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# Patient Experiences after Undergoing Bariatric Surgery

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## Abstract

**Background:** Overweight and obesity has increased worldwide and is a leading cause of preventable death. This has led to the quantity of bariatric surgical procedures in Sweden increasing. Research has identified significant medical benefits such as long-term weight loss, improved risk factors and significant reduction of mortality resulting from the surgery, however research focusing on the experiences of patients has not been undertaken to the same degree. The increasing incidence of overweight and obesity suggest that this patient group will continue to increase each year. Knowledge about the experience of bariatric surgery, including the challenges it represents from the patients' perspective, is essential for nurses in order to provide the best possible care.

**Aim:** The aim of the study was to investigate the patient's experiences after undergoing bariatric surgery beyond the initial post-operative period of 6 months.

**Method:** This study has been conducted as a literature review of nine qualitative scientific nursing articles. The data was analysed by conducting a manifest content analysis.

**Result:** The results found that experiences after bariatric surgery beyond the initial post-operative period were both positive and negative. How the individuals adapted to the changes the surgery entailed was found to be a strong factor in determining the nature of the experience. Two main categories emerged from the data; 'Enforced Structure' and 'A Complete Transformation'.

**Conclusion:** Undergoing bariatric surgery results in extensive and complex changes for this patient group to adapt to. Exploring their experiences has allowed factors for successful and challenging adaption to these changes to be identified. Nursing professionals can use this knowledge to help guide bariatric patients towards a successful adaption to the multitude of changes that surgery encompasses.

**Keywords:** Adaption, bariatric surgery, experience, transition.

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## Introduction

Overweight and obesity has increased worldwide and is a leading cause of preventable death (Ponstein, 2012; World Health Organisation [WHO], 2014). The consequences of overweight and obesity affect individuals physically, psychologically, socially and economically (Fontaine, Cheskin, & Barofsky, 1996; Fabricatore, Wadden, Sarwer & Faith, 2005). Today obesity is associated with higher morbidity and lower health-related quality of life than smoking, alcoholism and poverty (Sturm & Wells, 2001). The quantity of bariatric surgical procedures in Sweden has increased as a result of the increased incidence of overweight and obesity (Scandinavian Obesity Surgery Register [SOReg], 2014). Bariatric surgery leads to long-term weight loss, improved risk factors and significant reduction of mortality (Sjöström, 2008). However, not all patients consider the experience to be positive. Deaths from suicide have, for example, been found to increase after undergoing bariatric surgery (Adams et al., 2007).

Knowledge about the experience of bariatric surgery, including the challenges it represents from the patients' perspective, is essential for nurses in order to provide the best possible care for this patient group (Pfeil, Pulford, Mahon, Ferguson & Lewis, 2013). Patients undergoing bariatric surgery are entitled to the same high-quality care as all other patients. It is therefore a requirement that nurses are knowledgeable in this area in order to provide a high standard of care (Sutton, Murphy & Raines, 2009). The National Board of Health and Welfare in Sweden (Socialstyrelsen, 2005) state that nurses are to be aware of the patient's experience of illness and suffering and should employ suitable measures to ease these experiences as much as possible. To enable nurses to do this, further research of the bariatric patient's experiences of life after surgery needs to be carried out. Prejudice and misinformation about obesity and bariatric surgery further emphasizes the need of more research in the area (Fobi, 2006). Greater insight into the experiences of the bariatric patient will play a key part in combatting these prejudices and help raise the profile of bariatric surgery to a positive health-promoting and life-sustaining intervention (Ponstein, 2012; Pfeil et al., 2013).

Due to increasing rates of obesity and its wide-reaching effects on individuals' lives, the number of bariatric surgical procedures are expected to escalate (Sutton et al., 2009). Therefore it is more important now than ever before that all who care for bariatric surgery

patients understand the unique needs of these individuals and are able to meet those needs (ibid). According to Forsberg and Wengström (2013) compiling existing research can lead to furthering knowledge in a particular field. Therefore, a literature study was chosen to investigate the experiences of individuals who have undergone bariatric surgery after the immediate post-operative period. Numerous studies have shown a notable difference in the experiences of the patients six months post-operatively when immediate post-operative concerns such as wound care and anastomotic leakage have passed and individuals have had a period of time to adjust to the dramatic changes after surgery (Dymek, Le Grange, Neven & Alverdy, 2001; Forsberg, Engström, & Söderberg, 2014; Glinksi, Wetzler & Goodman, 2001; Sutton et al., 2009; Warholm, Øien, & Råheim, 2014). Therefore, to exclude these immediate post-operative challenges and investigate the more long term experiences of individuals after bariatric surgery, only articles conducted after the 6 month post-operative period have been included.

## Background

### Overweight and Obesity

Overweight and obesity are growing public health problems both in Sweden and the rest of the western world. They are also the leading risk factors for deaths globally (Swedish Council for Health Technology Assessment [SBU] 2002; WHO, 2014). In 2008 WHO estimated that over 1.4 billion adults (over 20 years) were overweight. Five hundred million of these were classified as obese. Almost half of all people in Sweden currently suffer from obesity or being overweight (Public Health Agency of Sweden, 2014a). Body Mass Index (BMI) is used to calculate overweight and the different grades of obesity (WHO, 2000). BMI is the weight in kilograms divided by the square of the height in meters ( $\text{kg}/\text{m}^2$ ). Overweight is defined as a BMI of  $\geq 25.0$ , whereas obesity is categorized into three groups. Obesity class I means a BMI of  $\geq 30.0$ , obesity class II  $\geq 35.0$  and obesity class III  $\geq 40.00$  (WHO, 2000). The proportion of obese people has increased from 11 percent in 2004 to 14 percent in 2014 (Public Health Agency of Sweden, 2014b). This has serious health consequences, such as type 2 diabetes, cardiovascular disease, certain types of cancer (e.g. colorectal cancer) and early death (Brown, 2006).

## Psychological, Social, Physical and Economic Consequences

In addition to the aforementioned health consequences of obesity and overweight, there are also negative psychological, social, physical and economic aspects for overweight and obese individuals, which lead to a lower quality of life (Brown, 2006, Van Hout & Van Heck, 2009). According to WHO (1994) quality of life is defined as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. Physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to their environment also impact a person's quality of life (ibid). Livingston (2003) further supports the fact that class II obesity negatively effects quality of life in physical and psychosocial domains.

Puhl and Brownwell (2001) highlight negative psychological and social consequences describing the stigma against people with overweight and obesity within education, the working life and in the media. Van Hout and Van Heck (2009) concur that prejudice, discrimination, social isolation, unsatisfactory relationships as well as work-related problems mean that these individuals often feel misunderstood, neglected and not accepted in society. According to a study by Puhl and Brownwell (2001) negative attitudes towards this group of patients also exist within the health care sector. Patients with obesity who participated in the study were described by some nurses as repulsive (ibid). Overweight and obesity leads to large social costs (Public Health Agency of Sweden, 2002). The Swedish Council on Health Technology Assessment (SBU, 2002) estimates the cost of obesity and related diseases to about 2% of society's total expenditure on health care, which is approximately SEK 3 billion annually in Sweden. In addition there are the indirect costs constituted of early retirement and sick leave, which are at least as high as the direct costs (ibid).

## Contributing Factors to Overweight and Obesity

There are many factors that contribute to the dramatic increase in overweight and obesity. Eiben (2012) believes that since it takes many generations for the genetics to change in the entire population, environmental changes must be the main reason. A contributory factor is the changed lifestyle, where time spent in front of screens has increased considerably in recent years, which has led to individuals becoming more sedentary and inactive (Hu, 2003). Changed dietary habits with a greater intake of energy-dense food (food with a high amount of calories per gram such as packaged snack food) has also had a negative impact on the

occurrence of overweight and obesity. Genetic factors primarily determine if an individual can become obese, but lifestyle and environment determine whether an individual actually becomes obese (Van Hout & Van Heck, 2009).

## Benefits of Weight-Loss

A weight loss results in an immediate improvement of disease-related risk factors for people with obesity (Sjöström, 2008). According to Goldstein (1992) modest weight loss is defined as up to 10 percent and improves individual health notably, impacting glycaemic control positively as well as reducing cholesterol and blood pressure levels. But not everyone manages to lose weight despite diets, physical activity and behavioral changes (Pories, 2008). According to Van Hout and Van Heck (2009) non-surgical methods are ineffective in achieving lasting weight loss for patients with class III obesity. Bariatric surgery, is a successful intervention, which in most cases lead to a permanent weight loss of 40 - 60% of the body weight (ibid). SBU (2002) state that bariatric surgery is the most important and well supported treatment option for patients with class II obesity or above.

## Bariatric Surgery; Criteria and Methods

The National Medical Indicators for Primary Bariatric Surgery and Quality Control in Sweden (Svensk Förening för Övre Abdominell Kirurgi [SFÖAK], 2011) state that an individual with a BMI of  $\geq 40$  should be considered for bariatric surgery. This criterion is partly based on an American study by Lew (1985) which showed a dramatic increase in mortality between BMI  $\geq 35$  - 40. However, patients who also have a comorbidity are considered for surgery with a BMI  $\geq 35$  (SFÖAK, 2011). Diseases such as type 2 diabetes are considered comorbidities, but problems with body size which impact employment opportunities, family functioning or mobility are also taken into account. A requirement for all prospective bariatric surgery patients is that they have made serious attempts to lose weight using alternative methods prior to surgery (ibid).

Bariatric surgery has changed over the years and various operative methods have been performed (Pories, 2008). In Sweden about 95% of bariatric surgery is done by performing a gastric bypass operation (SOReg, 2013). This entails segmenting the stomach into a small proximal pouch, about the size of a golf ball (Pories, 2008). The new pouch is drained using a Roux-en-Y which bypasses the duodenum and connects it to the jejunum. Therefore this operation is both restrictive and malabsorbative (ibid). The second most common operation



method in Sweden is the gastric sleeve which accounted for 6.3% of operations in 2013 (SOReg, 2013). The gastric sleeve creates a narrow gastric tube by removing most of the stomach (Pories, 2008). Duodenal switch is an operation that is only used on patients who have a BMI  $\geq$ 50-60, about 50 patients annually in Sweden (SOReg, 2013). It also reduces the stomach significantly and bypasses more bowel than a gastric bypass (Pories, 2008). Bariatric Surgery; Effects and Complications.

In 2013 7 700 obese people had bariatric surgery in Sweden (SOReg, 2013). According to SOReg (2013), there is currently no alternative to surgery for this group of patients. For the majority of patients with diabetes, hyperlipidemia, hypertension or obstructive sleep apnea, a gastric bypass can result in abolishment of the disease or an improvement in their condition (Shah, Simha & Garg, 2006). The study "Swedish Obese Subjects Study" demonstrates positive effects within most cardiovascular risk factors over a ten-year period after the gastric bypass surgery (Sjöström et al., 2004). Obesity surgery is a relatively safe surgical procedure for the patient (Pories, 2008). Anastomotic leak is the most serious post-operative complication and accordingly the most common cause of death (Barth & Jenson, 2006). The most common complication is wound infection which must be treated immediately to avoid sepsis (ibid.) In Sweden the proportion of patients who suffer from complications of a gastric bypass surgery continues to reduce, but approximately three per cent are affected by serious complications afterwards (SOReg, 2013). However, Sampalis, Liberman, Auger and Christou (2004) argue that these risks must be seen in the light of the serious somatic and psychological implications of untreated obesity.

## Bariatric Nursing

Due to the increase in obesity and its related health concerns it is reasonable to expect the number of bariatric surgical procedures to continue to escalate (Sutton et al., 2009). The nurse can have a significant impact on how the patient and family respond to the surgical procedure (Grindel & Grindel, 2006). Barth and Jenson (2006) concur that the challenges for nurses are to be knowledgeable about bariatric operations and to plan for the care of bariatric patients in order to achieve optimal results and outcomes. Research on the beneficial medical effects of a gastric bypass surgery is plentiful (Sjöström et al., 2007; Nijhawan, Richards, O'Hea, Audia, Alvarez, 2013; Aminian et al., 2014) however patients' experiences after undergoing bariatric surgery is a relatively unexplored area. According to Benner, Tanner and Chelsa (1999) an experience is created when encountering a situation in such a way that

one's own understanding of the situation changes. Kennedy, Kenny and O'Meara (2015) affirm that experiences can impact an individual emotionally, physically and socially. Eriksson (1987) states that an experience is based on the individuals' degree of consciousness and self-awareness. Moreover, an experience is subjective and difficult for others to understand if an individual does not wish to share it (ibid). There are studies with a quantitative design that focus on the quality of life after the surgery (Van Hout et al, 2009; Sarwer, Wadden, Moore & Eisenberg, 2010) but there is a need for more qualitative research that highlight the individual's unique experiences (Pfeil et al., 2013).

