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EXPERIENCES OF WOMEN BEFORE AND AFTER BARIATRIC SURGERY

by

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B.S.N., McKendree College, 1995 M.S.N., Southeast Missouri State University, 2000

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Doctor of Philosophy Degree in Health Education

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Department of Health Education and Recreation in the Graduate School Southern Illinois University Carbondale August 2008 UMI Number: 3320308

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DISSERTATION APPROVAL

EXPERIENCES OF WOMEN BEFORE AND AFTER BARIATRIC SURGERY

Bу

Janet Followell

A Dissertation Submitted in Partial Fulfillment of the Requirements For the Degree of Doctor of Philosophy

in the Field of Health Education

Approved by:

Kathleen Welshimer, Chair

Julia Colyar

Joyce Fetro

Sara Long

Roberta Ogletree

Graduate School Southern Illinois University Carbondale April 23, 2008

ABSTRACT OF THE DISSERTATION OF

JANET FOLLOWELL, for the Doctor of Philosophy degree in Health Education, presented on April 23, 2008, at Southern Illinois University Carbondale.

TITLE: Experiences of Women Before and After Bariatric Surgery

MAJOR PROFESSOR: Dr. Kathleen Welshimer

Obesity has reached epidemic proportion in the United States. Results of diet, exercise regimens, and/or medications are discouraging for most individuals; therefore, bariatric surgery is on the rise. Patients undergoing bariatric surgery are overwhelmingly female. There is a plethora of research regarding improvement of co-morbidities, but little focus has been placed on the impact of bariatric surgery on positive as well as negative psychosocial outcomes.

The purposes of this study were to explore experiences of women who have undergone bariatric surgery and to gain an understanding of the decision to have surgery. No qualitative research was found regarding individuals' life experiences after bariatric surgery. This study used a qualitative research design, guided by a phenomenological approach, to investigate and describe the meaning of experiences of women before and after bariatric surgery. Initially, a focus group of six members of a bariatric support group was conducted to confirm data from individual interviews. Semi-structured in-depth interviews were then conducted on a sample of ten women who had undergone bariatric surgery and were two to four years postoperative.

Eight main themes emerged from the data: (a) relationship with food, (b) interpersonal relationships, (c) relationship with self, (d) living with excess skin, (e) food intolerance, (f) treatment from society, (g) concern with aging, and (h) support systems. After further analysis, three subthemes then emerged from relationship with food: food

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and family, emotional response to food, and coping with temptations. Interpersonal relationships developed into two subthemes: limited activity with family and relationship with others. As analysis continued, three subthemes of concern with aging emerged: fear of not growing old, fear of the unknown, and fear of gaining weight.

Themes that emerged from the women's experiences all revolved around the need to be better prepared for surgery and the need for continued support after surgery. Family was interconnected to most of the themes. In order to be successful, close family members should understand the requirements of lifelong medical monitoring and the necessary changes in diet and lifestyle.

Results revealed limited psychological counseling as well as long-term nutritional counseling occurred. The majority did not attend support groups, although the need for support was expressed. Support groups conducted by health professionals benefit those who are considering surgery and those who have undergone bariatric surgery.

Recommendations for health education include addition of bariatric surgery into curriculums. Knowledge of bariatric surgery would assist health educators in planning programs for this population.

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I dedicate this dissertation to my husband and best friend, Michael, who never wavers in his love and support. Michael, your love and understanding has provided the encouragement that I needed throughout this process. I love you dearly.

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CHAPTER ONE

INTRODUCTION

"Thou seest I have more flesh than another man, and therefore more frailty."

William Shakespeare

Lillian nervously twisted her notes as she scanned the conference room. A diverse group of female professional nurses had found seats at tables facing her. After reading the program, I realized from my location at the back of the room that Lillian was the keynote speaker. She had been asked to share her life experiences after bariatric surgery. The aroma of coffee blended with numerous conversations throughout the room. From my place in the back of the room, I studied Lillian and wondered why she would want to share something as personal as weight with a group of female nurses.

As a nursing instructor in a rural area, I had little knowledge of bariatric surgery and, I must admit, very little interest in the topic. My search was for a table in the back of the room. Little did I know that by the end of the day I would become intrigued by one woman's life experiences with bariatric surgery.

The first speaker was a registered nurse who specialized in the care of bariatric surgery patients. Her presentation dealt with the fact that obesity had reached epidemic proportions and the challenges in caring for the obese patient. As she spoke about the physiological complications associated with obesity, I found myself intrigued with Lillian's facial grimacing as the woman spoke. It was as if I could read her mind and almost hear her need to shout: "There is so much more to obesity!"

Lillian approached the microphone with her head held high. She was an attractive, average-sized woman dressed in dark trousers and a blue sweater. Her long blonde hair swung freely around her shoulders. She began by describing her life prior to bariatric surgery. Preoperative, she admitted to weighing greater than three hundred pounds. Her nursing position at the hospital required her to stand for long hours. Walking to the end of the corridor required Lillian to lean against the wall to catch her breath before making the return trip. Stairs were avoided, along with sitting in an average chair. Her voice cracked as she described the day an office chair broke under her weight.

Lillian was unable to engage in any physical activity with her two young children. As a single parent, she tried to ignore the unflattering comments and stares she received in public. Society's cruelty only increased Lillian's need to seek comfort from food. She admitted to baking and devouring a batch of brownies in the middle of the night. Frequent convenient store stops allowed her the privacy to indulge in multiple snack foods while driving alone.

After numerous failed attempts to lose weight, Lillian decided to have bariatric surgery. She did not mention any type of preoperative education prior to her surgery. After surgery in an urban area, she was discharged with instructions to follow up with her family physician. Lillian had received limited post-operative education related to her surgery. Living in a rural area left her alone to adjust to life after bariatric surgery.

Within a few days, she began to notice redness and drainage from her abdominal incision. Lillian began a battle with a postoperative infection that would take weeks to resolve. She considered herself fortunate to have the knowledge to know when to seek help at the first signs of infection.

During her battle with infection, Lillian also had a difficult time ingesting even small amounts of food without vomiting and intense pain. She began to lose her hair and was unable to consume the nutrients her body needed. After several months, Lillian sought the advice of a nutritionist, who assisted her in constructing a healthy diet plan. She learned to eat small portions slowly without drinking fluids, therefore decreasing and eventually eating without discomfort. Postoperatively, she had not been provided the guidance she desperately needed in following a nutritionally sound diet plan. Her nutritionist recommended she take daily multivitamins, iron, and calcium supplements indefinitely. Lillian discovered that by avoiding fats and sugars, she no longer experienced "dumping syndrome." She explained that symptoms of dumping syndrome include stomach pain and cramping, vomiting, weakness, shakiness, and sweating.

Recovering from the postoperative infection and following the nutritionist's advice, Lillian began attending a local women's exercise program. Lillian described her weight loss as extremely rapid; she lost 150 pounds within an 18-month period. Over time, her ability to ingest food improved and eventually she regained her hair. Lillian was not aware that after the initial weight loss, many bariatric patients begin to regain weight. A 20-pound weight gain left her in fear of regaining all of her weight. Her voice shook as she claimed other hospital staff watched what she put on her tray in the cafeteria. She explained that she is able to digest large salads without difficulty, but fears others thought she was reverting to overeating.

Although Lillian exercises on a regular basis, her weight loss created large amounts of loose hanging skin from her abdomen and extremities. I watched shocked expressions of the audience as she raised her sweater sleeves to reveal incision scars that traveled the length of her inner arms and her description of the large abdominal scar from her tummy tuck. Lillian was forced to obtain a loan for the surgeries as most insurance companies do not cover cosmetic surgeries, although skin folds increase the chance for infections and ulcerations.

Lillian complained of feeling alone after surgery. She craved conversation with others who had experienced bariatric surgery. The closest support group was two hours away, which made it impossible for her to attend. With the help of a few local women who had undergone bariatric surgery, a support group was created. Lillian stated she was finally receiving the emotional support she needed since her surgery.

Hands of numerous members of the audience began to rise. A slender woman asked why she had not exercised prior to her surgery. Lillian paused and collected her composure before answering that it was all she could do to make it through a work day. The woman responded that she had lost 75 pounds through sheer will power and did not understand why people turned to something as drastic as surgery. Lillian remained calm and congratulated her on her success, but explained she had failed at numerous diets and surgery was her last resort.

The majority of questions echoed the lack of understanding of why people turned to something as drastic as bariatric surgery. Lillian's calm demeanor suddenly turned explosive. Her body visibly shook as she tried to explain that her physical health was deteriorating along with her emotional well-being. Her lower lip quivered as she spoke of society's cruelty to the obese population and how the abuse affected not only her, but also her children.

I sat in the back of the room and watched Lillian fight to hold back tears. My heart broke as she attempted to gather her composure. Her surgery had helped her succeed in losing weight, but I felt her struggles to fit in a "normal size" world continued for Lillian.

Was this the norm? Was weight loss the only battle of bariatric patients? Were other women's experiences similar to Lillian's? Questions continued to pop in my mind after leaving the conference. Lillian's story provided an audience of health professionals with an understanding of life after bariatric surgery.

The use of bariatric surgery has increased significantly since Lillian shared her story. I imagine many members of the audience have now cared for and/or are acquainted with someone who has had bariatric surgery. After attending the conference, I have been intrigued with the lived experiences of this special population. Little did I know that afternoon with Lillian was the deciding factor of my dissertation topic.

Background of the Problem

Health care in the United States in the early 1900s focused on the control of acute infectious diseases. Environmental conditions influencing health began to improve, and major advances in surgery and childbirth and identification of the disease process increased the ability to diagnose and treat diseases. The mid-1900s included a shift away from acute infectious diseases toward chronic health problems, such as heart disease, cancer, and stroke (Stanhope & Lancaster, 2004).

Toward the end of the century, overweight and obesity came to be regarded as the most preventable cause of morbidity and mortality, primarily because of their links to these chronic diseases. Obesity has reached epidemic proportions in the past decade in the United States, even among children, adolescents, and young adults (Crespo & Arbesman, 2003).

Body mass index (BMI) is one of the most reliable methods used to report the

relationship between body weight and frame size or height. According to the CDC (2007), a BMI below 18.5 is considered underweight for an adult. To fall under the category of normal weight, an adult must have a BMI ranging from 18.5 to 24.9. A BMI ranging from 25.0 to 29.9 is considered overweight. Adults with a BMI of 30 or greater fall into the category of obese.

The National Health and Nutrition Examination Survey (NHANES), a program of the National Center for Health Statistics, Centers for Disease Control and Prevention (CDC), includes a series of cross-sectional nationally representative health examination surveys beginning in 1960 (Flegal, Carroll, Ogden, & Johnson, 2002). Each cross-section survey provides a national estimate for the United States population at the time of the survey. From NHANES II survey in 1976-1980 to the NHANES III in 1988-1994, prevalence of obesity increased from 15% to 23.3%. The latest data from the NHANES revealed that in 2003-2004, 66.3% of adult (\geq 20 years) Americans were overweight or obese, and 32.2% were obese. In 2003-2004, prevalence of extreme obesity was greater among women (6.9%) than among men (2.8%) (Ogden et al., 2006).

Obesity is now a serious and significant health problem facing children in the United States. The Centers for Disease Control and Prevention (CDC) reports a rapid four-fold rise in child and adolescent obesity over the past 20 years (CDC, 2003). Childhood obesity often is accompanied by a parallel rise in chronic diseases, such as Type 2 diabetes and cardiovascular disease (Taras & Potts-Datema, 2005).

