 2001). The approach used in this study allowed for patients and professionals to be involved in the course redesign. This structured approach to the development of healthcare education provides an alternative to, for example, an established technique such as the Delphi method.

Using the insights and suggestions gained from patients in qualitative studies such as this, in order to design successful educational sessions, has been done in various specialties, including diabetes (Cooper et al, 2003). However, this is the first study to describe exactly how the experiences of patients have been used to design education for bariatric surgery. Whilst other studies have published the results of their improved education, few, if any, have published the process that they went through to evaluate and design their education programmes (Harris et al, 2008; Adams, 2010). This article therefore provides a method that can be used by other organisations.

The educational course from this study is being used as the intervention in a controlled clinical pilot study assessing the effect of preoperative education on HRQOL outcomes. Further studies, including multicentre trials of existing versus improved educational packages, should be performed in other centres to determine whether improved education such as this is beneficial in the long term.

Conclusion

Studies such as this could be a step towards standardising preoperative education for bariatric surgery in the UK in the same way as has occurred in other specialties such as diabetes. This may help to make information less confusing when people are being treated in different Trusts. Our study has highlighted that patient education before bariatric surgery, even in an established and reputable bariatric centre, can sometimes be incomplete from the patient's point of view. It is possible that this is also the case with other chronic conditions, especially where significant lifestyle changes occur as a result of treatment. Overall, the findings highlight the importance of patient involvement

in the development of health education. Other centres may wish to evaluate their own education using a method such as this, in order to identify any areas in their own practice that could be improved upon, thus helping to provide a better service and patient experience. ■

Adams RJ (2010) Improving health outcomes with better patient understanding and education. *Risk Manag Healthc Policy* **3**: 61–72

Bakas T, McLennon SM, Carpenter JS et al (2012) Systematic review of health-related quality of life models. *Health Qual Life Outcomes* **10**: 134

Clark MM, Balsiger BM, Sletten CD et al (2003) Psychosocial factors and 2-year outcome following bariatric surgery for weight loss. *Obes Surg* **13**: 739–45

Cooper HC, Booth K, Gill G (2003) Patients' perspectives on diabetes health care education. *Health Educ Res* **18**: 191–206

Crosby RD, Kolotkin RL, Williams GR (2003) Defining clinically meaningful change in health-related quality of life. *J Clin Epidemiol* **56**: 395–407

Harris M, Smith BJ, Veale A (2008) Patient education programs – can they improve outcomes in COPD? *Int J Chron Obstruct Pulmon Dis* **3**: 109–12

Jones JM, Papadakos J, Bennett C et al (2011) Maximizing your Patient Education Skills (MPES): a multi-site evaluation of an innovative patient education skills training course for oncology health care professionals. *Patient Educ Couns* **84**: 176–84

Kaly P, Orellana S, Torrella T et al (2008) Unrealistic weight loss expectations in candidates for bariatric surgery. *Surg Obes Relat Dis* **4**: 6–10

Kaufman DM (2003) Applying educational theory in practice. *BMJ* **326**: 213–6

Kruzik N (2009) Benefits of preoperative education for adult elective surgery patients. *AORN J* **90**: 381–7

Kushner RF, Foster GD (2000) Obesity and quality of life. *Nutrition* **16**: 947–52

Lagger G, Pataky Z, Golay A (2010) Efficacy of therapeutic patient education in chronic diseases and obesity. *Patient Educ Couns* **79**: 283–6

Merriam SB (2001) Andragogy and self-directed learning: pillars of adult learning theory. *New Directions for Adult and Continuing Education* **2001**: 3–14

Rankinen S, Salanterä S, Heikkinen K et al (2007) Expectations and received knowledge by surgical patients. *Int J Qual Health Care* **19**: 113–9

Sarwer DB, Fabricatore AN, Jones-Corneille LR et al (2008) Psychological issues following bariatric surgery. *Primary Psychiatry* **15**: 50–5

Shuldham C (1999) A review of the impact of pre-operative education on recovery from surgery. *Int J Nurs Stud* **36**: 171–7

Thomas DR (2006) A general inductive approach for analyzing qualitative evaluation data. *Am J Eval* **27**: 237–46

Wee CC, Jones DB, Davis RB et al (2006) Understanding patients' value of weight loss and expectations for bariatric surgery. *Obes Surg* **16**: 496–500

“Our study has highlighted that patient education before bariatric surgery, even in an established and reputable bariatric centre, can sometimes be incomplete from the patient’s point of view.”