Patients in general are satisfied with their decision to undertake bariatric surgery despite the perioperative limitations, however up to a fifth of patients seem to be dissatisfied after undertaking surgery due to psychosocial problems, complications and their expectations not being met (Shai, Henkin, Weitzman & Levi, 2003). Grindel and Grindel (2006) argue that patients must comprehend clearly and pragmatically how their lives may change after the operation in order to achieve positive patient outcomes. This demands quality nursing care and effective patient teaching (ibid). Insight into the bariatric patient's individual experiences is needed to enable nurses to provide patients with realistic expectations for the surgery and a greater understanding of the changes after the surgery (Warholm et al., 2014). As bariatric surgery has become more popular in recent years, it is fundamental for nurses to be educated on surgical procedures, signs of complications as well as progressive care if patients are to have positive postoperative outcomes (Ponstein, 2012).

## Theoretical Framework

The theoretical framework for this review is the middle-range nursing theory of transitions (Meleis, Sawyer, Messias & Schumacher, 2000). There are five main concepts encompassed in the theory; *types and patterns of transitions, properties of the transition experience, transition conditions, patterns of response and nursing therapeutics*. The aim of the theory is to help nurses see patterns of transition amongst patients in order to guide them towards a healthy transition. Transition is defined as a central concept within nursing. It is the nurse who is the primary caregiver for individuals and their families who are going through a period of transition. It is the role of the nurse to attend to the changes and demands that transitions bring to the individuals life (Meleis et al., 2000).

According to Meleis et al. (2000) there are three different types of transition. Different developmental and lifespan stages, such as childbirth or ageing, can trigger a transitional process as can social and cultural transitions such as retirement. Relevant for this review is how illness experiences, such as undertaking surgery, can put an individual in a process of transition and therefore in a vulnerable position. Although complex and multidimensional, Meleis et al. (2000) have identified 5 interrelated properties that define 'transition'; *awareness, engagement, change and difference, time span and critical points and events.*

During a period of transition individuals may be more susceptible to risks which can have a negative effect on their health. Meleis et al. (2000) state that an individual's daily life, environment and interactions are shaped by the nature, conditions, meanings and processes of the transition experience

A transition is described as mastering new roles and situations which lead to 'understanding the big picture' (Meleis et al., 2000). Bariatric patients go through a significant amount of physical, emotional, social and psychological changes after their surgery (Sutton et al., 2009). However, changes do not automatically lead to a healthy transition (Meleis et al., 2000). Significant weight loss does not guarantee a successful transition to a healthy lifestyle for this patient group. This is determined by how the individual adapts to the changes experienced and their ability to cope with them. By gaining a greater understanding of the multiple transitions that the bariatric patient goes through, and how each individual copes with these changes, can aid nurses in leading the patient towards a healthy transition whilst steering away from vulnerability and risk (Meleis et. al, 2000).

## Aim

The aim of this study was to investigate the patient's experiences after undergoing bariatric surgery beyond the immediate post-operative period of 6 months.

# Method

## Design

This study has been conducted as a literature review of qualitative scientific nursing articles found by conducting a structured search in two databases. According to Polit and Beck (2011) a literature review critically appraises and summarizes a body of research whilst allowing the researcher to contribute to existing knowledge through a synthesis of evidence. Polit and Beck (2011) state that the purpose of this type of research is to expand understanding of the phenomenon from multiple perspectives. The design of the review allowed access to qualitative data without conducting an empirical study. Qualitative research is associated with constructivist inquiry which is primarily concerned with understanding the human experience as it is lived (Polit & Beck, 2011). This is supported by Willman, Stoltz and Bahtsevani (2011) who state that qualitative research methods are used to describe, explain and deepen understanding of human experience and views. Despite there being various forms of qualitative research, a uniting attribute is that they are all holistic (Willman et al., 2011).

## Inclusion Criteria and Data Collection

The inclusion criteria for the study were that the articles selected were scientific, peer reviewed articles that had a qualitative design. Moreover only articles written in English were included and the participants of the studies were adults. A post-operative minimum time period of six months was also an inclusion criteria. A search was conducted on two databases; Cumulative Index to Nursing and Allied Health Literature [CINAHL] and PubMed, *see appendix 1 and 2*. Willman et al. (2011) state the importance of searching for literature from more than one source in order to avoid publication bias. CINAHL was selected as it contains articles to almost all of the English language nursing and allied health journals (Polit & Beck, 2011). PubMed was selected as it provides access to an extensive amount of nursing journals (Willman et al., 2011). A manual search of the selected articles and their references was conducted in order for further relevant articles to be identified. According to Willman et al. (2011) it is beneficial if database searches are complimented by conducting manual searches in articles and reference lists. A manual search of the articles revealed that two of the selected articles had been published in a peer reviewed journal specialising in bariatric nursing (Bariatric Surgical Practice and Patient Care, 2012). As these

articles were particularly relevant for this study, the titles of all articles in this journal were read, as well as relevant abstracts, *see appendix 3*.

In order to ensure a systematic search of relevant literature a search strategy was developed. Timmins and McCabe (2005) suggest that a systematic, organised search of literature is more likely to produce quality work whilst Hek, Langton and Blunden (2000) lift that the key principles for guiding a literature search involve being systematic, explicit and rigorous. The search strategy was developed by generating key words for the major concepts of the study. As well as possible key words such as 'Bariatric Surgery' and 'Experience', synonyms and alternative terms such as 'Control', were also generated in order to ensure all relevant literature was returned through the search. 'Weight-loss surgery', 'Gastric Banding', 'Roux-en-Y', 'Gastric banding', 'Obesity Surgery', 'Experience', 'Patient Experiences', 'Perceptions', 'Quality of Life', 'Lived Experience', 'Life Change Events', 'Unsuccessful', 'Successful', 'Empowerment', 'Psychosocial', 'Somatic', 'Physical', 'Adaption', 'Behaviour', 'Social Perception', 'Lifestyle' and 'Interviews' were also searched for in various combinations. According to Timmins and McCabe (2005) the use of appropriate keywords is the cornerstone of an effective search. Due to the differing structures of CINAHL and PubMed different keywords were generated for each database to ensure good results. This was done by using each databases' controlled vocabulary thesaurus; CINAHL Headings respectively Medical Subject Headings (MeSH). This resulted in new search terms such as the headings 'Life Change Events' on PubMed and 'Life Experiences' on Cinahl.

The search terms were searched for individually before they were combined into search blocks with free text using the Boolean operator 'AND'. The Boolean operator 'AND' is used to delimit a search and will only return results that include all of the search terms combined (Polit & Beck, 2011). Willman et al. (2011) lift the importance of combining free text with headings to ensure a balance between sensitivity and specificity. Search blocks that were highly sensitive returned a high number of results and were therefore combined with another search term along with the Boolean operator 'AND' until the results had greater specificity and were more manageable. According to Willman et al. (2011) it is more important that a search has high sensitivity in the early stages of the searching process as irrelevant material can be disregarded at a later stage.

The majority of the titles of articles resulting from the searches were scanned, and 86 seemingly relevant abstracts were read. From these abstracts 16 articles resulting from the database searches and 1 article resulting from the manual search of the bariatric journal met the aim of the study. These articles were read thoroughly and on closer reading it became clear that 9 of these articles met the inclusion criteria and were selected for critical appraisal, *see appendix 4*. According to Beverly, Edmunds-Otter and Booth (2006) study quality refers to analysing to what extent a study has taken steps to minimise bias and error in its design, conduct and analysis. In order to assess this it is essential to identify a suitable appraisal tool (*ibid*). A tool designed by the Critical Appraisal Skills Programme [CASP] was chosen to appraise the articles as it was specifically designed for use with qualitative articles, *see appendix 5*. One point was awarded for each of the tool's 10 questions if the answer was found to be 'YES'. 'Can't tell' and 'NO' resulted in no points being assigned for those questions. 0-6 points resulted in a low-quality assessment, 7-8 points resulted in an assessment of medium quality and 9-10 points resulted in an assessment of high quality. All the articles included in the study were found to be of high quality.

## Analysis

According to Olsson and Sorensen (2011) data must be compiled and provided structure in order to understand and interpret the results. Polit and Beck (2011) state that a particular challenge of qualitative data analysis is the lack of universal rules for the analytical process which makes it difficult to carry out. For this reason the data analysis was carried out according to the qualitative content analysis described by Graneheim and Lundman's (2004) as the description of the concepts and process were comprehensively described.

The analysis of the data was focused on the manifest content and the 9 chosen articles were read several times to get a sense of the whole before meaning units were highlighted, *see appendix 6*. Great care was given to select the most suitable meaning units that were neither too broad, nor too narrow. Graneheim and Lundman (2004) warn that too narrow meaning units may lead to fragmentation of the text and the meaning of the text may be jeopardised. The meaning units were then condensed with care taken to preserve the core meaning of the text, and then abstracted. According to Graneheim and Lundman (2004) the process of abstraction entails describing and interpreting the data on a higher logical level by creating codes, categories and themes. Each condensed meaning unit was then assigned a code, and effort was taken to re-read the texts to ensure that the code assigned was in line with the

original context of the text. Polit and Beck (2011) state that the text may require reading several times in order to grasp nuances. Graneheim and Lundman (2004) describe how a category should be regarded as a descriptive level of content and may contain sub-categories. The condensed meaning units were typed, printed and cut up. This made it easier to sort them into categories. The condensed meaning units were read many times and compared with the original articles to ensure that they were categorised according to their original context. When the data had been categorised, sub-categories were formed to further sort the data. Graneheim and Lundman (2004) lift that the categories should be mutually exclusive but these can be challenging to form when analysing human experiences they are often intertwined.

## Results

The results presented here categorise the experiences of patients who have undergone a bariatric surgical procedure at least six months after surgery. Nine articles with qualitative design were included in the study originating from USA, Canada, UK and Norway. After completion of a content analysis the following two main categories emerged: *Enforced Structure* and *A Complete Transformation*, see figure 1 below. Both categories had sub-categories. The main category *Enforced Structure* had the sub-categories *Negotiation of Control* and *Filling a Void*. The main category *A Complete Transformation* had the sub-categories *A Changing Body*, *A Changing Self-Image* and *A Changing Social Life*. All subcategories are presented in two parts; *successful and challenging adaption*. Successful adaption to change led to individuals having positive experiences after bariatric surgery, whereas challenging adaption led to negative experiences. Citations were included as according to Graneheim and Lundman (2004) this increases credibility.

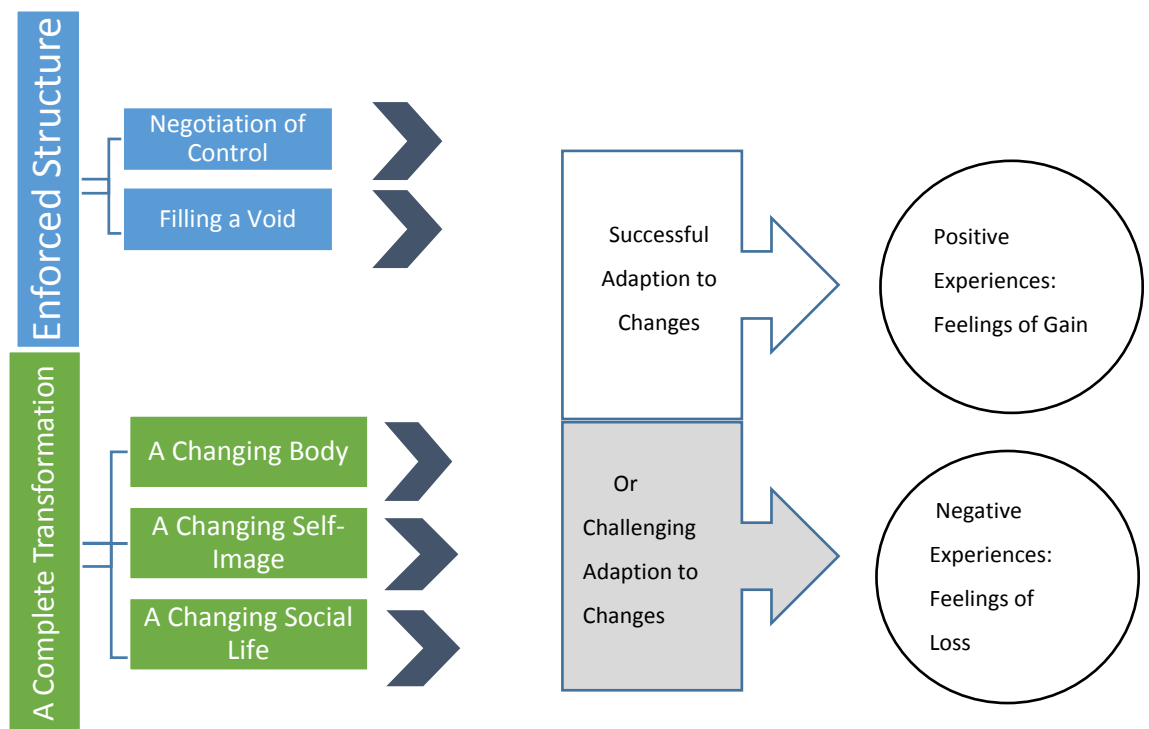


Figure 1. Experiences after undergoing Bariatric Surgery.