Obesity is dangerous to health due to the associated increased prevalence of cardiovascular risk factors, such as hypertension, type 2 diabetes, as well as other health problems (Swinburn, Caterson, Seidell, & James, 2004). The effect of adult obesity on life expectancy and premature death is remarkable. Obesity is the second leading cause of preventable death in the United States and has been shown to decrease life expectancy by seven years at the age of 40 years (Peeters et al., 2003; Karmali & Shaffer, 2005; Wee et al., 2005).

Emotional suffering may be one of the most agonizing aspects of obesity. Obesity is perceived to be related to gluttony and/or laziness, even though this perception is not true. Society emphasizes physical appearance, and obese people are often forced to face discrimination or prejudice in the job market, at school, and in social situations (Wellman & Friedberg, 2002).

Unfortunately, use of conservative medical treatment programs (dietary regimen, behavioral modification, and exercise) have been largely unsuccessful in achieving and maintaining long-term results in severely obese patients (Pandolfino, Krishnamoorthy, & Lee, 2004). Given these limitations, bariatric surgery has become an attractive alternative because it represents a possible long-term solution. Failure of conservative treatments to achieve long-term weight loss and heightened media attention have resulted in a dramatic increase in the number of surgeries performed in the United States every year (Villagra, 2004).

Today's society emphasizes physical appearance and often equates attractiveness with slimness, especially for women. The majority of patients undergoing bariatric surgery are female. Although women comprise only slightly more than half of the severely obese population, they represent more than 80% of bariatric surgical patients (Sagrillo & Kunz, 2004).

Weight gain in a society emphasizing slenderness may increase feelings of being

unacceptable, which can develop into depression. In the United States, obesity has been found to increase women's risk of being diagnosed with major depression by 37% (Haslam & James, 2005).

In general, surgical therapy is the most effective modality in terms of extent and duration of weight reduction (Mun, Blackburn, & Matthews, 2001). Surgeons have been conducting bariatric surgery for over 50 years, and the number of individuals undergoing the procedure continues to rise. From 1998 to 2004, the total number of bariatric surgeries increased nine-fold, from 13,366 to 121,055 (Zhao & Encinosa, 2007).

Individuals qualifying for bariatric surgery must have failed other weight-loss options, including documented weight-loss programs, regular exercise, diet therapy, behavioral therapy, and pharmacotherapy (Voelker, 2004). According to the American Obesity Association (2002), there are specific considerations for obesity surgery. The individual must:

- be severely obese (BMI of 40 or more) or have a BMI of 35 to 39.9 with comorbidities.
- have attempted multiple methods of weight loss (changes in eating behavior, increased activity, and/or drug therapy) and are still obese.
- be unable to physically perform routine daily activities and have a quality of life that is seriously impaired due to the severity of obesity.
- be motivated to making a lifelong behavioral commitment that includes healthy eating and physical activity habits, which are needed to achieve the best results.

The main reason for considering bariatric surgery should be to improve health.

Discussion of both potential positive and negative outcomes is an important aspect of preoperative assessment of the patient considering bariatric surgery. All domains of functioning need to be evaluated: physical health, activity level, nutritional intake, and psychiatric status. Psychiatric and psychological assessment prepares the patient for the lifestyle changes needed both before and after surgery (Collazo-Clavell, Clark, McAlpine, & Jensen, 2006).

Postoperative individuals may feel uncomfortable during social and business functions revolving around food. Persons must adopt an eating style characterized by restraint, restriction in variety of foods eaten and how food is eaten, including frequent intake of small amounts of food instead of large meals, and a change in eating patterns requiring extensive chewing before swallowing (Zwaan et al., 2004).

Similar to most operations, bariatric surgery has risks, and extreme obesity adds to those risks. Obesity is associated with impairment of cardiac, pulmonary, and immunological functions (Dindo, Muller, Weber, & Clavien, 2003). Possible complications of bariatric surgery include wound infection, hernias, pulmonary embolism, cardiac arrhythmias, and sepsis. Rates of reoperations for surgical complications range from 6% to 9%, and pulmonary complications may occur in 4% to 7% of patients (Santry, Gillen, & Lauderdale, 2005). Overall mortality is approximately 1% (Karmali & Shaffer, 2005; Villagra, 2004).

In addition to weight loss, bariatric procedures have shown improvement in or resolution of multiple weight-related co-morbidities, such as diabetes mellitus, hypertension, elevated cholesterol, obstructive sleep apnea, and gastroesophageal reflux disease (Kendrick & Dakin, 2006). Until successful nonoperative methods emerge, surgery remains the mainstay of treatment for severe obesity.

If it is to be successful, bariatric surgery requires lifelong medical monitoring and major changes in diet and lifestyle. Thus, the National Institute of Health (2004) recommends anyone considering the surgery to answer the following questions that may help decide if the surgery is right for them. Is the prospective patient:

- unlikely to lose weight or keep weight off long term with nonsurgical measures?
- well informed about the surgical procedure and effects of treatment?
- determined to lose weight and improve your health? Aware of how life may change after the operation (adjustment to side effects of the operation, including the need to chew food well and inability to eat large meals)?
- aware of the potential for serious complications, dietary restrictions, and occasional failures?
- committed to lifelong medical follow-up and vitamin/mineral supplementation?

Need for the Study

There is limited research regarding psychosocial adaptation after experiencing bariatric surgery. Bocchieri, Meana, and Fisher (2001) found that psychosocial changes have not been studied as thoroughly as physical changes and, as a result, are not thoroughly understood. The decision to undergo bariatric surgery is commonly prompted by life-threatening medical risks, but psychosocial factors; social isolation, depression, discrimination, and the inability to perform desired tasks are cited as primary reasons to have surgery (Bocchierri, Meana, & Fisher, 2001). There is a gap in the literature to date related to the investigation of these psychosocial factors.

No qualitative research was found in a review of literature regarding individuals' life experiences after bariatric surgery. There is a plethora of research regarding the improvement or resolution of co-morbidities after surgery, but there has been little focus on the impact of bariatric surgery on positive as well as negative psychosocial outcomes. For example, although weight loss typically helps improve social lives of individuals who have the surgery, they may have difficulty adjusting to demands of increased social acceptance (Bocchierri et al., 2002). As a result, it would be wise to conduct research to examine women's life experiences after bariatric surgery. As mentioned previously, women represent more than 80% of bariatric surgical patients. These lived experiences have the ability to assist health educators in program planning to meet the needs of persons preparing for and after adjusting to bariatric surgery.

Purposes of the Study

The purposes of this study were to explore experiences of women who have undergone bariatric surgery and to gain an understanding of the decision to have surgery.

Research Question

What were the experiences of women before and after bariatric surgery?

Research Design

A phenomenological approach was used to carry out this qualitative research design to investigate and describe experiences of women before and after bariatric surgery. Initially, a focus group was conducted as a pilot study of a local bariatric support group (n = 6). The primary study included semi-structured in-depth interviews with women who had experienced bariatric surgery. Content analysis was used to discover

themes that provided the answer to the research question. Analysis of data began after the first interview was transcribed and carried on as following interviews were completed.

Research Method

The study's sample included women who had undergone bariatric surgery and were two to four years postoperative. Women represent more than 80% of bariatric surgical patients (Sagrillo & Kunz, 2004). According to Gibbons et al. (2006), weight loss stabilizes two years after surgery; therefore, the time frame allowed for selection of women who had achieved their maximum weight loss and who had recent recall of their experiences. Selection into this study was not limited by the amount of weight loss, maintenance of weight loss, satisfaction with surgery, or type of surgery besides gender and time since surgery.

A pilot study was conducted originally to collect for triangulation of data from the primary study. A local hospital provided me the name of a woman who was involved in a bariatric support group. I contacted her and explained my study and the need to conduct a focus group. She agreed to allow me to attend the next meeting, and from there I obtained permission from those in attendance to conduct a focus group. Information obtained was used strictly for triangulation of data.

A snowball technique was used to identify the sample for the primary study. Babbie (2004): defined snowball sampling as a nonprobability sampling method whereby each person interviewed may be asked to suggest additional people for interviewing. I initially contacted a woman I personally know who met study criteria. From there, I obtained names of additional potential participants, thus the snowball effect. Participant selection continued until saturation of data regarding common themes was achieved and no new information had emerged.

Semi-structured in-depth audiotaped interviews were scheduled for 90 minutes with each participant. During the interviews, I made written notes of participants' observed behaviors to support verbal responses. To describe my thoughts and feelings after each interview, I kept a reflective journal. All interviews were transcribed verbatim. Participants were given the opportunity to read their transcriptions to clarify data for accuracy. Triangulation of data involved use of different sources of information to provide supporting evidence in the development of related themes (Creswell, 1998). For this study, data sources included verbatim transcripts, pilot study data, field notes, peer review, and the reflective journal. Subsequent to collection, data were analyzed using content analysis. Themes and concepts were identified related to participants' experiences before and after bariatric surgery.

Assumptions

This study was based on the following assumptions:

- 1. Participants were honest in their responses to interview questions.
- Participants were comfortable with answering interview questions regarding bariatric surgery and their lived experience.
- Participants did not intentionally withhold aspects of their experiences with bariatric surgery.
- 4. Some participants were more articulate than others.

Delimitations

The following delimitations should be considered when interpreting results of this study:

- 1. This study sample included only women.
- 2. Participants were required to be two to four years postoperative.
- 3. Some participants were acquaintances due to the use of snowball sampling.

Limitations

The following limitations should be considered when interpreting results of this study:

- There was a possibility that participants' recall of life experiences after bariatric surgery were influenced by subsequent events or limited memory.
- 2. Snowball sampling contributed to participants knowing each other.
- 3. Sampling was limited to southern Illinois.
- 4. Study results are not intended to be generalizable to the general population.
- 5. My personal beliefs and experiences might have influenced data analysis and conclusions.

Definition of Terms

The following terms were utilized in the study and defined to provide an explanation:

Binge eating: a disorder characterized by an insatiable craving for food (Mosby's Dictionary, 2006).

Body Mass Index (BMI): a number calculated from a person's weight and height. BMI is a reliable indicator of body fatness for people (CDC, 2007).

Bracketing: qualitative research technique of suspending or setting aside what is

known about an experience being studied (Burns & Grove, 2003).

Coding: the process of transforming raw data into a standardized form (Babbie, 2004).

Coronary heart disease: an abnormal condition that may affect the heart's arteries and produce various pathologic effects; especially the reduced flow of oxygen and nutrients to the myocardium (*Mosby's Dictionary*, 2006).

Dumping Syndrome: the combination of profuse sweating, nausea, dizziness, and weakness experienced by patients who have had a subtotal gastrectomy; symptoms are felt soon after eating, when the contents of the stomach empty too rapidly into the duodenum (*Mosby's Dictionary*, 2006).

Hyperlipidemia: a condition of elevated lipid levels, characterized by an increase in both cholesterol and triglycerides; accumulation of triglycerides is generally proportional to the amount of dietary fat (*Mosby's Dictionary*, 2006).

Hypertension: elevation of blood pressure above 140 mm Hg systolic and/or 90 mm Hg diastolic (Copstead & Banasik, 2005).

Lived experience: how people experience a phenomenon; the investigator writes research questions that explore the meaning of that experience for individuals and ask individuals describe their experiences in detail (Creswell, 1998).