### An Enforced Structure

Bariatric surgery suddenly enforces a new structure into the patient's life (Ogden, Avenell & Ellis, 2011). This structure forces the individual to change their dietary habits and way of living directly after the operation has been performed or suffer side effects such as dumping (Natvik, Gjengedel, Moltu & Råheim, 2014, Bocchieri, Meana & Fisher, 2002). Individuals had been striving to achieve this structure for long periods of time through various diets, nutritional and behavioural interventions, medications, behavioural therapy and adopting lifestyle changes (Wysoker, 2005, LePage, 2010). Bariatric surgery suddenly forced that structure upon them and the decision was taken out of their hands (Wysoker, 2005). Both positive and negative experiences emerged as a result of this enforced structure.

*'To a certain extent before the surgery, you have the control about what happens to your weight. You either dieted yourself to try and lose the weight or keep it level or you thought 'what the hell' and ate what you liked and put the weight on. Afterwards, that control was taken away from you. (Ogden et al., 2011, p. 958)*



### *Negotiation of Control – successful adaptation*

Certain individuals felt relief and satisfaction over surrendering control of the situation they had long struggled with (Ogden et al., 2011). LePage (2010) describes the experiences of bariatric patients as a paradox. This is illustrated by the fact that some individuals felt that by undergoing bariatric surgery, and therefore surrendering control, they had gained control over their eating behaviour (Natvik et al., 2014). Fewer cravings for unhealthy food as well as reduced tolerance of sugar, fatty and rich foods led to healthy choices being easier to make (ibid). Others described a feeling of new found freedom after being trapped in their own bodies before the surgery (Bocchieri et al., 2002).

Some participants described a loss of bodily control directly after the surgery (Natvik, 2013). The surgery is an abrupt transition which does not allow time to process and adjust to these changes. Individuals endured unpredictable bouts of diarrhoea, gas, pain, nausea and vomiting. Given time some individuals discovered a connection between food and side effects and therefore were able to adjust their eating behaviours accordingly. This gave them a sense of renewed control (ibid). For some this sense of control became a feeling of internal control (Ogden et al., 2011). Individuals realised it was within their control to work with the surgery or against it. Second time surgery had been necessary for some participants. They experienced that the consequent success of this surgery was associated with an understanding of their own responsibility and control of the situation rather than hoping that the operation would take control of their weight problems (ibid).

Bariatric surgery led to feelings of enhanced connection in other ways (Natvik et al., 2014). Individuals who had previously struggled to feel satisfaction in conjunction with eating felt an increased control over their own body. In some cases these feelings of connection led to negative eating behaviours such as binge eating being resolved. This led to feelings of gain; a gain of control over one's own body, relief and feelings of satisfaction after eating (ibid). Many individuals experienced increased control in other areas of their life. People who had previously been reliant on others to carry out every-day tasks, such as cleaning, were able to do these tasks themselves after the surgery (Natvik et al., 2013). A longer, healthier and more satisfying life became possible due to positive health changes after surgery (Bocchieri et al., 2002). This led to individuals having the freedom to make future plans (Earvolino-Ramirez, 2008; Lyons, Meisner, Sockalingam, & Cassin, 2014; Natvik et al., 2013) and therefore an increased sense of control over their future.

After bariatric surgery individuals were no longer able to consume and tolerate food as before and initially this led to feelings of loss (Natvik et al., 2014). Some individuals changed their behaviour to allow them to control their weight and cope with these changes (Wysoker, 2005). Eating smaller pieces of food, peeling and eating shrimps one by one and putting down the cutlery on the table before taking the next mouthful were ways mentioned used to adjust to spending less time eating (Natvik et al., 2014).

*'Yes, it is behaviour modification. A lot of times I sit in the chair with my family, and I can munch all day. I choose toothpicks. I like to have something in my mouth going, and I don't want to intake calories'* (Wysoker, 2005, p. 30)

#### *Negotiation of Control - challenging adaption*

Whereas the individuals who successfully adapted to the new element of control in their lives and experienced a new sense of freedom (Bocchieri et al., 2002), the individuals who experienced a challenging adaption to control found that they felt increasingly trapped in a difficult situation (Groven, Engelsrud & Råheim, 2010).

Adjusting to the different types of food as well as the smaller portions was described as being an extremely difficult transition (Ogden et al., 2011). Food and eating were associated with pleasure and relaxation. Although bariatric surgery now helped with weight-control and made choosing healthy foods easier, individuals experienced regret and loss over the enjoyment and satisfaction that food had once given (Natvik et al. 2014).

*'Before it (food) was this nice thing that tasted nice and made me feel good; very much a comforting and joyous thing and now it's just a pain in the arse, it really is'.* (Ogden et al., 2011, p. 958)

Some individuals resented the loss of control and rebelled against the surgery, seeing how much they could eat before feeling ill (Ogden, 2011). Others still experienced feelings of hunger and a desire for food after surgery (ibid). They had feelings of loss and dissatisfaction over not being able to eat as they once had and experienced it as challenging to submit control of their eating. This often led to over-eating and problematic eating or serious adverse effects (Natvik et al., 2014). Some individuals felt 'a sense of injustice' because of the control

imposed by the surgery and employed strategies to try and increase the amount of food they could eat after surgery (Ogden et al., 2011). Chewing the food to a pulp, flushing food down with water, grazing day and night and consuming soft food and drink rich in calories were ways to ‘cheat’ the operation (ibid). Others struggled with eating disorders after surgery (LePage, 2010). They saw bariatric surgery as an opportunity they had been lucky to receive and described feelings of guilt and disappointment over failing to adjust to the changes. These feelings of loss worked against attempts to eat more healthily (Natvik et al., 2014).

*‘Sometimes the food tastes so nice; I just have to eat, even if I am full. Then I vomit...’*  
(Natvik et al., 2013, p. 1207).

Even patients who had felt a sense of control during the first year post-surgery felt that losing weight after this period required more and more psychological control (Bocchieri et al., 2002). In some cases certain foods which individuals had been unable to tolerate had become consumable again and the amount of food the stomach was able to hold increased. Some individuals found it to be a daily struggle to change their eating behaviour in order to keep their weight stable or avoid gaining weight (ibid).

There was a strong fear from many individuals about losing control and regaining the weight that they had lost again, especially as some experienced that the body seemed to adjust to the surgery with time (Natvik et al., 2014; Ogden, 2011; Wysoker, 2005). Weight gain was associated with shame and feelings of defeat (Natvik et al., 2013). Some individuals felt that they would rather stick to strict eating behaviours than try and achieve a more flexible approach to eating as this was seen as risky and a potential threat to weight maintenance/loss (Natvik et al., 2014).

*‘Going back to what you were. Yeah, it is scary because to some people it does happen... You don’t want to be that obese person anymore. That was ridiculed, that can’t walk. You enjoy this quality of life and you want to hold onto it’* (Wysoker et al., 2005, p. 31)

#### *Filling a Void - successful adaption*

Individuals experienced overwhelming physical and emotional emptiness after bariatric surgery (LePage, 2010). Food had given comfort when faced with pain, anxiety and loneliness however eating post-surgery did not fulfil the individuals’ emotional needs (ibid).

Individuals coped with this new void in their life in different ways. Some individuals gained an awareness of their emotions and managed to deal with them in non-destructive ways. One individual described his use of tattoos in order to help deal with emotions such as anger and experienced that it eased the 'empty feelings'. Another experienced that talking to her husband, working out, adoption plans and having a job that she finds satisfying are alternative ways to spend the extra time she has gained after undergoing surgery (LePage, 2010; Natvik et al., 2013).

#### *Filling a void - challenging adaption*

Individuals who had been emotional eaters found it the most challenging to adopt new eating behaviours after bariatric surgery (Bocchieri et al., 2002). In some cases individuals became more aware of their use of food for coping after surgery (ibid.) However, some individuals were unable to find other ways of coping with difficult emotions and continued to try and use food as a source of comfort (Ogden et al., 2011). Some individuals replaced their obsession with food with other destructive obsessions such as alcohol or drug abuse (LePage, 2010). One individual described how she had attempted to fill the void in her life after bariatric surgery by shopping, which ultimately led to devastating consequences (ibid).

*'Over the next year I went to the store almost every day. I would buy a new outfit almost every day...Sometimes I never even wore the clothes. Ultimately I had maxed out our credit card (..) and then took out a loan on the mortgage' (LePage, 2010, p. 61 ).*

#### A Complete Transformation

The second theme that emerged from the analysis of the data was that of a complete transformation. Bariatric surgery was experienced as a rapid life-transforming event that encompassed both external and internal changes (Earvolino-Ramirez, 2008; Groven et al., 2010; LePage, 2010; Natvik et al., 2013). As well as resulting in changes the surgery also demanded that individuals change their lifestyles to include healthy eating and exercise in order to maintain weight loss (Wysoker, 2005). The changes were also described as ongoing (Earvolino-Ramirez, 2008). Individuals experienced that the amount of changes they had to negotiate challenged their coping skills and their sense of stability (Natvik et al., 2013). The extent to which individuals managed to cope with these changes determined the outcome of the bariatric surgery (Bocchieri et al., 2002).

### *A Changing Body – successful adaption*

Most individuals experienced major weight loss after the surgery (Natvik et al., 2013; Ogden et al., 2011) and a positive outcome of this was the following increase in physical function, energy and mobility (Bocchieri et al., 2002; Natvik et al., 2013). Individuals experienced that due to their increased activity they were now able to partake in sports activities which had previously not been available to them, but also carry out every-day tasks such as taking care of themselves and described the experience as emancipating (Natvik et al., 2013). Certain individuals experienced a marked improvement of life-threatening medical conditions and pain related to obesity where as others experienced a full remission (Bocchieri et al., 2002). Others experienced that getting out of bed in the morning was less painful than it had been, as was the case after a long working day (Earvolino-Ramirez, 2008). One woman had been able to conceive after undergoing bariatric surgery and described the surgery as her triumph over obesity (LePage, 2010).

Some individuals were clear about not experiencing any regret about undergoing the surgery despite unpleasant side effects and fears of regaining weight (Wysoker, 2005). These individuals had found ways to cope with unpleasant side-effects such as gas, vomiting and excess skin and therefore were able to adapt to these changes (Lyons et al., 2014; Wysoker, 2005,).

*'I am happy. I don't regret 1 minute of it. Even with the throw ups, 'cause after 15 minutes I lay down and everything goes away. That's my side effects'* (Wysoker, 2005, p. 31).

### *A Changing Body – challenging adaption*

Some individuals found however that living with the changes after bariatric surgery gave them a sense of instability and created tension (Natvik et al., 2013). Individuals described it as essential to develop coping strategies in order to deal with the changes, in particular the negative ones (Lyons et al., 2014). However the surgery meant that changes took place abruptly and some individuals found that they did not manage to adjust and process the physical changes that the surgery resulted in (Natvik et al., 2013). Some individuals experienced depression after weight loss because they felt it was challenging to cope with these changes (Lyons et al., 2014). Bodily reactions such as diarrhoea, gas, pain, vomiting, exhaustion and nausea were both unpredictable and individuals experienced feeling of abandonment, helpless and anxious (Natvik et al., 2013).

Although experienced challenging to varying degrees, many individuals found excess skin challenging to cope with (Lyons et al., 2014; Natvik et al., 2013). One individual described how she experienced the folds of hanging skin as problematic (Groven et al., 2010). Sweating in between the folds of skin which led to infections as well as being hot and itchy. The sagging skin also restricted mobility as the skin moved back and forth and made it uncomfortable to move freely (ibid).

Some individuals experienced complications after the surgery (Groven et al., 2010; Natvik et al., 2013). They experienced a total lack of energy which affected them to varying extents in their daily lives, in some cases preventing them from working (Groven et al., 2010). Some individuals also experienced chronic pain. Pain, discomfort and reduced energy levels were overwhelming and limiting (ibid). One man required several revision surgeries as a result. He described his experience as a 'draining struggle' (Natvik et al., 2013).

*'I'm worrying about whether more complications will emerge. Going back to surgery again – I don't know if I can face it. I feel very exhausted...I think I might've been somewhere else without surgery. I think I might have been alive anyway'* (Natvik et al., 2013, p.1207)

Certain physical side-effects also led to feelings of loss of control. Individuals who experienced pain, exhaustion and discomfort after surgery described these symptoms as unpredictable and surprising whilst limiting their lives in various ways (Groven et al., 2010). These individuals felt that their bodies were no longer functional, like 'a machine that was destroyed'. Some individuals also became dependant on receiving regular B12 injections as taking vitamins and pills in order to try and compensate for the deficiencies they faced after bariatric surgery. Despite these measures many were unable to control their values which led to debilitating physical problems such as tremors, dizziness and losing sensation in extremities. One individual expressed that her life had become worse since the operation (ibid).

### *A Changing Self-Image – successful adaption*

For some individuals the bariatric surgery led to an increased independence and therefore a sense of freedom (Natvik et al., 2013). Individuals were no longer dependant on others for daily tasks and this led to greater confidence, self-worth and self-esteem (Lyons et al., 2014; Natvik et al., 2013). One woman experienced feeling joy about life and self-acceptance in contrast to the years before bariatric surgery when she had felt inferior, useless and had not wanted to live anymore (Natvik et al., 2013). However individuals experienced a ‘mind-body’ lag in which it took time for their body image to adjust to their new physique (Lyons et al., 2014). Individuals explained that they continued to perceive themselves as obese even though they no longer were. When their perceptions of themselves did change it led to a more positive body image. Individuals perceived their bodies as stronger and more able which led to feelings of confidence, attractiveness and being more content with their bodies (ibid).

Bariatric surgery also began a journey of self-discovery for some individuals (Natvik et al., 2013). It caused individuals to reflect over their life before surgery, what kind of person they had been and who they wanted to become. Although this process was painful for some individuals it also led to greater insight and understanding of who they wanted to be. One man reflected on his role as a parent and explained that when obese he had always found excuses to stay on the sofa and not join in with activities with his children and would send his children to fetch things for him. After surgery he explained that he tried to make amends for this and tried to do everything that he didn’t do before (ibid). Other individuals also experienced that they became a better parent after surgery (Bocchieri et al., 2002). They spent more time with their children and described the time spent as having a better quality (ibid).

One of the goals of the individuals after bariatric surgery was to become a ‘normal’ body weight and in turn become normal as they perceived it (Lyons et al., 2014). For these individuals that meant social acceptance: not having people look in their shopping trolley at the supermarket or not being the last person to be sat next to on public transport. This sense of normality helped them feel better about the way that they looked and led to a more positive self-image. Although many individuals wanted to achieve what they considered to be normal, this differed slightly between male and female individuals. Males did not want to be ‘skinny’ as they associated this with being ‘boyish’. In order to achieve a more masculine appearance these men felt it was important to work out and build muscle (Lyons et al., 2014).

### *A Changing Self-Image – challenging adaption*

The sagging skin after surgery affected some individuals' body image (Natvik et al., 2013). Individuals experienced that they were still 'abnormal' after the surgery due to this excess skin and felt increasingly undesirable (Groven et al., 2010; Lyons et al., 2014). This led to feelings of susceptibility and the skin was referred to as a deformity and a 'freak show'. These negative experiences were detrimental to the individuals' self-image and led to feeling less confident and less attractive (ibid). Some individuals experienced feeling more self-conscious about the skin than they had been prior to surgery (Bocchieri et al., 2002). Individuals also experienced similar feelings of vulnerability with the realisation that obesity had served as protection from dealing with challenging emotions, or as excuse for lack of achievement. This realisation led to feelings of vulnerability and individuals felt unprepared for these challenges (ibid).

Some individuals experienced feelings of greater self-worth after bariatric surgery (Bocchieri et al., 2002). They described how as obese they had always put others needs first and prioritised their own needs as low. Individuals were no longer content with settling for less as they had been prior to the surgery and struggled with asserting themselves in an acceptable way (ibid). Others described feeling like a fraud because they had not been solely responsible for their weight loss, rather the surgery was to credit (LePage, 2010). They felt that the surgery served as evidence for their failure despite an understanding of the hard work it takes to maintain weight loss (Bocchieri et al., 2002). This feeling of failure led to shame and embarrassment about needing the surgery (Bocchieri et al., 2002; LePage, 2010).

*'I felt like a fake until the nurse said it is not wrong to be medically treated for a disease that is killing you'.* (LePage, 2010, p. 63).

Adjusting to the rapid physical changes was also challenging (LePage, 2010). In one sense individuals experienced that they became a new person after surgery, but simultaneously felt like the same person internally and this caused feelings of anxiety and grief related to the loss who they had been (ibid.) The bariatric surgery caused these individuals to question who they really were (Bocchieri et al., 2002). Some felt that this was a de-stabilising experience and the realisation of how much weight loss influenced their self-definition was disconcerting (ibid).



### *A Changing Social Life – successful adaption*

Some individuals became more self-accepting and comfortable in social situations after bariatric surgery (Natvik et al., 2013). They described that their changed self-image had led them to behaving differently in social situations and to more frequent social interaction (Lyons et al., 2014). Becoming more assertive, speaking their mind, asking questions and not being afraid of receiving attention were positive experiences that came about after the surgery. One individual described how she greeted people differently since losing weight (ibid).

After bariatric surgery individuals also developed more committed intimate, family and work relationships (Lyons et al., 2014). The positive physical outcomes of the surgery, such as increased energy and the hope of a long future, led to some individuals experiencing improvements in their relationships with spouses (Bocchieri et al., 2002). They also experienced a better sex life due to increased energy, stamina, agility and mobility. Some individuals also experienced that they became more capable parents and improved their occupational status. After bariatric surgery individuals who had previously been unable to work were able to return to work, whereas others began to study or received promotions (ibid).

Social support was experienced as vital in enabling them to cope with the changes after bariatric surgery and many associated this support with success (Lyons et al., 2014). Individuals attended social support groups, having the opportunity to listen to others experiences of bariatric surgery and to talk to others who were facing similar problems (ibid). One individual who had experienced unsuccessful bariatric surgery went through the procedure a second time (Ogden et al., 2011). She managed to change her way of thinking second time around and credited her success to better care from health professionals (ibid.)

### *A Changing Social Life – challenging adaption*

It emerged that many individuals experienced changes in friendships (Bocchieri et al., 2002). For some bariatric surgery led to role transformation (Natvik et al., 2013). Individuals who had previously been the funny and entertaining friend moved away from this role (ibid). Some individuals experienced derogatory comments from family and friends that implied that they had been more 'lively and upbeat' when they had been overweight (Groven et al., 2010).

Dislike of the individuals new identity led to reactions of jealousy and insecurity (Bocchieri et al., 2002). In some cases the individuals' choice of activities changed after surgery due to their new lifestyle and accordingly they spent less time with certain friends than before. The value of some friendships was re-evaluated after bariatric surgery in combination with individuals experiencing a greater self-worth. Some individuals also experienced that the changes that occurred after bariatric surgery caused problems in their relationships. Individuals who felt dependant on their partners before the surgery became more independent and did not need their partner in the same way. Some partners also became insecure and feared being left as the individuals lost weight and were considered more physically attractive. Some individuals also experienced a decrease in sexual desire which was associated with both relationship issues and excess skin.

*'I will never have sex again, I have come to that conclusion. There is skin in places I didn't even know skin was'* (Lyons et al., 2014, p. 46).

The significant weight loss led to an increased amount of attention which differed dramatically from the experienced ignorance and rejection pre-surgery (Natvik et al., 2013). Some individuals struggled with peoples' sudden interest in them and were hurt by the knowledge that their body size affected their relationships (ibid). They experienced feelings of resentment, anger and sadness over how they were suddenly treated more favourably after surgery (Bocchieri et al., 2002; LePage, 2010; Lyons et al., 2014).

*'I knew I would be treated better if I lost weight. But the first time the waiter actually acknowledged me in the same restaurant I had gone to for 12 years, I was irritated beyond belief'* (LePage, 2010, p.63)

Individuals described how they experienced both relief and anger when they heard negative attitudes and comments about obesity. Relieved that they were no longer being discriminated against, but angry for those that were (ibid). Stigma was also present after bariatric surgery (Earvolino-Ramirez, 2008). One participant experienced her family's negative reactions to her surgery. She describes how others perceive the surgery as 'taking the easy way out' and do not understand the hard work it demands (ibid). Others also experienced comments about how they had 'chosen an easy solution' and found these to be very hurtful (Groven et al., 2010).

Some individuals experienced a lack of support post-surgery and felt that although their bodies had been treated their minds had been pushed aside and deemed unimportant by health services (Ogden et al., 2011). These individuals felt that emotional needs had not been met and that it would have helped greatly to have been able to talk about the process with somebody (ibid). One woman had sought support for side effects she was experiencing after the surgery on a forum for bariatric patients (Groven et al., 2010). She was informed by others active in the forum that her comments were too negative and may scare others away, which led to her subsequent withdrawal from the forum (ibid).

## Method Discussion

In order to further current understanding of the experiences after undergoing bariatric surgery a qualitative design was decided upon for this literature study. The nature of the research question led to this design being deemed as most appropriate due to the emphasis qualitative research places on interpreting and understanding human experiences and actions (Topping, 2006).

According to Beverly et al. (2006) reanalysing and synthesising primary data allows a large amount of pre-collected data to be summarised concisely. The benefits of this type of research lead to the overall results being more precise, the findings have higher generalisability and conflicting results become easier to identify (ibid). Conducting a literature study allowed data from an extensive number of participants to be collected, which far exceeded the amount of data an empirical study would have allowed given the time constraints of the study. Despite it not being the aim of qualitative research to include total populations, the sampling frame should ensure that a range of data is identified, as this leads to an increased validity of findings (Procter och Allan, 2006). However, it is important to consider that an empirical study would have also allowed access to first-hand accounts from individuals who had undergone bariatric surgery. Interviews give access to information which is often not possible to gain through pre-collected data. In-home interviews allow the researcher the possibility to observe the participants life world or ask last minute questions which often result in a wealth of information (Polit and Beck, 2011). Collecting the data through interviews would have also reduced the risk of the data already being interpreted by

the original researchers (Forsberg and Wengström, 2008). However, due to the time constraints of the study, conducting an empirical study was considered unfeasible.

A search strategy was developed by identifying keywords closely related to the purpose of the study but also synonyms of the major concepts. Timmins and McCabe (2005) highlight the fact that if keywords or terms are not identified, relevant literature may be omitted from the study which could potentially affect the study's quality. It became apparent during the identification of keywords that CINAHL and PubMed used different keywords in some cases and therefore the respective thesaurus of each database was used to make sure that the correct term was identified. Willman et al. (2011) underline the importance of becoming familiar with every database used as structures may differ. A search of the two databases CINAHL, PUBMED and the articles included in the Bariatric Surgical Practice and Patient Care were conducted in order to collect data relevant to the aim of the study. Two databases were used in order to avoid publication bias (Willman et al., 2011) however databases were limited to two due to time constraints. This may have impacted the results of the study as relevant articles from other databases may have been omitted. A pilot search is considered a suitable way to help define a search (Willman et al., 2011). The pilot search clearly showed that there was a shortage of suitable studies within Sweden, and therefore it was decided that all articles written in English would be included in the database searches and consequently articles from other countries would be included in the study. It should therefore be noted that relevant articles may have been excluded due to them being written in another language.