Metabolic Syndrome: includes two major symptoms, insulin resistance and visceral obesity, with the addition of hypertension and dylipidemia (Bray & Bouchard, 2004).

Microcytic Anemia: a hematologic disorder characterized by abnormally small erthrocytes, usually associated with chronic blood loss or a nutritional anemia, such as

iron deficiency anemia (Mosby's Dictionary, 2006).

Open-ended questions: questions for which the respondent is asked to provide his or her own answers (Babbie, 2004).

Phenomenological: in sociology, pertaining to research that is concerned with understanding the point of view of the subjects (Bogdan & Biklen; 2003).

Probe: a nondirective phrase or question used to encourage a respondent to elaborate on an answer (Babbie, 2004).

Quality of life: a measure of the optimum energy or force that endows a person with the power to cope successfully with the full range of challenges encountered in the real world (*Mosby's Dictionary*, 2006).

Qualitative research: an approach to social science research that emphasizes collecting descriptive data in a natural setting, uses inductive thinking, and emphasizes understanding the subject's point of view (Bogdan & Biklen, 2003).

Snowball sampling: a nonprobability sampling method whereby each person interviewed may be asked to suggest additional people for interviewing (Babbie, 2004).

Themes: concepts, grounded theories, or ideas that emerge from data into common patterns. Themes are the big ideas derived from research and provide the structure for the presentation of findings and interpretation (Bogdan & Biklen, 2003).

Transcripts: written translation of a tape recorded interview or field notes (Bogdan & Biklen, 2003).

Triangulation: use of multi-data sources or theoretical perspectives in a study (Bogdan & Biklen, 2003).

Type 2 diabetes: non-insulin-dependent diabetes mellitus, characterized by tissue

insulin resistance and impaired insulin production by the pancreas (Copstead & Banasik, 2005).

Summary

The incidence of obesity is a serious and growing health problem in the United States. Obesity greatly affects a person's health status and is a disease with many comorbidities, most of which are improved or resolved with weight loss. Bariatric surgery is one treatment option for severe obesity gaining in popularity and prevalence. A qualitative research study was employed to gain in-depth data related to experiences of women after bariatric surgery. Examination of the experiences helped to provide health educators meet the needs of persons who are considering or have had bariatric surgery. This chapter included the study purpose, research design, research design and questions, data collection and analysis, assumptions, limitations, delimitations, along with definition of relevant terms to this study.

CHAPTER TWO

REVIEW OF LITERATURE

This chapter presents an in-depth review of literature concerning obesity and bariatric surgery. Discussion includes the significant rise in obesity and the consequences of obesity, exercise, weight loss, requirements of bariatric surgery, history of bariatric surgery, social support, body image, discrimination, maintenance of weight loss, and other supporting details.

Purpose

The purposes of this study were to explore experiences of women who have undergone bariatric surgery and to gain an understanding of the decision to have surgery.

Obesity

Healthy People 2010 is a systemic approach to improving health of communities as well as the health of the nation. The central goals of *Healthy People 2010* are to increase quality and years of healthy life and eliminate health disparities. Two of *Healthy People 2010* objectives in particular address obesity:

- Objective 19-1: Increase the proportion of adults who are at a healthy weight (Baseline 42%).
- Objective 19-2: Reduce the proportion of adults who are obese (Baseline 23%). (USDHHS, 2000)

Obesity among adults in the United States has risen significantly over the past 20 years; 66.3% of adults in the United States are overweight or obese (CDC, 2005). Numerous factors, including cultural, environmental, genetic, and behavioral, have been identified as contributing factors. Advances in technology, changes in work habits, the advent of computers, trends in eating out vs. food preparation at home, time pressure, and many other factors are associated with obesity. Evidence shows that unhealthy diet and insufficient physical activity among causal risk factors in coronary heart disease, cerebrovascular strokes, various cancers, type 2 diabetes, hypertension, osteoporosis, dental caries, and other conditions (World Health Organization, 2001). Health implications related to these diseases often improve with weight loss. Healthy lifestyles are an important part of both prevention and management of hypertension. Excessive intake of calories, sodium, saturated fat, and inadequate fruits, vegetables and low-fat dairy products are etiologically related to the development of chronic disease (Elmer et al., 2006). Changes include regular aerobic exercise, dietary salt reduction, alcohol consumption, smoking cessation, along with a diet rich in fruits and vegetables (McDonald & Blackwell, 2006). Despite the well-known benefits of physical activity, nearly 70% of American adults do not engage in regular physical activity (Williams, Anderson, & Winett, 2005).

The Framingham Heart Study is a longitudinal study of risk factors for cardiovascular and other chronic diseases in a sample of residents initially from Framingham, Massachusetts. The original cohort has been followed with biennial examinations since 1946. From 1971 to 2001, the Framingham Offspring Study tracked 4117 white adults with beginning ages ranging from 30 to 59 years. Over the 30-year period, more than half became overweight, and approximately one third of the women and one quarter of the men became obese (Vasan, Pencina, Cobain, Frelberg, & D'Agostino, 2005).

Hypertension

Hypertension results from a sustained increase in arteriolar vasoconstriction, an increase in circulating blood, and or both cause an increase in blood volume and peripheral resistance (Huether & McCance, 2008). The cardiovascular system adapts by increasing cardiac output. An autoregulatory mechanism in the systemic arteries reacts to the increased blood volume, causing hypertension (Lemone & Burke, 2004). Heritability accounts for an estimated 30% to 40% of hypertension (Huether & McCance, 2008). A specific cause has not been identified. Factors linked to hypertension include family history, advancing age, more common in men than women before age 55 years, black race, high dietary sodium intake, diabetes, cigarette smoking, obesity, heavy alcohol consumption, and low dietary intake of potassium, calcium, and magnesium (Huether & McCance, 2008).

An ideal blood pressure is 120 over 80 or less with a reading of 130 over 85 considered borderline normal (Sizer & Whitney, 2006). Weight gain may elevate blood pressure. Hypertension remains the most common risk factor for cardiovascular morbidity and mortality. Incidences are rising in both the aging and obese populations (Kaplan & Opie, 2006). According to Haslam and James (2005), hypertension is up to five times higher among obese people than among those with normal weight. A number of individuals need medications to lower blood pressure, but diet and exercise alone can make improvements. The DASH diet (Dietary Approaches to Stop Hypertension) recommends significant increases in fruit and vegetable intakes, provides 30% of its calories from fat, emphasizes legumes over red meats, and restricts sodium intake (Sizer

& Whitney, 2006).

Type 2 Diabetes

Individuals with type 2 diabetes have a secretory defect in insulin production and are resistant to the action of insulin on peripheral tissues (Copstead & Banasik, 2005). The exact cause of type 2 diabetes is unknown; although, it may be hereditary and may result from a combination of genetic susceptibility and environmental factors (Huether & McCance, 2008). Theories of the exact cause include limited beta-cell response to hyperglycemia, peripheral insulin resistance, and insulin receptor or postreceptor abnormalities (Lemone & Burke, 2004). The pancreas produces beta cells that are located in a cluster of cells known as the islet of Langerhan. Beta cells secrete the hormone insulin, which facilitates the movement of glucose across cell membranes into cells, decreasing blood glucose levels (Lemone & Burke, 2004). The risk for developing type 2 diabetes is obesity where insulin is less able to facilitate the entry of glucose into the liver, skeletal muscles, and adipose tissue (Huether & McCance, 2008). Although the exact cause remains unclear, it is known that weight loss may improve the mechanism responsible for insulin-receptor binding or postreceptor activity (Lemone & Burke, 2004).

The relationship between obesity and type 2 diabetes is so close that obesitydependent diabetes has been coined as "diabesity." The prevalence of type 2 diabetes has risen 39.8% in the 1990s for adults aged 40-49 years related to sedentary lifestyles and diet (Copstead & Banasik, 2005). Diabetes and hypertension contribute to the risk of the development of coronary heart disease. Improvements in life expectancy have occurred in spite of considerable increases in obesity, decreased physical activity, and increased prevalence of diabetes. Over time, the increase in obesity and diabetes is expected to result in a rise in coronary heart disease (Kuller, 2006).

Metabolic Syndrome

The metabolic syndrome is an insulin-resistant state characterized by a group of cardiovascular risk factors, including abdominal obesity, glucose intolerance, hypertension, and elevated cholesterol (Johnson & Weinstock, 2006). Persons with metabolic syndrome tend to have central or abdominal obesity. Glucose intolerance may result in type 2 diabetes. According to the National Heart, Lung, and Blood Institute (NHLBI, 2007b), approximately 85% of people who have type 2 diabetes also have metabolic syndrome. These people have a much greater risk for heart disease than the 15% who have type 2 diabetes but do not have metabolic syndrome. Lifestyle changes are the first line of treatment for metabolic syndrome, including weight loss, increased physical activity, improved diet, and smoking cessation. Medication is the second line of treatment used to treat and control individual risk factors (NHLBI, 2007b).

Patients should be instructed to follow a diet that produces a seven to ten percent weight loss along with long-term weight maintenance (Johnson & Weinstock, 2006). Pharmacological therapy may be used to attain glycemic, blood pressure, and lipid goals (Padwal, Li, & Lau, 2003). Positive effects of regular physical activity include decreased blood pressure, insulin levels, and weight (Lemone & Burke, 2004).

Exercise

Lack of exercise plays an important factor in weight gain. Approximately 30% of the U.S. engages in physical activity for at least 30 minutes a day, five or more days a week, as is recommended by the U.S. Surgeon General (Crespo & Arbesman, 2003). An estimated 8.3 million fewer adults reported being active in 2002 than in 1996 (CDC, 2005). Regardless of whether a person loses weight, exercise improves cardiovascular risk factors, such as blood pressure, cholesterol levels, and glucose (blood sugar) levels (Dachs, 2007).

As previously discussed, obesity is associated with an increased risk of morbidity and mortality from chronic health conditions, such as diabetes, hypertension, and cardiovascular disease. Obesity outranks both smoking and drinking in harmful effects on health. In order to reduce the burden of chronic disease, increased physical activity and changes in diet are necessary.

Weight Loss

The increase in obesity has been accompanied by a plethora of weight-loss programs and rapid weight-loss methods. Results of dietary intervention, exercise regimens, behavior modification, and even medications with most individuals are discouraging. Despite considerable research on weight maintenance, most people do not persist in their weight-loss efforts over time, regain much of their weight loss, and thus are unable to enjoy the long-term benefits of weight loss (Jeffery, Kelly, Rothman, Sherwood, & Boutelle, 2004).

A modest weight loss of 5% to 10% of body weight in obese individuals with type 2 diabetes, hypertension, or elevated cholesterol levels leads to improved glucose control, lower blood pressure, and an improved cholesterol panel (Busetto et al., 2004). In determining the appropriateness of any weight-loss program, it is essential for health care professionals and their patients to realize that the goal of the treatment is not necessarily weight loss alone, but weight management to achieve the best possible weight for
improved health (Eyznicki, Young, Riggs, & Davis, 2001). For many overweight and obese people, achieving and maintaining a healthy weight is a difficult and often life-long challenge.

In 1990, a cohort of 116,000 female registered nurses ranging in age from 25 to 42 years of ages was enrolled in the Nurses' Health Study II. The study was designed to obtain information about effects of diet and lifestyle on the development of a wide range of chronic diseases, including heart disease, stroke, and diabetes. In a six-year follow-up of the Nurses' Health Study II, less than 10% of the women who had significant weight loss were able to successfully maintain their loss (Field, Wing, Manson, Spiegelman, & Willett, 2001).