The original inclusion criteria resulted in 16 relevant articles. After critically appraising the articles and reading them several times, it became clear that some experiences of the individuals were different in the immediate post-operative period, and were not necessarily consistent with the experiences after this time. It was therefore decided that articles focusing on experiences 6 months post-surgery and onwards would be added as an inclusion criteria. Including these articles could have impacted the results as some experiences may have been transient and give an inaccurate portrayal of the ongoing experiences of these individuals. This resulted in 10 articles that met the updated inclusion criteria, however one more was excluded due to the sampling of the participants. The article in question included individuals who had lost significant amounts of weight without having surgery. On closer inspection of this article it was deemed difficult to distinguish which results applied to which participants, and therefore resulted in the article being excluded.

The final selection of articles derived from four countries; Norway, UK, USA and Canada. The results may have been different if the study had only included studies from Sweden, however the results are considered to be largely transferable. Even though there are differences in the healthcare systems of the included countries, they are largely due to how the healthcare systems are financed (Sveriges kommuner och landsting, 2005). The bariatric surgical procedures are very similar to those within Sweden (Mechanick et al., 2013; Canadian Institute for Health Information, 2014; Association of Upper Gastrointestinal Surgeons of Great Britain and Ireland, 2014; Hofsø et al., 2011) therefore the experiences of the bariatric patient are expected to be similar. If the data had been collected through an empirical study, it would have most likely been local data, or at least national data, which would have made the results transferable to a higher degree within Sweden.

One important inclusion criteria was that the articles were peer-reviewed as that ensured they had been appraised by knowledgeable individuals within the area, thus increasing reliability (Willman et al, 2011). However, this study used data from interviews conducted by others. Conducting interviews to collect data presents a wealth of challenges for the researcher. It is important to consider the best structure for the interview, where it will take place, how the data will be recorded and how they will cope with unforeseen interruptions amongst other issues (Polit and Beck, 2011). There is always a risk of introducing bias because of inadequate sampling, questioning or the researcher becoming involved in the interview and consequently altering the perceptions of the participant (Tod, 2006). Using pre-collected data makes it essential that the negotiation of these challenges is clearly reported in order for the articles to be considered reliable. In this study a critical appraisal skills tool (CASP) was used to appraise the quality of the articles that met the inclusion criteria. According to Willman et al. (2011) it is important that this critical analysis is done systematically. The critical appraisal tool helped to keep the process systematic as all articles were appraised in exactly the same way and was comprehensive to use. However, the study would have been more reliable had at least two independent individuals appraised the chosen articles (Willman et al., 2011), which was not possible as a single author.

The critical appraisal of the articles did however lead to an important revelation. When analysing the sampling methods undertaken it became clear that two articles analysed in this study (Groven et al., 2010; Ogden et al., 2011) used a purposive sampling technique, because

the researchers identified groups of individuals who had had negative experiences of bariatric surgery. This is an important observation as the results of these particular studies are over-represented and not representative of all individuals undergoing bariatric surgery. Willman et al. (2011) lift the importance of identifying the specific method a study employs rather than grouping it as a 'qualitative' study. Nevertheless purposive sampling does provide a rich source of data and helps to demonstrate variation within groups (Procter & Allan, 2006). As this study is concerned with the experiences of bariatric patients, these studies are valuable sources of data.

The data was analysed using Graneheim and Lundman's (2003) interpretation of Krippendorfs' content analysis. Graneheim and Lundmans' (2003) article made the process comprehensive but time consuming. Meaning bearing units were taken from the qualitative data and coded. The data was read many times. Polit and Beck (2011) lift the importance of researchers becoming familiar with their data in order for insights and theories to emerge. Becoming familiar with the data led to categories being formed and data was then manually placed within a category. According to Polit and Beck (2011) it can be an advantage that the data in its entirety is coded by the same person as this is thought to lead to the highest possible level of coding consistency. However, the reliability of the study would have been increased if another person had coded a small amount of data (ibid). Regarding this study being carried out by one author it could be considered a disadvantage that there has been limited discussion over interpretations of the data, translations and formulation of text.

During analysis of the data it became clear that it was not possible to simply group the experiences of the individuals into positive or negative experiences, as individuals experienced the same phenomena in different ways. Polit and Beck (2012) state that the qualitative analyst must be sensitive to the relationships within the data and not only have an awareness of similarities across participants but also attempt to understand the variation between them. In the case of this study this entailed trying to understand why certain participants coped with changes more successfully than others.

## Results Discussion

The results illustrate that the experiences of individuals after undergoing bariatric surgery were both positive and negative and encompassed feelings of gain and loss respectively.

However, it became clear that the individuals' ability to adapt to the multitude of changes that bariatric surgery encompassed determined to some degree if their experiences were positive or negative. This is supported by Sutton et al. (2009) who state that individuals are required to adapt to both physiologic and behavioural changes after bariatric surgery. Furthermore Wood and Ogden (2015) illustrate varied responses to change after bariatric surgery. According to Meleis et al. (2000) these changes cause a process of transition.

Successful adaptation to changes led to feelings of gain, whereas challenging adaptation led to feelings of loss. It is vital to question why some individuals were able to negotiate these changes more successfully than others. This is an important question for nurses to ask, as according to Reedy and Blum (2010) nurses play an integral role in the care of bariatric patients throughout the whole transitional process, including supporting patients with the positive and potential negative outcomes of surgery. Understanding how certain individuals managed to adjust to significant change can inform nursing practice and this knowledge can be used to help individuals experiencing a challenging adaptation after bariatric surgery.

The results illustrate that the enforcement of structure into the lives of the individuals was a dramatic outcome of bariatric surgery and individuals' reactions were divided. Those who adapted successfully to the enforced structure felt a heightened sense of control, a notion that is supported by Ogden, Clementi and Aylwin (2006). Kubik, Gill, Laffin and Karmali (2013) state that an individuals' sense of taking control of his/her life after bariatric surgery is an important factor contributing to postoperative mental health. Indeed, the individuals did experience feelings of gain, such as relief and, almost ironically, freedom. Positive changes in mental health for bariatric patients are corroborated through the Swedish Obese Subjects study (Sjöström et al., 2007) which illustrated a substantial decrease in anxiety and depression in the year following surgery compared to the non-surgical control group. However, Dymek et al. (2001) notably state that mental health gains have been identified in individuals who have failed to lose weight after surgery, as well as individuals who have recently undergone surgery and have not yet begun to lose weight. This suggests positive psychological gains are not only associated to weight loss but also to the sense of control individuals may feel after undergoing surgery. This is substantiated by Kubik et al. (2013) who suggest that the mental health gains may be connected to the individual taking an active role in changing their lives, thereby gaining a sense of control.

A strong determiner of whether the individuals adapted successfully or found adaptation challenging seems to be to the extent in which they were active in the decision and process of undergoing bariatric surgery, and this was strongly related to the issue of control. Individuals who felt that they had made a conscious decision to take action concerning their weight problems seemed more able to cope with the consequences of the surgery than those who felt the surgery had been inflicted upon them and had a more passive approach. According to Husted and Ogden (2014) the level of personal investment on the individuals' part is crucial for a successful outcome after bariatric surgery. This sentiment is in line with Meleis et al. (2000) who state that engagement as an essential property of transition and define engagement as the degree in which a person demonstrates involvement in the transition processes. Reedy and Blum (2010) furthermore concur that successful weight loss and weight maintenance require active engagement and cannot be achieved by a passive subject.

According to Ogden et al. (2006), a sense of renewed control may lead to unlocking other adaptive coping strategies which increases the prospects of long term weight-loss success. This is important because it illustrates that positive feelings of gain are not isolated but 'infectious' and lead to more positive feelings or actions, thus promoting success. Indeed, the individuals who adapted successfully to the enforced structure had developed strategies which allowed them to cope with the various changes after surgery. Bauchowitz et al. (2005) support this finding stating that successful outcomes after bariatric surgery depend on acquiring adequate coping skills. An important observation is that individuals who experienced a challenging adaption to the enforced structure appeared not to have developed new coping strategies, but still used food in an abusive way and/or felt feelings of regret, emptiness and loss for the comfort that food had previously given them. Herpertz, Kielmann, Wolf, Hebebrand and Senf (2004) confirm this stating that a substantial number of bariatric patients develop binge eating symptoms or disorders which are associated with a loss of control and significant emotional distress. A crucial observation for nursing is that according to Reedy and Blum (2010) these negative feelings are detrimental to a healthy transition. Bariatric patients in general have been shown to have an elevated risk of developing an addiction (Ivezaj, Savies & Wiedemann, 2012). One of the reasons contributing to the overrepresentation of this specific group is thought to be the concept of addiction transfer/substitution (ibid). This supports the results of this study as individuals described replacing their use of food as a coping strategy with other addictive substances or activities such as shopping.



Meleis transitional theory (2000) lifts the importance of awareness in the transitional process and describe it as a defining characteristic of transition. Regarding the issue of addiction for bariatric patients' awareness is key. As well as the substitution of food with other substances, there are other factors that contribute to the increased risk of developing addiction for this patient group. Post-surgery individuals report an increased effect of substances after surgery, their bodies absorbed alcohol differently than pre-surgery and it took longer for the blood alcohol to return to normal after drinking (Ivezaj, Saules & Wiedemann, 2012). However, individuals experienced a distinct lack of information from health care professionals concerning this topic. Unresolved psychological issues and increased access to pain medication were also found to be risk factors contributing to post-surgical addiction (ibid). Considering the elevated risk for addiction for this patient group it is vital that comprehensive information be given to all patients before and after surgery to increase awareness for potential addiction issues. According to Reedy and Blum (2010) lack of knowledge may inhibit transition. Meleis et al (2000) also lift the importance of awareness and state that the level of awareness the individual has influences their consequent level of engagement in the process.

The results showed that a bariatric surgical procedure resulted in a complete transformation of the individuals' body, self-image and social life. Sutton et al. (2009) concede that bariatric surgery results in a life-changing event which is grounded in the concept of rapid change and requires the individual to adapt to multiple changes following surgery. As previously stated, individuals either experienced a successful adaption to these changes which led to feelings of gain, or a challenging adaption associated with feelings of loss. Reedy and Blum (2010) support these findings and describe gains after surgery such as increased quality of life, improved relationship satisfaction and improved sexual satisfaction amongst others. However, individuals also experienced loss aside from the massive physical weight loss. Reedy and Blum (2010) draw attention to the loss of friends, family support or a partner. Sutton et al. (2009) state that these less visible psychosocial losses are often not given the same attention as the weight loss, but in fact, are just as important. This is an important observation for future nursing practice implicating that psychological transitions need also be given the same attention as physical issues after surgery.

The results suggest that bariatric surgery resulted in huge physical gains for most individuals. These findings are supported by Kent (2007) who describes the increased energy, mobility

and confidence that individuals experience after surgery. The ability to be more active and increased physicality has been described by individuals as the strongest positive outcome after surgery (ibid). The improvement or complete resolution of comorbidities is supported by Sjöström et al. (2004) who describe conditions such as diabetes, hyperlipidaemia, hypertension and sleep apnoea improving or being resolved. However, the results showed the rate in which these physical changes took place was challenging for some individuals who described feelings of helplessness, anxiousness and abandonment. Sutton et al. (2010) describes how while despite post-surgery satisfaction with weight loss, individuals reported 'sobbing episodes' in which they questioned their decision to undergo surgery. Meleis et al. (2000) states that individuals going through a process of transition are vulnerable. Indeed, research seems to support this notion on many different levels (Sutton et al., 2009; Warholm et al., 2014). Physically bariatric surgery alters the normal physiological processes (Sutton et al., 2009). Clinical malabsorption and emotional risk due to altered coping mechanisms places individuals at higher risk post-surgery (ibid). Psychologically the dramatic and rapid changes have been reported to leave individuals experiencing unstable emotions and feeling vulnerable (Warholm et al., 2014). It is important that nurses are aware of this increased vulnerability of bariatric patients and are aware of offering support to those are facing a challenging adaption.

The changes in self-image after bariatric surgery were multiple. The results illustrated successful adjustments to the changes in self-image that bariatric surgery entailed. These results are supported by Warholm et al. (2014) who describe individuals' feelings of excitement and delight post-surgery as they became happier with their appearances. An increase in self-worth was also highlighted in the results. Warholm et al. (2014) suggest that a large body may inhibit self-expression and reported that bariatric surgery had 'freed' one individual's hidden feelings that she had been suppressing for years due to an inability to express herself as an obese person. However, a challenging adaption to changes in self-image was also experienced. Individuals experienced a period of time after surgery where, despite a dramatic physical transformation, they felt unable to identify as a non-obese person. Forsberg et al. (2014) reported similar difficulties to understand the body's transformation describing individuals feeling physically large despite being aware of the change in the mirror and noticing clothes were becoming too big. Warholm et al. (2014) describe this process as the mind having difficulty absorbing the physical changes that bariatric surgery encompasses. Meleis (2000) also highlights that confronting the feeling different or being perceived as

different is a property of the transitional process. Nurses can assess an individuals' perceived mastery of dealing with these changes as an indicator of how their transition is progressing (ibid).

Warholm et al. (2014) lift how our existence is not only based on our own perception of ourselves but also how others perceive us. If taken into account that individuals who are in the process of transition have a heightened vulnerability, it is possible to imagine the serious effect of negative feedback that some individuals report receiving from family and friends. Forsberg et al. (2014) lift how individuals have been called cheaters after revealing that they had undergone gastric bypass surgery as opposed to losing weight the by more traditional means. Reedy and Blum (2010) state that how people interact with each other can influence the transition significantly and discuss how various relationships can consciously or unconsciously sabotage an individuals' success after surgery. They state that it is the duty of the nurse to raise an awareness about relationships that lead to self-defeat and the potential outcomes of continuing these interactions (ibid).

However, positive feedback from other individuals has proven to be an important factor of successful adaption. Meleis et al. (2000) considers the evaluation of 'feeling connected' to be an important measure of how a person is moving through transition. Support from friends and family is valuable but is not always available. Stewart, Olbrisch and Bean (2010) discuss how although individuals felt a need to discuss their challenging experiences after surgery with friends and family, this was difficult as they did not understand their experiences. Stewart et al. (2010) describe how a peer support group provided an opportunity to discuss challenges, give each other motivation and share coping strategies. Individuals also described how the peer group eased their feelings of loneliness (ibid). This kind of support is especially important for individuals who show signs of experiencing a challenging adaption. An example of this would be of an individual enduring a challenging adaption to changes in body image. Gilmartin (2012) states that negative body image can lead to social isolation and have serious implications on an individuals' quality of life.

## Conclusion

The results showed that bariatric surgery resulted in both positive and negative experiences for individuals after the immediate postoperative period of six months was over. How the

individuals adapted to these changes was found to be a strong factor in determining the nature of the experience. Identifying these experiences has allowed factors for successful adaptation to be identified. These factors show that an individual's ability to cope with and adapt to changes after bariatric surgery are crucial for determining the outcome of surgery. Not all individuals demonstrated an ability to develop and use new coping strategies when faced with a challenging adaptation to change. Further research into how individuals can collaborate and share coping skills could be valuable for increasing successful adaptation to the changes after bariatric surgery. Such peer support could also promote motivation and social support. Other important factors deemed important for a successful transition were awareness of the process, taking an active rather than passive role and social support. Awareness is especially important for both the bariatric patient and the nurse. Without an awareness of the issues faced after surgery, the nurse's ability to help and support the patient is limited. With knowledge of the challenges that may be experienced whilst in the process of adapting to extensive changes after bariatric surgery, as well as the increased vulnerability of these individuals, it is vital that nursing professionals take the time to offer empathy, information and support to this increasing patient group.

## References

- Adams, T. D., Gress, R.E., Smith, S.C., Halverson, R.C., Simper, S.C., Rosamond, W.D., Lamonte, M.J., Stroup, A.M., & Hunt, S.C. (2007). Long-term mortality after gastric bypass surgery. *The New England Journal of Medicine*, 357, (8), 753-761.
- Aminian, A., Brethauer, S.A., Daigle, C.R., Kirwan, J.P., Burguera, B., Kashyap, S.R., & Schauer, P.R. (2014). Outcomes of bariatric surgery in type 2 diabetes patients with diminished pancreatic secretory reserve. *Acta Diabetologica*, 51, (6), 1077-1079.
- Association of Upper Gastrointestinal Surgeons of Great Britain and Ireland. (2014). National Bariatric Surgery Report. Retrieved from: <http://www.augis.org/national-bariatric-surgery-registry-nbsr/> (2015-05-01).
- Bariatric Nursing and Surgical Patient Care. (2012). Retrieved from: <http://online.liebertpub.com/loi/BARI> (2015-04-20).
- Barth, M., & Jenson, C.E. (2006). Postoperative nursing care of gastric bypass patients. *American Journal of Critical Care*, 15, (4), 378-387.
- Bauchowitz A, Gonder- Frederick L, Olbrisch M, Azarbad L, Ryee M, Woodson M, Miller A & Schirmer B (2005). Psychosocial evaluation of bariatric surgery candidates: A survey of present practices. *Psychosomatic Medicine*, 67, (5), 825-832.
- Benner, K., Tanner, C., & Chesla, C. (1999). *Expertkunnande i omvårdnad; omsorg, klinisk bedömning och etik*. Lund: Studentlitteratur.
- Beverly, C., Edmunds-Otter, M., & Booth, A. (2006). Systematic reviews and secondary research. In K.Gerrish , & A. Lacey (Eds.), *The Research Process In Nursing*. (pp. 316-334). Oxford: Blackwell Publishing.
- Bocchieri, L.E., Meana, M., & Fisher, B-L. (2002). Perceived psychosocial outcomes of gastric bypass surgery: A Qualitative Study. *Obesity Surgery*, 12, 781-788.
- Brown, I. (2006). Nurses' Attitudes towards adult patients who are obese: literature review. *Journal of Advanced Nursing*, 53, (2), 221-232
- Canadian Institute for Health Education. (2014). Bariatric Surgery in Canada. Retrieved from: [https://secure.cihi.ca/free\\_products/Bariatric\\_Surgery\\_in\\_Canada\\_EN.pdf](https://secure.cihi.ca/free_products/Bariatric_Surgery_in_Canada_EN.pdf). (2015-04-30).
- Dymek, M.P., le Grange, D., Neven, K., & Alverdy, J. (2001). Quality of life and psychosocial adjustment in patients after Roux-en-Y gastric bypass: a brief report. *Obesity Surgery*, 11, (1), 32-39.
- Earvolino-Ramirez, M. (2008). Living with bariatric surgery: totally different but still evolving. *Bariatric Surgical Practice and Patient Care*, 3, (1), 17-25.

- Eiben, G. (2012). Levnadsvanor-resultat från en europeisk studie In C. Berg & M. Magnusson (Red.) *Forskning för en friskare generation – levnadsförhållanden, vanor och hälsosam vikt* (pp.27-35). Göteborg: Göteborgs universitet och författare.
- Eriksson, K. (1987). *Pausen: En beskrivning av vårdvetenskapens kunskapsobjekt*. Stockholm: Almqvist & Wiksell Förlag.
- Fabricatore, A.N., Wadden, T.A., Sarwer, D.B., & Faith. M.S. (2005). Health-related quality of life and symptoms of depression in extremely obese persons seeking bariatric surgery. *Obesity Surgery, 15*, (3), 304-309
- Fobi, M. (2006). The bariatric nurse specialist: A must for bariatric surgery. *Bariatric Surgical Practice and Patient Care, 1*, (2), 71-72.
- Fontaine, K. R., Cheskin, L.J., & Barofsky, I. (1996). Health-related quality of life in obese persons seeking treatment. *The Journal of Family Practice, 43*, (3), 265-270
- Forsberg, A., Engström, Å., & Söderberg, S. (2014). From reaching the end of the road to a new lighter life – People’s experiences of undergoing gastric bypass surgery. *Intensive and Critical Care Nursing, 30*, 93-100.
- Forsberg, C., & Wengström, Y. (2013). *Att göra systematiska litteraturstudier*. Stockholm: Natur och Kultur.
- Gilmartin, J. (2013). Body image concerns among massive weight loss patients. *Journal of Clinical Nursing, 22*, 1299-1309.
- Glinski, J., Wetzler, S., & Goodman, E. (2001). The psychology of gastric bypass surgery. *Obesity Surgery, 11*, (5), 581-588.
- Goldstein, D.J. (1992). Beneficial health effects of moderate weight loss. *International Journal of Obesity, 16*, 397-415.
- Graneheim, U.H., & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today, 24*, 105-112.
- Grindel, M. E., & Grindel, C.G. (2006). Nursing care of the person having bariatric surgery. *Medsurg Nursing, 15*, (3), 129-146.
- Groven, K.S., Engelsrud, G., & Råheim, M. (2010). “My quality of life is worse compared to my earlier life” Living with chronic problems after weight loss surgery. *International Journal of Qualitative Studies on Health and Well Being, 5*, (4). Doi: 10.342/qhw.v5i4.5553
- Hek,G., Langton, H., & Blunden, G. (2000). Systematically searching and reviewing literature. *Nurse Researcher, 7*, (3), 40-57.
- Herpertz, S., Kielmann, R., Wolf, A.M., Hebebrand, J., & Senf, W. (2004). Do psychosocial variables predict weight loss or mental health after obesity surgery? A systematic review. *Obesity Research, 12*, (10), 1554–1569

Hofsø, D., Aasheim, E.T., Søvik, T.T., Jakobsen, G.S., Johnson, L.K., Sandbu, R., Aas, A.T., Kristinsson, J., & Hjelmesaeth, J. (2011). Oppfølging etter fedmekirurgi. *Nor Legeforen*, *131*, 1887-92

Hu, F.B. (2003). Sedentary lifestyle and risk of obesity and type 2 diabetes. *Lipids*, *38*, 103-108.

Husted, M., & Ogden, J. (2014). Emphasising personal investment effects weight loss and hedonic thoughts about food after obesity surgery. *Journal of Obesity*, (published online), doi: 10.1155/2014/810374

Ivezaj, V., Saules, K.K., & Wiedemann, A.A. (2012). "I didn't see this coming.": why are post bariatric patients in substance abuse treatment? Patients' perceptions of etiology and future recommendations. *Obesity Surgery*, *22*, (8), 1308-1314.

Kennedy, S., Kenny, A., & O'Meara, P. (2015). Student paramedic experience of transition into the workforce: A scoping review. *Nurse Education Today*. Advance online publication. doi: 10.1016/j.nedt.2015.04.015

Kent, P. (2007). Lifestyle changes following bariatric surgery. *Bariatric Nursing and Surgical Patient Care*, *2*, (3), 209-214.

Kubik, J.F., Gill, R.S., Laffin, M., & Karmali, S. (2013). The impact of bariatric surgery on psychological health. *Journal of Obesity*, (published online), doi: [10.1155/2013/837989](https://doi.org/10.1155/2013/837989)

LePage, C. (2010). The lived experience of individuals following roux-en-y gastric bypass surgery: A phenomenological Study. *Bariatric Nursing and Surgical Patient Care*, *5*, (1), 57-64.

Lew, E.A. (1985). Mortality and weight: insured lives and the American Cancer Society studies. *Annals of Internal Medicine*, *103*(6), 2, 1024-1029.

Livingston, E. H., & Fink, A.S. (2003). Quality of life: cost and future of bariatric surgery. *Archives of Surgery Journal*, *138*, (4), 383-388

Lyons, K., Meisner, B.A., Sockalingam, S., & Cassin, S.E. (2014). Body image after bariatric surgery: A Qualitative Study. *Bariatric Surgical Practice and Patient Care*, *9*, (1), 41-49.

Mechanick, J.I., Youdim, A., Jones, D.B., Garvey, W., Hurley, D.L., McMahon, M., Heinberg, L.J., Kushner, R., Adams, T.D., Shikora, A., Dixon, J.B., & Brethauer, S. (2013). Clinical practice guidelines for the perioperative nutritional, metabolic, and nonsurgical support of the bariatric surgery patient--2013 update: cosponsored by American Association of Clinical Endocrinologists, the Obesity Society, and American Society for Metabolic & Bariatric Surgery. *Surgery for Obesity and Related Diseases: Official Journal of the American Society for Bariatric Surgery*, *9*, (2), 159-191.

Meleis, A.I., Sawyer, L.M., Messias, D.K.H., & Schumacher, K. (2000). Experiencing transitions: An emerging middle-range theory. *Advances in Nursing Science*, *23*, (1), 12-28.