Dissatisfaction with body weight and/or body image concerns is pervasive throughout our culture. Findings of a Swiss study designed to determine desired weights and dieting behavior in middle-aged women found only 25% of the women were satisfied with their weight. Over a five-year period, 42% of the 1,053 participants dieted for weight control. The majority of the dieters (62%) were not classified as being overweight (Allaz, Bernstein, Rouget, Archinard, & Morabia, 1998).

The diet industry is infamous for making promises of a rapid amount of weight loss. Many people develop false hope and purchase the latest diet, magic pill, or exercise equipment claiming rapid weight loss. Research is limited to guide consumers in the selection of a commercial weight-loss program. In 2000, a randomized trial study was conducted at a medical center in Boston to assess adherence rates and effectiveness of four popular diets. A total of 160 overweight adults were randomly assigned to either Atkins (carbohydrate restriction), Zone (macronutrient balance), Weight Watchers (calorie restriction). or Ornish (fat restriction). After two years, overall dietary adherence was low with each popular diet resulting in no significant differences in weight loss (Dansinger, Gleason, Griffith, Selker, & Schaefer, 2005).

The FDA has approved two prescription weight-loss medications for long-term use: sibutramine (Meridia) and orlistat (Xenical) (NHLBI, 2007a). Orlistat blocks the breakdown of ingested dietary fat, thus unabsorbable fat is consequently excreted. Reported side effects include fecal urgency or incontinence, increased flatus with or without discharge, oily spotting, and increased number of bowel movements (Halford, 2004). Eating a diet low in fat will reduce the likelihood of these side effects. In February 2007, the Food and Drug Administration (FDA) approved lower dose of orlistat as an over-the-counter weight-loss aid for overweight adults (U.S. FDA, 2007). The drug is manufactured under the name of Alli and is indicated for adults ages 18 and over, along with a reduced-calorie, low-fat diet and exercise program.

Poston et al. (2006) examined the effectiveness of dietary counseling intervention alone, in combination with orlistat, and drug alone in a 12-month randomized clinical trial at a medical school obesity center. Participants (n = 136) completed with weight losses of less than 3 kg for both groups receiving orlistat. Participants with dietary counseling alone gained weight ranging from 1.7 to 4.2 kg.

Sibutramine (Meridia) is a nor-adrenergic and serotoninergic reuptake inhibitor that enhances satiety (Halford, 2004). Cardiovascular side effects prohibit individuals with a serious history of cardiovascular problems from taking sibutramine (NHLBI, 2007a). A total of 485 obese men and women were included in a double-blind randomized placebo-controlled study of sibutramine once daily for one year, given with dietary counseling (Smith, 2001). Results revealed participants taking sibutramine had a greater mean weight loss compared with placebo participants at 12 months. Weight loss for participants taking the placebo was 1.6 kg compared to 4.4 kg for those taking sibutramine.

Over-the-counter products often claim successful weight loss. The FDA does not regulate these products because they are considered dietary supplements, not medications (NHLIBI, 2007). Greater than 50 billion dollars is spent in the United States each year to induce weight loss or control weight; this figure includes the cost of diet foods (Bedine, 2003). Dietary supplements are not recommended as a part of a weight-loss program related to concerns of efficacy and safety (Blanick et al., 2007).

It should be noted that everyone who is overweight does not necessarily need to lose weight. Individuals who are overweight (BMI ≥ 25) and have no other risk factors should be counseled about making lifestyle changes to prevent additional weight gain. Obese individuals (BMI ≥ 30) and overweight persons (BMI ≥ 25) who have abdominal obesity and other risk factors should be actively encouraged to lose weight (NHLBI, 2000).

Weight loss has been known to reduce some risks occurring from obesity. Unfortunately, conservative weight-loss options appear disappointing with most individuals not losing weight, or those able to lose a significant amount experience weight gain within a few years. This failure leads the path for a possibly more effective solution in the form of bariatric surgery for extremely obese individuals.

Bariatric Surgery

Bariatric surgery has been demonstrated as a successful method of achieving

weight loss among the extreme obese (Zhao & Encinosa, 2007). Similarly, the American Gastroenterological Association medical position on obesity concludes bariatric surgery as the most effective approach for achieving long-term weight loss for individuals with a $BMI \ge 40$ and those with a $BMI \ge 35$ -39 with one or more obesity-related comorbidities (American Gastroenterological Association, 2002). Currently accepted criteria at Mayo Clinic for consideration of bariatric surgery include:

- a body mass index (calculated as weight in kilograms divided by the square of height in meters) of 40 kg/m² or greater (or > 35 kg/m² with obesity-related co-morbidities)
- documented or high probability of failure of nonsurgical weight loss treatments
- assurance that the patient is well informed, motivated, and compliant.
 (Collazo-Clavell et al., 2006)

The major reason for an individual to consider bariatric surgery should be to improve health. Bariatric surgery is not without its risks, nor is it consistently effective. Some candidates are at risk for major complications, or the end result may be poor weight loss. Prior to having surgery, it is imperative for individuals to understand potential positive and negative outcomes of bariatric surgery. Medical assessment should include a multidisciplinary team representing the fields of nutrition, psychiatry, medicine, and surgery. Potential candidates' physical health, activity level, nutritional intake, and psychiatric status should be included in the health assessment. Collazo-Clavell et al. (2006) identify three main goals of the initial assessment: (a) determine that the patient meets recommended criteria for bariatric surgery, (b) identify issues that increase the patient's operative risk and intervene to reduce risk when possible, and (c) identify and modify factors that may reduce the probability of long-term successful weight loss and put the patient at risk for long-term complications. Similarly, Kral (2001) identifies the need for overall objectives of the surgeons' selection of patients to maximize perioperative safety and to optimize long-term outcome.

Psychological and physiological assessment identifies factors that may prepare the patient for lifestyle changes needed before and after surgery. Villagra (2004) recommends the evaluation should include the patient's motivation to participate in a sustained behavior modification program. Similarly, Collazo-Clavell et al. (2006) recommend patients receive behavioral therapy for lifestyle change (eating, exercise, social support, and stress management) from a licensed mental health professional prior to surgery. The goal of behavioral therapy is to provide support as individuals pursue lifestyle changes in diet and physical activity. Noncompliance to preoperative recommendations often indicates an unmotivated patient who may be a poor surgical candidate because of potential nonadherence to the necessary long-term changes (Collazo-Clavell et al., 2006).

Bariatric surgery is not a specialty certified by the American Board of Surgery. The level of training received by surgeons can vary significantly, from limited experiences in residencies to one-year fellowships or brief preceptorships taught by bariatric surgeons (Villagra, 2004). Individuals considering bariatric surgery need to be cautious in selecting a qualified surgeon and facility. The American College of Surgeons and also the American Society for Bariatric Surgery certify facilities with highly qualified surgeons (USDHHS, 2006). Facilities are required to have provided bariatric services for at least one year prior to applying for certification along with a description of existing resources, personnel, and outcome data of prior surgeries (American College of Surgeons Bariatric Surgery Center Network, 2007). All surgeons performing bariatric surgery in these facilities must be certified by the American Board of Surgery and be experienced in the care of bariatric surgical patients.

Not all candidates for bariatric surgery can afford to have the procedure. Medical insurance coverage varies by state and insurance provider. On average, bariatric surgery costs from \$20,000 to \$35,000 (NIDDK, 2004). After substantial weight loss, persons who have had bariatric surgery may experience excess skin and skin folds. Unfortunately, in most cases, such excess skin is considered a cosmetic problem; therefore, associated expenses typically are not covered by insurance plans. In rare cases, skin ulceration and infection can lead to a serious medical problem (Presutti, Gorman, & Swain, 2004). Excessive leg skin may interfere with ambulation. Preoperatively, persons considering bariatric surgery should be aware of this potential complication.

The Centers for Medicare and Medicaid Services (CMS) has expanded Medicare's coverage of bariatric surgery for Medicare recipients who have a body-mass index (BMI) \geq 35, have at least one co-morbidity related to obesity, and have been unsuccessful with medical treatment for obesity (USDHHS, 2006). The agency determined health benefit of bariatric surgery can only be assured in facilities that perform large numbers of these procedures, performed by highly qualified surgeons. The CMS will cover these procedures only in facilities that are certified by the American College of Surgeons or American Society for Bariatric Surgery (USDHHS, 2006).

History of Bariatric Surgery

The word "bariatric" comes from the Greek root "baros" meaning "weight" or "heavy" along with the Latin word meaning "to treat" (Barr & Cunneen, 2001). Bariatric surgery was first performed in 1954. This malabsorptive procedure consisted of reducing the small intestine from 20 feet to approximately 18 inches, which resulted in dramatic weight and also life-threatening complications (Villagra, 2004). The jejunoileal bypass (Figure 1) was associated with a variety of adverse effects, including excess diarrhea, electrolyte imbalance, kidney dysfunction, and liver abnormalities (Griffen, Hostetter, Bell, Bivins, & Bannon, 1984). Consequently, the jejunoileal bypass is no longer recommended as a bariatric procedure.

At present, the most common three surgical procedures for obesity are the Rouxen-Y gastric bypass (RYGB) (Figure 2), Vertical Banded Gastroplasty (VBG) (Figure 3, and the Adjustable Gastric Band (AGB) (Figure 4). The three surgical procedures are described below.

In the 1960s, Dr. Edward Mason, observed that females who had undergone partial gastrectomy for peptic ulcer disease tended to remain underweight (Mason & Ito, 1967). The principles of partial gastrectomy were then applied to obese females, finding they did lose weight. Over several decades, the procedure has been modified into its current form of the Roux-en-Y gastric bypass (Cummings, Overduin, & Foster-Schubert, 2004). Roux-en-Y gastric bypass (RYGB) combines restriction and malabsorption by creating a small gastric pouch similar to the size of an egg. The small intestine is cut

Figure 1 Jejunolieal bypass



Figure 3 Vertical banded gastroplasty



Figure 2 Roux-en Y gastric bypass

Figure 4 Adjustable gastric band



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and is connected to the stomach pouch; the other end is reattached to the small intestine, creating a Y shape. Food bypasses most of the stomach and upper part of the small intestine. Possible complications include gastric dilation, wound infection, stomal stenosis, anemia, vitamin B12 deficiency, and hypocalcemia (Karmali & Shaffer, 2005).

The RYGB has been proven to be the best operation in achieving sustained and significant weight loss. The majority of the patients maintain a weight loss of 60-70% of their excess weight for 10 years or more (NIDDK, 2004).

In 1981, Dr. Edward Mason developed the Vertical-banded gastroplasty (VBG) (Hydock, 2005). In VBG, a vertical partition of the upper stomach using staples creates a small (20 mL) segment of the stomach that fills rapidly with food and then empties slowly. The exit of the pouch is reinforced with a band to prevent dilation (Hansen, Torquati, & Abumrad, 2006). Complications associated with VBG include stomal stenosis, staple line disruption, pouch dilation, erosion of the band, and gastroesophageal reflux. Staple line disruption, which is found in up to 35% of patients, can lead to rapid weight gain (Pandolfino et al., 2004). Patients generally lose half of their excess body weight in the first year; however, as few as 20% have kept the weight off in 10 years (NIDDK, 2004).