- Natvik, E., Gjengedal, E., & Råheim, M. (2013). Totally changed, yet still the same: patients' lived experiences 5 years beyond bariatric surgery. *Qualitative Health Research, 23*, (9), 1202-1214.
- Natvik, E., Gjengedal, E., Moltu, C., & Råheim, M. (2014). Re-embodiment eating: patients' experiences 5 years after bariatric surgery. *Qualitative Health Research, 24*, (12), 1700-1710.
- Nijhawan, S., Richards, W., O'Hea, M.F., Audia, J.P & Alvarez, D.F. (2013). Bariatric surgery rapidly increases mitochondrial respiration in morbidly obese patients. *Surgical Endoscopy, 27*, (12), 4569-4573.
- Ogden, J., Avenell, S., & Ellis, G. (2011). Negotiating control: Patient's experiences of unsuccessful weight-loss surgery. *Psychology and Health, 26*, (7), 949-964.
- Ogden, J., Clementi, C., & Aylwin, S. (2006). The impact of obesity surgery and the paradox of control: A qualitative study. *Psychology and Health, 21*, (2), 273-293.
- Olsson, H., & Sörensen, S. (2011). *Forskningsprocessen, kvalitativa och kvantitativa perspektiv* (3e uppl.). Stockholm: Liber.
- Pfeil, M., Pulford, A., Mahon, D., Ferguson, Y., & Lewis, M.P.N. (2013). The patient journey to gastric band surgery: a qualitative exploration. *Bariatric Surgical Practice and Patient Care, 8*, (2), 69-76.
- Polit, F D; Beck, T C (2011) *Nursing research: generating and assessing evidence for nursing practice*. 9:e uppl. London: Lippincott Williams & Wilkins
- Ponstein, L. (2012). Assessing the nurses' knowledge of bariatric surgery: a performance improvement project. *Bariatric Nursing and Surgical Patient Care, 7*, (4), 167-170.
- Pories, W.J. (2008). Bariatric surgery: risks and rewards. *Journal of Clinical Endocrinal Metabolism, 93*, (11), 1.
- Procter, S., & Allan, T. (2006). Sampling. In K.Gerrish , & A. Lacey (Eds.), *The Research Process In Nursing*. (pp. 157-170). Oxford: Blackwell Publishing.
- Public Health Agency of Sweden. (2002). Åtgärder mot fetma: Nationell inventering av pågående studier/projekt avseende fysisk aktivitet och kost för att förebygga övervikt och fetma. Retrieved from: <http://www.folkhalsomyndigheten.se/publicerat-material/publikationer/Atgarder-mot-fetma/> (2015-02-01).
- Public Health Agency of Sweden. (2014a). *Övervikt och Fetma*. Retrieved from: <http://www.folkhalsomyndigheten.se/nyheter-och-press/nyhetsarkiv/2014/februari/fler-har-fetma-och-overvikt/> (2015-01-01).
- Public Health Agency of Sweden. (2014b). Fler har fetma och övervikt. Retrieved from: <http://www.folkhalsomyndigheten.se/amnesomraden/statistik-och-undersokningar/enkater-och-undersokningar/nationella-folkhalsoenkaten/levnadsvanor/overvikt-och-fetma> (2014-04-16).



Puhl, R., & Brownwell, K.D. (2001). Bias, discrimination, and obesity. *Obesity Research and Clinical Practice*, 9, (12), 788-805

Reedy, S., & Blum, K. (2010). Applying middle-range nursing theory to bariatric surgery patients: experiencing transitions. *Bariatric Nursing and Surgical Patient Care*, 5, (1), 35-43.

Sampalis, J. S., Liberman, M., Auger, S., & Christou, N. V. (2004). The impact of weight reduction surgery on health care costs in morbidly obese patients. *Obesity Surgery*, 14, 1708-0428.

Sarwer, D.B., Wadden, T.A., Moore, R.H., Eisenberg, M.H., Raper, S.E., & Williams, N.N. (2010). Changes in quality of life and body image after gastric bypass surgery. *Surgery for Obesity and Related Diseases: Official Journal of the American Society for Bariatric Surgery*, 6, (6), 608-614.

Scandinavian Obesity Surgery Registry. (2014). Årsrapport SOReg 2013 Del 1 – operationsstatistik, case mix och tidiga komplikationer. Örebro: Svensk Förening för Övre Abdominell Kirurgi.

Shah, M., Simha, V., & Garg, A. (2006). Long-term impact of bariatric surgery on body weight, comorbidities, and nutritional status. *The Journal of Clinical Endocrinology and Metabolism*, 91, (11), 4223-4231.

Shai, I., Henkin, Y., Weitzman, S., & Levi, I. (2003). Determinants of long-term satisfaction after vertical banded gastroplasty. *Obesity Surgery*, 13, (2), 269-274.

Sjöström, L. (2008). Bariatric surgery and reduction in morbidity and mortality: experiences from the SOS study. *International Journal of Obesity*, 32, 93-97.

Sjöström, L., Lindroos, A.K., Peltonen, M., Torgerson, J., Bouchard, C., Carlsson, B., Dahlgren, S., Larsson, B., Narbro, K., Sjöström, C.D., Sullivan, M., & Wedel, H. (2004). Lifestyle, diabetes, and cardiovascular risk factors 10 years after bariatric surgery. *New England Journal of Medicine*, 351, (26), 2683-2693.

Sjöström, L., Narbro, K., Sjöström, D., Karason, K., Larsson, B., Wedel, H., Lystig, T., Sullivan, M., Bouchard, C., Carlsson, B., Bengtsson, C., Dahlgren, S., Gummesson, A., Jacobson, P., Karlsson, J., Lindroos, A-K., Lönroth, H., Näslund, I., Olbers, T., Stenlöf, K., Torgersson, J., Ågren, G., & Carlsson, L. (2007). Effects of bariatric surgery on mortality in swedish obese subjects. *The New England Journal of Medicine*, 357, (8), 741-752.

Socialstyrelsen (2005). Kompetensbeskrivning för legitimerad sjuksköterska. Stockholm: Socialstyrelsen.

Stewart, K., Olbrisch, M.E., & Bean, M.K. (2010). Back on track: confronting post-surgical weight gain. *Bariatric Nursing and Surgical Patient Care*, 5, (2), 179-185.

Sturm, R., & Wells, K.B. (2001). Does obesity contribute as much to morbidity as poverty or smoking? *Public Health*, 115, 229-235

- Sutton, D., Murphy, N., & Raines, D.A. (2009). Transformation: the 'life-changing' experience of women who undergo a surgical weight loss intervention. *Bariatric Surgical Practice and Patient Care*, 4, (4), 299-306.
- Svensk Förening för Övre Abdominell Kirurgi. (2011). *Nationella Medicinska Indikationer för Primär Fetmakirurgi & Kvalitetskrav på Producenter av Primär Fetmakirurgi*. Retrieved from: [http://www.sfoak.se/wp-content/niok\\_2009.pdf](http://www.sfoak.se/wp-content/niok_2009.pdf). (2015-05-03).
- Sveriges kommuner och landsting. (2005). Svensk sjukvård i internationell belysning: en jämförelse av vårdbehov, kostnader och resultat. Stockholm: Sveriges kommuner och landsting.
- Swedish Council for Health Technology Assessment. (2002). Fetma- problem och åtgärder. Stockholm: Statens beredning för medicinsk utvärdering.
- Timmins, F., & McCabe, C. (2005). How to conduct an effective literary search. *Nursing Standard*, 20, (11), 41-47.
- Tod, A.. (2006). Interviewing. In K. Gerrish, & A. Lacey (Eds.), *The Research Process In Nursing*. (pp. 316-334). Oxford: Blackwell Publishing.
- Topping, A. (2006). The Quantitative-Qualitative Continuum. In K. Gerrish, & A. Lacey (Eds.), *The Research Process In Nursing*. (pp. 157-170). Oxford: Blackwell Publishing.
- Van Hout, G., & Van Heck, G. (2009). Bariatric psychology, psychological aspects of weight loss surgery. *The European Journal of Obesity*, 2, 10-15.
- Van Hout, G.C., Fortuin, F.A., Pelle, A.J., Blokland-Koomen, M.E., & Van Heck, G.L. (2009). Health-related quality of life following vertical banded gastroplasty. *Surgical Endoscopy*, 23, (3), 550-556.
- Warholm, C., Øien, M., & Råheim, M. (2014). The ambivalence of losing weight after bariatric surgery. *International Journal of Qualitative Studies on Health and Well-being*, 9: 22876
- Willman, A., Bahtsevani, C., & Stoltz, P. (2011). *Evidensbaserad omvårdnad – En bro mellan forskning och klinisk verksamhet* (3 uppl.). Lund: Studentlitteratur.
- Wood, K.V., & Ogden, J. (2015). Patients' long-term experiences following obesity with a focus on eating behaviour: *A qualitative study*. *Journal of Health Psychology*, 1, (10), 1-10
- World Health Organisation. (1994). Development of the WHOQOL: Rationale and current status. *International Journal of Mental Health* 1994; 23: 24–56
- World Health Organisation. (2000). *Obesity: preventing and managing the global epidemic*. (Tech. Rep. No. 894) Geneva: World Health Organisation
- World Health Organization. (2014). Obesity and overweight. Retrieved: <http://www.who.int/mediacentre/factsheets/fs311/en/> (2015-02-01).

Wysoker, A. (2005). The lived experience of choosing bariatric surgery to lose weight. *American Psychiatric Nurses Association, 11*, (1), 26-34.

## Appendix 1; Cinahl Database Search

Search term combinations	No. of hits	Date of search	No. of abstracts read	No. of chosen articles
S1. Weight loss surgery	159	05/03/2015	14	0
S2. Bariatric Surgery	749	05/03/2015	5	1
S3. Gastric Bypass	178	05/03/2015	8	0
S4. Roux-en-Y	286	05/03/2015	0	0
S5. Gastric banding	113	05/03/2015	2	0
S6. experiences	20394	05/03/2015	0	0
S7. Patient experiences	505	05/03/2015	0	0
S8. Perceptions	14906	05/03/2015	0	0
S9. Quality of Life	29124	05/03/2015	0	0
S10. Lived experience	837	05/03/2015	0	0
S11. Life Change Events	2568	05/03/2015	0	0
S12. S1 OR S2 OR S3 OR S4 OR S5	1125	05/03/2015	0	0
S13. S6 OR S7 OR S8 OR S9 OR S10	60210	05/03/2015	0	0
S14. S12 AND S13	104	05/03/2015	5	1
S15. unsuccessful	1032	05/03/2015	0	0
S16. S12 AND S13 AND unsuccessful	4	05/03/2015	4	1
S17. Empowerment	9445	05/03/2015	0	0
S18. Successful	7	05/03/2015		
S19. Psychosocial	255063			
S20. Somatic	41385			
S21. Physical	167868			
S22. Adaption	179			
S23. Behaviour	20950			
S24. Control	482382			
S25. S15 AND S17 AND S18 AND S19 AND S20 AND S21 AND S22 AND S23 AND S24	831163			
S26. S12 AND S13 AND S25	65		5	0

S27. S12 AND S13 AND empowerment	2		2	0
S28. S12 AND S13 AND successful	0		0	0
S29. S12 AND S13 AND psychosocial	43		5	0
S30. S12 AND S13 AND somatic	0		0	0
S31. S12 AND S13 AND physical	17		2	0
S32. S12 AND S13 AND adaption	0		0	0
S33. S12 AND S13 AND behaviour	2		1	0
S34. S12 AND S13 AND control	21		1	0
S35. S12 AND Life experience	5		3	2

## Appendix 2; PubMed Database Search

Search term combinations	No. of hits	Date of search	No. of abstracts read	No. of chosen articles
S1. Weight Loss Surgery	31824	05/03/2015	0	0
S2. Bariatric Surgery	15388	05/03/2015	0	0
S3. Gastric Bypass	9149	05/03/2015	0	0
S4. Roux-en-Y	7882	05/03/2015	0	0
S5. Gastric banding	2788	05/03/2015	0	0
S6. Life change events	19582	05/03/2015	0	0
S7. Lifestyle	74649	05/03/2015	0	0
S8. Life experiences	40048	05/03/2015	0	0
S9. experiences	130561	05/03/2015	0	0
S10. perceptions	8	05/03/2015	0	0
S 11. Self-concept	27677	05/03/2015		
S12. Social perception	36507	05/03/2015		
S13. Quality of Life	239390	05/03/2015	0	0
S14. S1 OR S2 OR S3 OR S4 OR S5	37438	05/03/2015	0	0
S15. S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12	694101	05/03/2015	0	0
S16. Empowerment	27679	05/03/2015	0	0
S17. Successful	316670	05/03/2015	0	0
S18. Unsuccessful	26322	05/03/2015	0	0
S19. Psychosocial	69495	05/03/2015	0	0
S20. Somatic	94648	05/03/2015	0	0
S21. Physical	1664480	05/03/2015	0	0
S22. Adaption	15207	05/03/2015		0
S23. Behaviour	1709613	05/03/2015	0	0
S24. S14 AND S15	1112	05/03/2015	2	0
S25. S14 AND S15 AND empowerment	8	05/03/2015	3	0
S26. S14 AND S15 AND successful	105	05/03/2015	5	* (1)

S27. S14 AND S15 AND unsuccessful	20	05/03/2015	3	0
S28. S14 AND S15 AND psychosocial	96	05/03/2015	4	1
S29. S14 AND S15 AND obesity surgery AND interviews	45	05/03/2015	7	1 *(1)
S30. S14 AND S15 AND somatic	2	05/03/2015	0	0
S31. S14 AND S15 AND physical	760	05/03/2015	4	0
S32. S14 AND S15 AND behaviour	385	05/03/2015	3	*(1)
S33. S14 AND lived body	7	05/03/2015	4	1

\* Duplicate articles

## Appendix 3; Manual Search of Journal of Bariatric Practice and Patient Care

Volume and Issue Number	No. of articles in issue	Date accessed	No. of abstracts read	No. of chosen articles
1/1	4	05/03/2015	2	0
1/2	5	05/03/2015	1	0
1/3	5	05/03/2015	1	0
1/4	4	05/03/2015	0	0
2/1	4	05/03/2015	0	0
2/2	5	05/03/2015	0	0
2/3	3	05/03/2015	1	0
2/4	5	05/03/2015	0	0
3/1	7	05/03/2015	1	0
3/2	4	05/03/2015	0	0
3/3	5	05/03/2015	0	0
3/4	4	05/03/2015	1	0
4/1	4	05/03/2015	1	0
4/2	5	05/03/2015	0	0
4/3	3	05/03/2015	0	0
4/4	4	05/03/2015	1	0
5/1	4	05/03/2015	1	*(1)
5/2	4	05/03/2015	1	0
5/3	4	05/03/2015	0	0
5/4	4	05/03/2015	1	0
6/1	4	05/03/2015	0	0
6/2	4	05/03/2015	0	0
6/3	4	05/03/2015	1	0
6/4	4	05/03/2015	0	0
7/1	4	05/03/2015	0	0
7/2	4	05/03/2015	0	0
7/3	7	05/03/2015	0	0
7/4	4	05/03/2015	1	0
8/1	4	05/03/2015	1	0
8/2	3	05/03/2015	0	0
8/3	3	05/03/2015	0	0



8/4	5	05/03/2015	0	0
9/1	3	05/03/2015	1	1
9/2	5	05/03/2015	0	0
9/3	5	05/03/2015	0	0
9/4	6	05/03/2015	0	0

\*Duplicates

## Appendix 4; Summary of Articles

Author/Year/Country	Title	Method/Journal	Sample	Quality
1) LePage, C.T (2010)  USA	The Lived Experience of Individuals following Roux-en-Y Gastric Bypass Surgery: A Phenomenological Study	Qualitative design with in-depth interviews from a phenomenological perspective  <i>Bariatric Nursing and Surgical Patient Care</i>	12 participants: 8 women and 4 men aged 28-57 years who had undergone a Roux-en-Y gastric bypass. Dates of surgery 2-9 years prior to the study.	High
2) Natvik, E. Gjengedal, E. Moltu, C. & Råheim, M (2014)  Norway	Re-embodiment Eating: Patients' Experiences 5 Years After Bariatric Surgery	Qualitative design with in-depth interviews from a phenomenological perspective  <i>Qualitative Health Research</i>	14 participants: 7 men and 7 women aged 28-53 years at least 5 years after bariatric surgery.	High
3) Wysoker, A (2005)  USA	The Lived Experience of Choosing Bariatric Surgery to Lose Weight	Qualitative design with open-ended interviews from a phenomenological perspective  <i>American Psychiatric Nurses Association</i>	8 participants: 5 women and 3 men aged 38-57 years who had undergone weight loss surgery at least one year prior to the interview.	High
4) Groven, K.S. Råheim, M. Engelsrud, G (2010)  Norway	"My quality of life is worse than compared to my earlier life" Living with chronic problems after weight loss surgery	Qualitative design with in-depth interviews from a phenomenological perspective  <i>International Journal of Studies on Health and Well-being</i>	5 participants: 5 women aged 25-45 years who had undergone a gastric bypass at least 8 months prior to the interview. 4 participants had undergone surgery at least 2 years before the interview took place.	High

5) Natvik, E. Gjengedal. & Råheim, M (2013)  Norway	Totally Changed, Yet still the same: Patients' Lived Experiences 5 years Beyond Bariatric Surgery	Qualitative, descriptive and retrospective design founded in a phenomenological lifeworld perspective. In-depth interviews.  <i>Qualitative Health Research</i>	20 participants: both sexes were included aged between 43-53 years. All participants had undergone the combined bariatric procedure duodenal switch 5-7 years prior to the interviews.	High
6) Ogden, J. Avenall, S. & Ellis, G (2010)  UK	Negotiating Control: Patients' experiences of unsuccessful weight-loss surgery	Qualitative design with in-depth interviews  <i>Psychology and Health</i>	10 participants: 8 women and 2 men aged 38-56 years who had undergone weight loss surgery and felt that it had been unsuccessful. All primary procedures had taken place between 1 and 10 years ago.	High
7) Earvolino-Ramirez, M (2008)  USA	Living with Bariatric Surgery: Totally Different but Still Evolving	Qualitative design with hermeneutic phenomenological methodology. Semi-structured interview.  <i>Bariatric Nursing and Surgical Patient Care</i>	1 participant: A 55 year old woman who had undergone a bariatric surgical procedure 8 months prior to the interview.	High
8) Lyons, K. Meisner, B.A. Sockalingam, S. & Cassin, S.E (2014).  Canada	Body Image After Bariatric Surgery: A Qualitative Study	Qualitative design using focus groups.  <i>Bariatric Surgical Practice And Patient Care</i>	15 Participants: 12 women and 3 men aged 37-65 years who had undergone bariatric surgery at least 6 months prior to the focus groups.	High
9) Bocchieri, L.E. Meana, M. & Fisher, B.L (2002)  USA	Perceived Psychological Outcomes of Gastric Bypass Surgery: A Qualitative Study	Qualitative design with individual interviews and focus groups.	31 participants: 23 women and 8 men aged 30-53 years who had undergone gastric bypass surgery at least 6 months prior to the interviews or focus groups.	High

## Appendix 5; Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist

Appraisal Questions	Yes	No	Can't Tell
<p>1. Was there a clear statement of the aims of the research?</p> <ul style="list-style-type: none"> <li>• What was the goal of the research?</li> <li>• Why it was thought important?</li> <li>• Its relevance.</li> </ul>			
<p>2. Is a qualitative methodology appropriate?</p> <ul style="list-style-type: none"> <li>• If the research seeks to interpret or illuminate the actions and/or subjective experiences of the participants.</li> <li>• Is qualitative research the right methodology for addressing the research goal?</li> <li>• If the research seeks to interpret or illuminate the actions and/or subjective experiences of the participants.</li> <li>• Is qualitative research the right methodology for addressing the research goal?</li> </ul>			
<p>3. Was the research design appropriate to address the aims of the research?</p> <ul style="list-style-type: none"> <li>• If the researcher has justified the research design.</li> </ul>			
<p>4. Was the recruitment strategy appropriate to the aim of the research?</p> <ul style="list-style-type: none"> <li>• If the researcher has explained how the participants were selected.</li> <li>• If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study.</li> <li>• If there are any discussions around recruitment</li> </ul>			
<p>5. Was the data collected in a way that addressed the research issue?</p> <ul style="list-style-type: none"> <li>• If the setting for the data collection was justified</li> <li>• If it is clear how data were collected.</li> <li>• If the researcher has justified the methods chosen.</li> <li>• If the researcher has made the methods explicit.</li> <li>• If the methods were modified during the study. If so, has the researcher explained how and why?</li> <li>• If the form of data is clear.</li> <li>• If the researcher has discussed saturation of data.</li> </ul>			
<p>6. Has the relationship between researcher and participants been adequately considered?</p> <ul style="list-style-type: none"> <li>• If the researcher has critically analysed their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location.</li> <li>• How the researcher responded to events during the study and whether</li> </ul>			

they considered the implications of any changes in the research design.			
<p>7. Have ethical issues been taken into consideration?</p> <ul style="list-style-type: none"> <li>• If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained.</li> <li>• If the researcher has discussed issues raised by the study.</li> <li>• If approval has been sought from the ethics committee.</li> </ul>			
<p>8. Was the data analysis sufficiently rigorous?</p> <ul style="list-style-type: none"> <li>• If there is an in-depth description of the analysis process.</li> <li>• If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data?</li> <li>• Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process.</li> <li>• If sufficient data are presented to support the findings.</li> <li>• To what extent contradictory data are taken into account.</li> <li>• Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.</li> </ul>			
<p>9. Is there a clear statement of findings?</p> <ul style="list-style-type: none"> <li>• If the findings are explicit.</li> <li>• If there is adequate discussion of the evidence both for and against the researchers arguments.</li> <li>• If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)</li> <li>• If the findings are discussed in relation to the original research question.</li> </ul>			
<p>10. How valuable is the research?</p> <ul style="list-style-type: none"> <li>• If the researcher discusses the contribution of the study makes to existing knowledge or understanding.</li> <li>• If they identify new areas where research is necessary.</li> <li>• If the researchers have discussed whether or how the findings can be transferred to other populations or considered in other ways the research may be used.</li> </ul>			

Original appraisal checklist available from: [www.casp-uk.net](http://www.casp-uk.net)

## Appendix 6; Analytical Procedure

Meaning Bearing Unit	Condensed Meaning Bearing Unit	Code	Sub-category	Main Category
With the bypass you can't get anything more into your stomach...I am full and there's nothing more you can do.	With the bypass you can't get anything more into your stomach. There's nothing more you can do.	Submitting control	Negotiation of Control Successful Adaption	Enforced Structure
I could eat a whole packet of biscuits, now even. And I know that's wrong and I'll feel like shit afterwards but I still do that...if you eat the right things the restriction doesn't effect it..I'm not consciously cheating, but I know there are certain foods that will go down.	If you eat the right things the restriction doesn't effect it. I'm not consciously cheating, but I know certain foods will go down.	Rebelling	Negotiation of Control Challenging Adaption	
I started going for walks, and I enjoyed it, something which I never did before. I have kept doing it and now, we actually plan our trips and holidays to places where we can go for walks.	I started walking and now we plan trips and holidays to places where we can walk.	New interests	Filling A Void Successful Adaption	
I did start to substitute alcohol for food. But that got worse later on...I became an alcoholic. Post-surgery, I definitely transferred to alcohol 'cause I couldn't eat. It became easier and easier to drink to fulfil the need in me.	I substituted alcohol for food. I became an alcoholic. I drank post-surgery to fulfil the need in me.	Alcohol replaced the need for food.	Filling A Void Challenging Adaption	

Meaning Bearing Unit	Condensed Meaning Bearing Unit	Code	Sub-category	Main Category
Every day I do things never thought of before. I live a much more active life, a better (strong emphasis) life.	I live a much more active life. A better life.	Increased activity.	A Changing Body Successful Adaption	A Complete Transformation
Also the other thing is side effects..I love melon but if I eat too much melon which you can easily do chop, chop, chop and then you have awful diarrhoea and its diarrhoea to the point where I cannot hold it, I've had about 4 accidents.	The thing is side effects. I love melon but if I eat too much then you have awful diarrhoea to the point where you can't hold it. I've had 4 accidents.	Debilitating physical side effects.	A Changing Body Challenging Adaption	
I definitely have more confidence now than I did before because I find that people react to me differently.	I definitely have more confidence now	Increased self-esteem	A Changing Self-Image Successful Adaption	
I shudder when I look in the mirror	I shudder when I look in the mirror	Self-hatred	A Changing Self-Image Challenging Adaption	
Not being the 'last person to get sat beside on the subway' and not having people 'look in our cart at the grocery store to see what you're buying'.	Not being last to get sat beside and not having people look at what your buy.	Social acceptance	A Changing Social Life Successful Adaption	
I just talked to my mother in law the other day, and she goes, "Oh Jenny, she's lost 36 pounds and she's not going to have any sagging skin because she's done it the right way". And of course I'm thinking "because I did it the wrong way, right?"	My mother-in-law said "Jenny has lost 36 pounds the right way, so she's not going to have any sagging skin".	Lack of support	A Changing Social Life Challenging Adaption	