In 1986, Dr. L. Kuzmak designed the Adjustable Gastric Band (AGB), which involved laparoscopic placement of a constricting band around the most proximal portion of the stomach to restrict food intake, thereby creating a narrow passage into the remainder of the stomach (American Society for Bariatric Surgery, 2005). An inflatable balloon incorporated into the band allows adjustment of the degree of the outlet restriction (Hansen et al., 2006). Complications reported include band stenosis, band erosion, band slippage, gastric pouch, and esophageal dilation (Pandolfino et al., 2004). Complications are much less common and less severe compared to VBG or RYBG. Laparoscopic surgical procedures reduce wound complications, resulting in less infection and hernia, decrease in pain, and a shorter hospital stay (Fobi, 2004). Some studies have found weight loss to be equivalent to the VBG, whereas others have reported the average loss to be much less than that achieved by RYBG (Karmali & Shaffer, 2005).

Several new or revised operations are emerging for the treatment of severe obesity. The use of electrical stimulation in the treatment of obesity is under investigation along with a less-invasive endoscopic intervention (Kendrick & Dakin, 2006). Future minimally invasive procedures bring the hope that operative risks and long-term outcomes will improve.

Postoperative care should include routine laboratory studies and follow-up visits with a physician. Follow-up will allow for early diagnosis of the more common long-term complications, such as iron and vitamin B_{12} deficiency, incisional hernias, staple-line failure, gastritis, cholecytitis, and anastomotic (surgical rerouting) problems. Health care professionals may be in the best position to identify any psychosocial problems, such as depression. One third of bariatric surgical candidates are taking psychotropic medications preoperatively, typically antidepressants (Collazo-Clavell et al., 2006). Psychological counsel is extremely important preoperatively and postoperatively (Presutti et al., 2004).

According to Markcason (2004), the postoperative diet begins with frequent small servings (1 ounce) of water and/or ice chips for the first few days. Progression of the diet to solid foods can be as fast as a week, moving from liquids and puree foods to soft textured foods during that time. Initial gastric capacity is generally 30 to 60 mL (1 to 2 ounces), with a progression up to four ounces. Solid foods are gradually introduced. Different practitioners advance the diet more slowly or quickly than others. Nausea and vomiting are the most common complaints after surgery and are typically associated with inappropriate food choices or eating habits. Nutritional guidance and behavior

modification are helpful, but an organized long-term follow-up program is most effective (Bedine, 2003). Dietary guidelines are most helpful to the patient when written down and discussed before and after the surgery. According to McMahon et al. (2006), nutritional guidelines are as follows:

- Recommended minerals and vitamins should be taken regularly.
- Small bites of food should be well chewed thoroughly before swallowing.
- Liquids should be either ingested well before meals or at least 30 minutes afterwards.
- Proteins should be preferentially eaten before fats and carbohydrates, and ideally in an amount of at least 60g daily.

Dietary recommendations are based on nutritional assessment and should focus on diet progression, food intolerances, and nutrient deficiencies (McMahon et al., 2006). Patients may experience vomiting in the first four to six weeks after surgery, generally from eating too quickly, eating too much, or consuming excessive amounts of liquids during meals (McMahon et al., 2006). The patient must learn to recognize eating behaviors that trigger vomiting and learn to change dietary habits.

Potential long-term dietary complications include dumping syndrome (e.g., postprandial sweating, weakness, hypoglycemia, and generalized malaise) related to eating foods high in concentrated sugar or fat. More than 30% experience iron deficiency, and half develop microcytic anemia (Villagra, 2004). Daily vitamin and mineral replacement therapy is essential for every bariatric patient (Presutti et al., 2004).

Successful treatment of obesity extends beyond weight reduction; surgery reverses, eliminates, or significantly improves type 2 diabetes and hypertension.

Approximately 85% of persons with type 2 diabetes experienced improvement in their diabetes course after bariatric surgery (Buchwald et al., 2004). Improvement or resolution of hypertension by weight reduction is well known. After bariatric surgery, approximately 85.7% of persons were found to have improved blood pressure or their hypertension resolved (Buchwald et al., 2004).

White, Brooks, Jurikova, and Stubbs' (2005) study followed a single surgeon's experience with bariatric surgery over a ten-year period. Data obtained from 88% of the 342 patients who were ten years postoperative revealed a median BMI of 31 down from a BMI of 44 prior to surgery. Follow-up results of the 62% of patients' hypertension was resolved along with 25% of patients' blood pressure improved. Type 2 diabetes was resolved in 85% of those diagnosed prior to surgery, and another 10% exhibited improvement.

Follow-up after bariatric surgery is particularly important to assess outcomes, including resolution of obesity-related co-morbidities and long-term complications. Additionally, continued education regarding dietary and lifestyle modifications is an important aspect of follow-up care. A study was conducted to investigate the hypothesis that there are differences between patients who do not return for follow-up visits and those who chose to return during the first year (Harper, Madan, Ternovits, & Tichansky, 2007) A sample of 42 participants who chose not to follow up with their physician was compared to a group of 57 who had continued to follow up one year after surgery. Participants who were contacted and reminded of missed visits made follow-up appointments. Participants (88%) who adhered to regular follow-up visits had successful weight loss (defined as within 50% of ideal body weight) compared to those participants

(67%) who had chosen not to follow up with scheduled visits for one year. Unfortunately, this study did not examine the reasons for clients choosing not to keep follow-up visits. Several reasons were postulated. The client may not believe follow-up is necessary, or those who were not progressing may be embarrassed to return or perhaps were dissatisfied with the results of the surgery.

Weight loss is of high priority, but, more importantly, clients' health needs to be assessed on a regular basis. Regular monitoring of blood pressure, lab values, and overall physical health can be a means of avoiding potential complications and also keep the doors open to communication between health care professionals and client. Comprehensive longitudinal care of patients is critical after bariatric surgery (McMahon et al., 2006). A collaborative effort between the patient and a team of health professionals can create a positive atmosphere for patients who have often faced social discrimination related to body weight.

Social Support

Social support is an important component of successful lifestyle change. Individuals with higher levels of social support tend to do better in weight management (Klem, Wing, McGuire, Seagle, & Hill, 1997). The postoperative period may be quite difficult because of the necessary change in eating habits. This may be associated with emotional discomfort, so a personal support system of family and friends should be in place. Peer and family support is important in helping persons learn greater selfacceptance, develop new norms for interpersonal relationships, and manage stressful work- or family-related situations (Foreyt & Poston, 1999). Success is possible only with maximum cooperation and commitment to behavioral change and medical follow-up that must be carried out for the rest of the person's life (NIDDK, 2004).

Social support along with strong family support is of great importance to an individual undergoing bariatric surgery. Attending support groups with others losing weight provides peer support and opportunity for guided discussions about changes in body image, meal preparation, relationship issues, and stress management. A study by Elakkary, Elhorr, Aziz, Gazayerti, and Silva (2006) investigated the need for support groups after bariatric surgery in a sample of 38 patients who underwent bariatric surgery by the same surgeon. The sample was divided into two groups, which included 10 patients who agreed to attend a support group and the remaining 28 patients who did not participate in therapy. Weight loss between the two groups was compared over a one-year period. Patients who attended the support group achieved more weight loss (mean decrease in BMI = 9.7) than patients who did not attend (mean decrease in BMI 8.1). According to McMahon et al. (2006), all patients should participate in a professionally supervised support group for at least six months after surgery.

Body Image

Body image dissatisfaction (BID) is a serious consequence of obesity. Grilo, Masheb, Brody, Burke-Martindale, and Rothschild's (2005) study examined BID in extremely obese men and women who had bariatric surgery. Among the sample of 44 men and 216 women (n = 260), results revealed that women reported significantly higher levels of BID than men. Postoperatively, persons with BID before surgery may be in need of long-term counseling (Grilo et al., 2005).

Binge eating disorder (BED) is characterized as eating until uncomfortably full, eating when not physically hungry, eating alone, and feelings of depression or guilt

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(Zwaan, 2001). The prevalence of BED is reported to be 30% of individuals after bariatric surgery (Reto, 2003). BED is associated with increased risk for depression and lower levels of self-esteem prior to surgery (Greenberg, Smith, & Rockart, 2004).

Powers, Perez, Boyd, and Rosenmurgy (1999) evaluated 116 patients prior to bariatric surgery and five years after surgery. Preoperative binge eating was reported in 52% of patients. Further results revealed evidence of greater body image disturbance and an increased level of depression in BED participants prior to surgery compared to those participants without reported BED. After five years, 72 participants returned the final follow-up questionnaire with no self-reports of binge eating related to surgery making it physiologically difficult to binge related to inability to consume large portions without experiencing discomfort.

Similar results were found in a study of 45 bariatric patients who agreed to be interviewed 18 months postoperative (Zwaan et al., 2004). Participants reported results of the surgery forced them to eat small amounts of food related to their restricted stomach capacity. Most were still losing weight, and the majority were no longer concerned with body image. Those results of the study may differ after participants reached a weight plateau. Recommendations included the need for a long-term follow-up study (Zwaan et al., 2004).

Kinzl, Traweger, Trefait, and Biebi (2003) conducted a study to determine the consequences of bariatric surgery on weight loss, quality of life, and physical appearance. A sample of 160 bariatric patients, ranging from 8 months to 48 months postoperative, completed and returned a mailed survey. The majority of the participants (87%) were happy with the extent of their weight loss; however, 53% reported negative consequences

of flabby skin and/or abdominal skin overhang (47%). An improvement in partnership was reported by more than half of the participants (59%) and an improved sexual relationship by 45%.

Research addressing marital functioning and sexuality following bariatric surgery is limited (Bocchieri et al., 2001). Nickel et al. (2005) surveyed 50 women three years post bariatric surgery. Results included positive changes in partnerships, anxiety, and overall health-related quality of life. Similarly, a quantitative study assessed consequences that bariatric surgery had on sexual attitudes and partnership of 82 women who were at least one year postoperative (Kinzl, Trefalt, Hotter, Biebl, & Agner, 2001). Postoperatively, 63% of participants stated that they enjoyed sex more, compared with 12% of participants who enjoyed sex less than before surgery. Postoperatively, 20% of patients reported partnership had changed positively, along with 10% reporting negative changes.

Discrimination

Many obese individuals suffer discrimination in numerous facets of their daily lives. A study of 59 bariatric patients was conducted to address the psychological condition and quality of life following bariatric surgery (Mamplekou, Komesidou, Bissias, Papastantinou, & Melissas, 2005). Prior to surgery, participants were asked to complete a questionnaire evaluating not only their quality of life, but also their social, professional, sexual, and other activities of daily living. Results of the study revealed women (n = 45) had a greater degree of depression from obesity than male participants (n = 14) prior to the surgery, while their postoperative emotional improvement was significant two years postoperative. Conclusions reached after following participants for two years after surgery were that they were helped emotionally and psychologically. Their quality of life (physical, professional, social, and sexual) significantly improved.

Maintenance of Weight Loss

Outcome of bariatric surgery should not be assessed by weight loss alone. Improvement of both overall quality of life and co-morbidities must be included in assessment outcomes. Long-term weight maintenance is an area that likely is enhanced by behavioral intervention (Greenberg et al., 2004).

The National Weight Control Registry (NWCR) is an ongoing longitudinal study of individuals who have been successful at maintaining significant weight loss (Klem et al., 2000). To enroll in the registry, participants must have lost at least 30 pounds and maintained at least a 30-pound loss for one year or longer. Average weight loss of participants enrolled in the registry is 66 pounds, with 14% of members having reported losses of 100 pounds or more.

Klem et al. (2000) examined a sample of 134 members of the NWCR. Half had undergone bariatric surgery, while half reported losing weight with the help of either a commercial program, a self-help group, or a health professional. Each was then computer-matched to a control (based on gender, current weight, and total weight loss) who had lost weight through non-surgical means. Matches could not be found for four of the bariatric members, resulting in a final sample of n = 134 (67 cases, 67 non-surgical cases). One purpose of the study was to determine whether method of weight loss was associated with current levels of psychosocial functioning or current weight maintenance behaviors in participants who had lost large amounts of weight. Behaviors used by surgical participants to maintain their weight losses were very different from the weight maintenance behaviors used by non-surgical participants. Surgical participants reported eating a diet considerably higher in fat and lower in carbohydrates and protein than the non-surgical group. Lower levels of physical activity were reported by surgical participants than non-surgical. The reported differences may be related to physiological differences between the groups. Surgical participants may have developed dumping syndrome in which carbohydrate rich foods cause nausea and other unpleasant side effects, leading to an aversion to such foods. Despite differences in diet and physical activity, the majority of participants in both groups indicated weight-loss maintenance had been accompanied by significant improvements in general mood, self-confidence, quality of life, job performance, and interaction with friends and family.

Physical activity is one health behavior that improves quality of life and weightloss outcomes after bariatric surgery. A study was conducted to examine quality of life, physical activity, and physical readiness among bariatric surgery candidates (Bond et al., 2006). A sample of 89 surgical candidates completed a battery of questionnaires designed to measure quality of life, readiness for participation in moderate physical activity, and actual engagement in various intensities of physical activity at an initial surgical consult visit and then again one week prior to surgery. During the period of time prior to surgery, participants were sent written materials related to the importance of post surgical exercise, and participants also met with surgeons, nurses, and dietitians. Findings demonstrated positive presurgical changes in physical activity readiness warranting increased efforts to promote physical activity adoption and maintenance among bariatric candidates.

The Mayo Clinic offers a multidisciplinary team approach in assisting in patients'

long-term success and maintenance (McMahon et al., 2006). Dietitians begin education preoperatively and continue during postoperative recovery. Recommendations are made for evaluations one month after surgery, then quarterly for one year, and annually thereafter. A dietary assessment (using 24-hour diet recall, a food frequency questionnaire, or food records) offers information concerning the types of foods and liquids consumed, food intolerances, and vitamin supplementation. Medical evaluation along with laboratory testing should be tailored to the patients' profile of co-morbidities. Lack of protein is of concern after bariatric surgery due to intolerance of proteincontaining foods. Barriers to physical activity may include hesitation to exercise in public places and/or the inability to incorporate activity into a daily routine. The Mayo team has developed a collaborative program involving sports medicine specialists and physical therapists that offers a gradual progression of exercise based on tolerance. A comprehensive team approach is important in providing the best care possible to a group of individuals who typically have complex medical histories.

Mitchell et al.'s (2001) study of a cohort of 70 bariatric patients who were 13 to 15 years postoperative included baseline health information prior to surgery and information obtained at follow-up interviews. Based on medical records, the mean BMI presurgery was 43.8 kg/m². Based on self-report, mean BMI at maximum weight loss post-surgery was 25.9 kg/m², and at time of follow-up, 32.8 kg/m². Three participants admitted weighing more at long-term follow up than before surgery.

Summary

This review of current literature presents an overview of literature related to obesity and bariatric surgery. Discussion included the significant rise in obesity and its consequences. Limited availability of research specific to bariatric surgery indicates a need for assessing women's personal experiences, psycho-social functioning, and maintenance of weight loss. Chapter three describes purposes of the study, the phenomena under study, research questions, research design, sample, interview protocol, data collection, and analysis.

CHAPTER THREE

METHODS

Purpose

The purposes of this study were to explore experiences of women who have undergone bariatric surgery and to gain an understanding of the decision to have surgery.

Research Question

This study focused on the following research questions:

What are the experiences of women before and after bariatric surgery?

Research Design

This study used a qualitative research design, guided by a phenomenological approach, to investigate and describe the meaning of experiences of women after bariatric surgery. Qualitative research has two unique features: (a) the researcher is the means through which the study is conducted, and (b) the purpose is to learn about some facet of the social world (Rossman & Rallis, 2003). Creswell (1998) defines qualitative research as

an inquiry process of understanding based on distinct methodological traditions of inquiry that explores a social or human problem. The researcher builds complex, holistic pictures, analyzes words, reports detailed views of informants, and conducts the study in a natural setting, (p. 15)

Findings from qualitative research lead to understanding a phenomenon in a particular situation and are not generalized in the same way that quantitative studies are. On the other hand, understanding the meanings of phenomenon in a particular situation

gives insights that can be applied more broadly to program planning.

Phenomenological studies are primarily open-ended, searching for themes of meaning in participants' lives. Intense research is conducted through in-depth interviews. The researcher seeks to understand the deep meaning of a person's experiences and how she/he describes these experiences (Rossman & Rallis, 2003). Exploring the lived experiences of women after bariatric surgery provided a deeper understanding and awareness of the impact of weight loss surgery. Results of a phenomenological approach depended on the willingness of participants to reveal their experiences and their ability to express themselves.

My personal experience as a registered nurse had included preconceived beliefs that bariatric surgery should be for those individuals who had documented failed attempts at losing weight with bariatric surgery as their last resort. To focus on the women's experiences after bariatric surgery, I was required to bracket those beliefs. Schwandt (2001) defines bracketing as setting aside any assumptions made in everyday life and in the sciences. Creswell (1998) expressed the need for the researcher to reserve all prejudgments of his or her experiences and rely on intuition and imagination to obtain the picture of the experience.

Sample

The sample for this study initially was a focus group consisting of six members of a bariatric support group. Focus groups are intended to obtain the participants' perceptions of a narrow subject in a setting that is permissive and non-threatening (Burns & Grove, 2003). According to Patton (2002), confidentiality cannot be assured in focus groups; therefore, data were used only for triangulation of data. Individual in-depth interviews were then conducted.

The recommended number of participants in a phenomenological study in general is 10 (Creswell, 1998; McCracken, 1988). The method of in-depth, phenomenological interviewing applied to a sample of participants who have all experienced similar structural and social conditions gives enormous power to the stories of a relatively few participants (Seidman, 1991), such as life experiences. The sample for this study was women who had undergone bariatric surgery and were two to four years postoperative. In this study, 10 women were recruited and interviewed with the understanding that recruitment for interviews was to come to a close once data saturation was achieved. Saturation of data occurs when additional participants provide no new information, only redundancy of previous collected data (Burns & Grove, 2003).

Snowball sampling was used because the population under investigation is "hidden," either due to low numbers of potential participants or sensitivity of the topic (Browne, 2005). To use snowball sampling, I first contacted a woman I personally knew who met study criteria. I asked her to identify others meeting the inclusion criteria for this study. I then requested she contact the other potential participants to ask consent to be contacted by me. I telephoned each of the women who gave consent and repeated the identification process as well as arranged a time for a face-to-face interview.

Instrumentation

Gorden (1992) defined interviewing as a conversation between two people in which one person tries to direct the conversation to obtain information for some specific purpose. Bogdan and Biklen (2003) reflected that interviews are used to gather descriptive data in subjects' own words so that the researcher can develop insights on

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how subjects interpret some piece of the world. Interviews elicit people's stories about their lives (Rossman & Rallis, 2003).

To gain a better understanding of women's experiences after bariatric surgery, I conducted semi-structured face-to-face in-depth interviews. Seidman (1991) explained the root of all in-depth interviewing is an interest in understanding experiences of other people and the meaning they make of that experience. Similarly, Van Manen (1990) noted the phenomenological interview may be used as a means for exploring and gathering experiential narrative material that may assist in developing a richer and deeper understanding of a human phenomenon. In-depth interviews provided me with details of participants' experiences, such as their psychological adaptations after experiencing bariatric surgery.

Semi-structured interviews contained a core of open-ended questions that allowed questioning to move in related directions for in-depth probing and that produced an opportunity for exploration (Neutens & Rubinson, 2002). Table 1 contains the steps used in the development of the interview protocol used for this study. Demographic data were collected to provide a description of each participant.

Table 1

Steps in Development of the Interview Protocol

- 1. Review of literature.
- 2. Development of telephone recruitment protocol.
- 3. Development of interview guide using open-ended questions along with probes and pertinent demographic questions.
- 4. Interview guide examined by a woman who had bariatric surgery.
- 5. Interview guide reviewed by dissertation committee members.
- 6. Additions and deletions made based on recommendations.
- 7. Study initiated using the revised interview guide.

As the primary instrument, I believe it is important to express my personal opinion of the battle with weight loss. As mentioned in the opening scenario, prior to listening to Lillian, bariatric surgery was not a subject that was familiar to me. After giving it much thought, I realized that perhaps my interest in Lillian went much deeper. If a personal acquaintance of mine were asked to provide a description of me, the word "thin" would probably be included. As difficult as it is to share, I have my own battle of believing I am overweight and never satisfied with my appearance. Why am I sharing this? Lillian continued after her weight loss to struggle in a "normal size" world. This struggle was the connection that triggered my desire to be a part of sharing her story. As previously discussed, as primary instrument I was required to bracket my feelings throughout the study.

Data Collection

Upon approval from Southern Illinois University Carbondale's Human Subjects Committee, data collection began with facilitation of a focus group consisting of members of a bariatric support group. I contacted a representative of the group, explained the study, and asked permission to conduct a focus group at a monthly support group meeting. I explained that only group data would be reported and no names would be used. Since a focus group involves a group process, all members of the group would be privy to the discussions that occur during the session; therefore, absolute confidentiality on the part of the participants themselves could have been difficult to ensure. The human subjects research protocol was explained and the interview was audiotaped. I obtained informed consent from all participants prior to the focus group (Appendix B). The consent form explained that participation was strictly voluntary, the interview was audiotaped, and participants had the right to withdraw at any time. Also explained was the difficulty ensuring absolute confidentiality due to the group having access to the discussion, therefore, only group data would be used in the study. All participants received a copy of the consent form. The focus group was conducted during a scheduled support group meeting. The group was asked one question: "Tell me what is important to women who have under gone bariatric surgery" (Appendix C). Patton (2002) emphasized the importance of the moderator managing the interview so that it is not dominated by one or two people to ensure that those who are not so verbal are able to share their views as well.

Participants for individual interviews were obtained using a snowball technique in which I contacted women who had agreed to talk with me and who met study criteria. A telephone recruitment protocol was used to explain the study and ask for their voluntary participation (Appendix D). I further discussed information related to human subjects and explained the interview would be audiotaped with results kept confidential.

I obtained an informed consent from all participants prior to each interview (Appendix E). The consent included an explanation of handling all interview data, confidentiality of the participant, and the right to withdraw at any time. Participants were given a pseudonym to protect their identity. Gaining informed consent of participants is crucial for the ethical conduct of research (Rossman & Rallis, 2003). Participants received a copy of the consent form that included contact numbers.

Interviews were conducted at a time and place designated by the participant and researcher. Each participant was given a time frame of a 90-minute interview with the understanding that the process might take longer.

Location of the interviews varied among participants. Participants were asked to select a location convenient for them. Prior to each interview, I followed a pre-interview schedule (Appendix F). Interviews were audiotaped using a portable tape recorder. Prior to beginning each interview, I tested the recorder for sound and verified audibility of the tape. I explained the importance of privacy and lack of interruption during the interview process. Through the use of an interview guide (Appendix G), I conducted a semi-structured in-depth interview.

Audiotapes fail to include visual aspects of the setting and facial and body expressions of participants (Kvale, 1996). Field notes were taken to record specific body language, facial expressions, and other meaningful information during the interview process. Notes also remind the researcher of the setting and sequence of occurrences, dialogue, and events that transpire (Stainback & Stainback, 1988). I kept a reflective journal to express my reactions after each interview.

Member-checking entails having participants read the transcription of their interview. Each participant was offered the opportunity to read her transcript to check for correctness and completeness and also provide additional information that may have been forgotten during the initial interview (Guba & Lincoln, 1989).

Data Analysis

Data analysis included the use of field notes, audiotapes, the reflective journal, and peer examination. The use of several different data sources to test the same findings is called triangulation (Babbie, 2004). Triangulation of data aids in enhancing the credibility and rigor of the qualitative study (Rossman & Rallis, 2003). Using different types of data collection allowed me to examine a situation from different vantage points. Each audiotaped interview was transcribed verbatim. I took field notes during each interview process. In addition, I kept a reflective journal that contained participants' nonverbal cues and behaviors and observations made during the interview process. Using these multiple sources of data helped to build the picture I was investigating.

In qualitative research, data analysis is ongoing throughout the data collection process and occurs as the study progresses (Rossman & Rallis, 2003). Analyzing and interpreting qualitative data is the process of deep immersion in the interview transcripts, field notes, and reflective journal; systematically organizing these materials into themes and patterns; bringing meaning so the themes tell a story; and writing it all up so that others can read what was learned (Rossman & Rallis, 2003, p. 270). This allowed for me to fully know the data (immersion), organize data into chunks (analysis), and then bring meaning to those chunks (interpretation).

Triangulation strengthens a study by combining methods (Patton, 2002). In this study, multiple data sources were compared against one another to cross-check data and interpretation of the participants' experiences after bariatric surgery. I used data from the focus group, individual interviews, reflective journal, and field notes Triangulation is a powerful strategy for enhancing the quality of the research, particularly credibility (Krefting, 1991).

All audiotaped individual interviews and the focus group interview were transcribed verbatim. After transcription, I printed each interview on a different color of paper. The various colors aided in the data analysis process. I read and reread the first interview and field notes to make comments in the margins when finding relevant information. The first reading helped develop the coding categories, and then the second reading was conducted to start formal coding in a systematic way (Patton, 2002). Upon completion of the entire transcript and related field notes, I reviewed my comments and grouped related data into broad categories. I consecutively compiled a list of categories and attached them to the transcript. Patton (2002) advises developing codes related to each grouping and applying them next to the appropriate segment of data in the transcript.

As I worked through the second transcript, I continued to identify new categories of information. Analysis should include constant comparison with the findings from the first transcript. Making comparisons helped to achieve greater precision in similar groupings and consistency (Corbin & Strauss, 1990). After completion of the second list of categories, I compared the two lists and merged the contents into one list, which then represented a classification system that reflected recurring patterns.

I continued to transcribe following transcripts and field notes in the exact manner as the initial data collected. I then compared to the previous list to see if new categories emerged. The focus group interview and my reflective journal were coded and included in the classification process. Once I reviewed the data, I decided to move certain items of data from one category to another or realized that two or more categories may fit together and, therefore, reduced the total list of categories.

With the use of a trifold board, I developed a chart with categories as headings, listing pertinent quotes under the appropriate category. Quotes were cut from colored copies of the transcripts and pasted under the related category. Using different colors of transcript paper allowed me to track the source of a quote easily.

The next step was the formation of themes from the clustering of categories that

had connecting thoughts. Themes were eventually developed into a written description of the participants' experiences before and after bariatric surgery to answer the research question. I included quotes from the women that provided a "thick, rich description" of their experiences. In thick description, the voices, feelings, and actions of the participants are heard (Denzin, 1989). Rossman and Rallis (2003) further describe thick description as detailing the physical surroundings, time and place, actions, events, and words of the participants. The use of thick description allows the reader to share in the women's experiences.

Trustworthiness

In qualitative research, trustworthiness may be thought of as the reliability of procedures and data generated (Stiles, 1993). To establish trustworthiness, Lincoln and Guba (1985) appeal to the criteria of credibility, transferability, dependability, and confirmability. To ensure qualitative research is reliable, investigation of trustworthiness is crucial. Krefting (1991) summarized strategies with which to establish trustworthiness by using Lincoln and Guba's (1985) criteria of credibility, transferability, dependability, and confirmability as illustrated in Table 2.

Credibility is parallel to internal validity as it addresses the fit between participants' views of their lives and the researcher's reconstruction and representation (Schwandt, 2001). Transferability may be thought of as a parallel to external validity or generalizability (Guba & Lincoln, 1989). Transferability is obtained through the gathering of thick rich description. Dependability is parallel to the conventional criterion of reliability in that it is concerned with stability of data over time (Guba & Lincoln, 1989). Confirmability may be thought of as similar to the conventional criterion of objectivity (Guba & Lincoln, 1989). As previously mentioned, it is important for me as a researcher to bracket any preconceived beliefs about bariatric surgery in order to remain objective.

Table 2

Strategy	Criteria
Credibility	Prolonged and varied field experience
	Reflexivity (field journal)
	Member checking
	Peer examination
Transferability	Nominated sample
	Comparison of sample to demographic data
	Time sample
	Dense description
Dependability	Dependability audit
	Dense description of research methods
	Peer examination
	Code-recode procedure
Confirmability	Confirmability audit
	Triangulation
	Reflexivity

Summary of Strategies with Which to Establish Trustworthiness

Reprinted with permission (Kretting, 1991; see Appendix A)

From Krefting's (1991) strategies, I attempted to use member-checking and triangulation to establish credibility. As previously discussed, member-checking allows participants to read the transcription of their interviews. Review of the transcripts would give participants the opportunity to check for accuracy. Assessment to see if the data make sense through member-checking decreases the chance of misrepresentation. As previously discussed, when offered the opportunity to read their transcripts, all participants declined the offer.

To increase dependability, I first used Krefting's strategy of coding-recoding each

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transcription. The researcher should wait at least two weeks before recoding the same data and then compare the results (Krefting, 1991). I used the process of code-recode to determine if comparable or the same categories and themes emerged. I had an external auditor conduct a content analysis of three transcripts. Krefting recommends peer examination in strengthening dependability. My external auditor was a fellow health education doctoral candidate. Comparison of findings helped to verify dependability.

During this process, I sought the help of a fellow doctoral student, Sharon Larson, to assist in peer examination. According to Krefting (1991), peer examination involves the researcher discussing findings with an impartial colleague who has experience with qualitative methods. I provided Ms. Larson three transcripts and requested she read and code the data for the purpose of triangulation. I then compared Ms. Larson's findings with my own analysis. Similar themes were found in both sets of data. For example, the main category revolved around relationships. Further analysis identified three themes: relationships with food, relationships with self, and interpersonal relationships.

Confirmability requires the researcher to show the manner by which interpretations have been derived via the research process. Krefting (1991) recommends leaving a decision trail to provide a means for the researcher to establish audit trail linkages. To do this, I discussed clearly all decisions made about theoretical, methodological, and analytic choices throughout the study. According to Krefting, reflexive analysis is also useful to ensure the researcher is aware of his or her influence on the data. As previously discussed, I was required to bracket preconceived beliefs I have regarding bariatric surgery.

Summary

This study used a qualitative research design guided by a phenomenological approach. The sample consisted of women who had undergone bariatric surgery in the previous two to four years. A snowball sampling technique was used, and semi-structured interviews were conducted and transcribed by the researcher. Content analysis was conducted to identify related themes in data. Trustworthiness of the findings was substantiated through code-recode, researcher reflexivity, and triangulation.

CHAPTER FOUR

RESULTS OF THE STUDY

This chapter presents a summary of data describing the experiences of women who have undergone bariatric surgery. In-depth interviews were conducted with ten women two to four years postoperative. In addition, this chapter includes the answer to one research question:

What were the experiences of women before and after bariatric surgery?

Purposes of the Study

The purposes of this study were to explore experiences of women who have undergone bariatric surgery and to gain an understanding of the decision to have surgery.

Participants

Focus Group Participants

Prior to the initial study, a focus group was conducted to confirm the data from the individual interviews. I contacted a local hospital and was given a name of woman who is active in a bariatric support group. I telephoned the woman and explained my study and need to conduct a focus group and the interview would be audio-taped. She invited me to the next monthly meeting, which was held at a local hospital. I volunteered to explain my study and then schedule the interview for the following meeting if the members were agreeable. She recommended coming to the meeting prepared to conduct the focus group as the members would not mind sharing their experiences, and meetings were not structured.

Upon arrival of the support group meeting, I came upon a few members standing

in the hall, waiting for the room to be unlocked. As I quietly stood with the others, I noticed a woman staring at me. I smiled and said hello to her. She immediately asked me when I had surgery and how much weight I had lost. I explained that I was conducting a research project and had never had bariatric surgery. I must admit, my mind raced with mixed emotions. To be quite honest, my first thought was she thinks I am fat! According to weight charts, I am not considered overweight or a candidate for bariatric surgery. Unfortunately, this information does not diminish the feelings of "fat" in my own mind. Sharing this information was not for an explanation of my size, but to provide an understanding of how an innocent question can be upsetting to someone who battles distorted body image.

The meeting began with everyone going around the table introducing themselves and sharing how much weight they had lost and the year of their surgery. There were six regular members of the group in attendance, along with three women who were considering the surgery.

After I introduced myself, I explained my study and the need for a focus group interview. I explained that participation was strictly voluntary and that I would not conduct the interview if anyone did not feel comfortable. The group shared their experiences with little facilitation from me. As a participant shared how she tried to avoid people prior to surgery, others nodded with painful expressions. Others passed around pictures of themselves prior to surgery. The interview lasted one hour, after which the floor was open to questions from the women considering surgery. Out of interest in the subject, I remained the remaining half hour of the meeting.

Individual Participants

I contacted participants initially using the snowball technique. I first contacted a woman who I knew personally who met the criteria for the study. She was familiar with my research and had spoken to me on occasion about a possibility of being a participant. She agreed to participate and asked if she could meet me at my office. After the interview, I asked her if she knew anyone else who might be willing to participate in the study. She stated that she worked with a woman who was two years postoperative and that she would ask the co-worker that evening at work. She then called me later in the day and said that her co-worker had agreed to participate and gave me her phone number. I contacted the woman and explained the study, again using the telephone protocol. Thus, the snowball technique progressed as participants offered to contact others meeting the criteria, with a total of seven participants obtained. In addition to the seven participants, several women that I phoned were willingly to be in the study, but did not meet the criteria of two to four years postoperative.

I considered using only seven participants, but had set my sample at ten or until saturation of data occurred. Although saturation was close after seven interviews, I felt that I wanted to pursue the opportunity to continue interviews. I casually mentioned to my employer that I was in search of three more participants. She immediately sent out a blanket email to local healthcare facilities, explaining my study and the criteria for participation. By that afternoon, I received numerous emails and phone calls from women who wanted to participate. Several did not meet the criteria, but I was able to include three more to make a total of ten for the study. Interestingly, overall none of the women contacted declined to participate.
Five of the participants requested to meet at my office to conduct the interviews. I met the remaining five at their places of employment. Dates and times were scheduled to meet the needs of the participants. My office is located in an area that provides privacy and a quiet atmosphere. I was able to shut my door along with a sign requesting to please not disturb. I turned off my phones to avoid interference. Participants' places of employment provided various meeting places. One participant is self-employed and scheduled the interview around her clients at her home. The remaining interviews were held in either personal offices or conference rooms.

Sample Summary

The study sample included 10 women who ranged from 36 to 60 years of age with the average age being 44 years (Table 3). Participants ranged from two to four years postoperative with the average time being 2.9 years. Weight before surgery ranged from 230 pounds to 362 pounds with the average being 293 pounds. Participants expressed a plateau in weight loss at approximately eighteen months. Initial weight loss ranged from 80 pounds to 190 pounds with the average being 122 pounds. Weight gain after reaching plateau ranged from none to 25 pounds, with a median weight gain of 11 pounds.

Marital status included eight married and two divorced. Of the eight married, after surgery, one participant had divorced and remarried while another had married for the first time. Seven participants had children living at home with one expecting her first child. All participants worked outside the home, including four registered nurses and one registered dietitian.

Table 3

Ethnicity	Age	Years	Initial	Lowest	Present Weight
African	<u>nec</u>		weight		
American	26	3 10070	200 lbs	170 lbs	100 lbs
American		5 years	300 108	170 108	190 105
Caucasian	37	2 VANE	300 lbs	175 lbe	175 lbe
Caucasian			500 103	175108	175108
Caucasian	36	3 years	267 lbs	186 lbs	186 lbs
Caucasian	49	3 years	230 lbs	142 lbs	149 lbs
Caucasian	37	2 years	362 lbs	188 lbs	199 lbs
Caucasian	40	3 years	299 lbs	150 lbs	<u>170 lbs</u>
Caucasian	38	4 years	315 lbs	125 lbs	150 lbs
African					
American	60	3 years	300 lbs	150 lbs	1.50 lbs
Caucasian	52	3 years	243 lbs	136 lbs	142 lbs
Caucasian	55	3 years	310 lbs	180 lbs	180 lbs

Summary of Participant Demographics

Profiles of the Women

The women interviewed for this study were all unique. Experiences of the participants are profiled here not only to reveal similarities, but to share their qualities through thick, rich description. The above demographics provide only an outline of participants' lives. The following profiles allow the reader to envision the women as they told their stories.

Victoria

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I agreed to meet Victoria, a 36-year-old hair stylist, at her home where her salon is located. I entered the salon to find Victoria sitting at a small table covered with assorted hair fashion magazines. She was facing the door as I entered; her hand was resting on a pack of cigarettes that covered a can of Dr. Pepper. Her long hair was casually held up by a shiny clip with only a few strands of her long bangs partially covering one of her big green eyes. Victoria's hair reminded me of the color of autumn foils that cover Halloween chocolates as it glistened in the morning sun. She didn't rise when I entered, but pointed to a chair with one of her long metallic blue fingernails. The interview began with me asking her to think about her experiences before and after surgery and to tell me her story:

To tell you the truth, my life is not a whole lot different. I expected to be skin and bones and to lose a whole lot more weight than I did. I'm not unhappy about being 80 pounds lighter, but expected more. I was always an overweight person, always, from the time I was born. It (weight loss) was always a struggle for me. I would go on these huge diets and sweat my butt off and in four months lose only 19 pounds. I'd get mad, quit, and in two weeks gain it all back. I thought it's too hard and frustrating because like I've taken all of these hours out of my life to sweat and doesn't do any good. I'm sure I should do more. I wish I had more motivation. After my surgery, I know I have not done the things that I should have done. I haven't been back to my doctor in a year and a half. I would like to do something like a revision. You know the little pouch they leave you; I want it back to really small! Then I think, no, my whole family is fat, maybe I am just meant to be fat.

Rachel

I arranged to meet Rachel, a 37-year-old office worker, at her place of

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employment. Her fellow office workers were leaving when I arrived. She had arranged to use a conference room for the interview. My first impression of Rachel was "pretty in pink." She was wearing a pink cancer survivor scrub jacket along with her pink scrubs. After a day's work in medical records, Rachel's appearance was immaculate. Her light brown hair was cut short and blown back off her face. Her pink lipstick matched the color of her scrubs. As she spoke, she continuously wrapped and rewrapped her jacket tight around her waist. Words seemed difficult when talking about her struggles with weight:

Before surgery, I weighed 362 pounds, and I have lost about 175. I couldn't walk through Wal Mart before I had my surgery without having to stop and sit down because my legs hurt me so bad. I've been heavy all of my life, even as a young child. I'm presently right under 200 pounds. It's weird because I want to get down to 180 and I know what to do, but I just can't get my mind right to lose another 20 pounds. After the surgery, it didn't matter what you did, the weight just came off, but now I am not exercising because I can't fit it into my schedule, and stress eating is a part of my life again. I have not gone to the doctor the last two months for my iron because I don't want him to weigh me. I have made an appointment and hope to get five pounds off in the next few days. I know I need to be accountable.

Anne

Anne, a 38-year-old registered nurse, manages a large medical unit. She scheduled time out of her day to meet me in her office. Anne's office had "Mom" written all over it. Several child drawings were hung on filing cabinets along with numerous pictures of a beautiful child. Anne was wearing unremarkable surgical scrubs, but her shoes attracted my attention. Stylish running shoes adorned her feet, trimmed in bright yellow that seemed to make her appear as if she bounced when she walked. As I listened to Anne tell her story, I couldn't help but notice her contagious smile. My initial thought was this lady loves life. She began by explaining she divorced her husband after her surgery and admitted she had to remain married to him for the needed medical coverage during and after surgery. Since her divorce, she stated she met someone and is now happily married. Anne is the only one of the participants who had cosmetic surgery to remove excess skin.

Prior to surgery, I weighed 315 pounds. I couldn't carry my own child without being out of breath and having to stop frequently to put her down. I couldn't exercise, couldn't enjoy life because I was short of breath in everything that I did. I had been overweight pretty much my whole life. Now, I walk at least three miles a day and can enjoy life. They (surgeon) called me their poster child the first year that I went back. I had lost 170 pounds. After losing another 20 pounds, I had my arms and sides lifted and a tummy tuck. I since gained 25 pounds back, which is expected. You just have to learn to read labels. My whole family eats sugar-free foods. My child recently looked at the back of grape juice and realized it had 43 grams of sugar and exclaimed: "Mommy that's more than a Coke!"

Nina

Nina, a 36-year-old registered nurse, reminded me of a high school cheerleader bounding into my office. Her brown hair layered around her face only accentuated her brown doe eyes. She was dressed in a pink sweatshirt bearing a local college emblem and jeans. Nina was excited to tell me that she had recently found out she was pregnant. Her story reminded of something I might read in a weight-loss magazine:

I had been overweight all of my life. What really prompted me to have surgery was my diabetic brother dying from renal failure. I have a strong family history of diabetes and hypertension. My knees and back ached. By the time I got done with a 12-hour shift, I could barely move. I would huff and puff while breaking a sweat just from walking from the parking lot to the hospital. I lost a total of 120 pounds and now can walk for miles. I am much more outgoing than I ever was. I was very shy and quiet. I never, never thought that I would ever get married or have a family. It has been very life-altering to marry and now find out I am expecting! I have had to double up on my vitamins, folic acid, iron, and calcium, but I'm not considered high risk.

Celeste

Celeste, a 60-year-old retail worker, agreed to meet me at my office. When she entered my office, my first thought was: "Wow, she could pass for Tyra Bank's older sister." She was wearing a black business suit accented by a white tailored shirt. Her high cheekbones and flawless complexion trimmed 20 years off her appearance. When asked to share her experiences before and after bariatic surgery, Celeste began to laugh:

The fact is, I found out my sister was having the surgery, so I thought, I can't let her get smaller than me. I have always been a large person. Seriously, I have rheumatoid arthritis and had high blood pressure and hoped the weight loss would improve my health. The main thing I really wanted out of the surgery was to be able to play with my grandchildren. I lost 150 pounds and now am able to walk and take vacations again. I always tell people this is a lifestyle change and not a magic wand, so if you don't do what you're supposed to, you will stretch your pouch and will gain weight.

Sarah

Sarah, a 52-year-old dietitian, volunteered to meet me after work at her office. She was working at her desk as I entered the room. I had trouble envisioning her as ever being obese. Sarah was wearing a dark brown business suit that helped her to blend into her meticulous surroundings. The first two words that popped into my mind after meeting her were professional and petite. Sarah, a busy mother of three, was gracious enough to fit in our interview while preparing to go out of town to visit one of her children. As she finished straightening her paper work, Sarah shared her story:

Growing up, 1 was always little, little tiny. I wore a size 7 in high school, but went away to college and went from a size 7 to a size 15 my freshman year. My parents were overweight and always on a diet. They had this magnet on the ice box that said "remember your diet." I wasn't used to being overweight! I went to the health service, and they put me on weight-loss medication, and I was able to lose the weight and keep it off for several years. Weight accumulated during three pregnancies. I went back to grad school and just pretty much gained 100 pounds. One day, two of my really good friends sat me down and said, "We love you and we want you to live and we don't want to live without you. You've got to do something." I said, "Well, I have been thinking of gastric bypass." Once I got their blessings, so to speak, I made up my mind that was what I was going to do.

Nicole

Nicole, a 49-year-old medical secretary, agreed to meet before work one

afternoon. She had arranged for us to meet in a part of the building that was unoccupied due to construction. The room was in a bit of disarray, but provided privacy that was needed. Nicole, a mother of five, was anxiously waiting for the arrival of her first grandchild that week. Her colorful scrub top seemed to swallow her and did not do her tiny frame justice. Nicole described her health prior to surgery:

I had always been a little overweight. After the babies, I gained then several times got down, but gained it back. I was starting to have high blood pressure, abnormal blood sugar. I had problems with my knees, lipid panel was way high, a lot of GERD, and just low self-esteem. I just wanted to feel better, so it was more for health reasons, and I guess looking good was part of it. Everybody always said to me, "You don't look like you're overweight." I just knew how to dress to hide it. Really being 230 pounds in a 5' 1" body is quite a lot. Putting clothes on prior to surgery made me feel yucky. I didn't feel attractive to my husband; he never cared, but was just supportive no matter what. He is a good husband that never judged me.

Marie

Marie, a 55-year-old registered nurse, agreed to be interviewed at my office. When Marie first sat down, my thoughts were she reminds me of my grandmother. I must admit that I was surprised when she told me her age. Her graying hair had been permed, which resulted in short, tight, symmetrical rows of curls. Marie's blue eyes were accented by her polyester blue print blouse. She worked as an obstetrical nurse on a busy labor/delivery unit. I had no problem imagining her rocking tiny newborns or encouraging women to push just one more time. She told her story in a soft southern voice:

I was 53 when I had the surgery, and it's better than the alternative. The alternative is you don't get any older and you die. If I had not done something and gotten the weight off, I would not have been able to work anymore. I had tried diets and lost considerable amounts, 50, 60 pounds, but then when I quit following the strict, rigid diet, it came back. I can now walk up and down the hall at work without being short of breath. My husband didn't care if I had the surgery or not, so the surgery was for me so I could feel better. It was the best thing that I could have done for myself.

Becca

Becca, a 40-year-old clerical worker, arranged to come to my office for the interview. When I first met Becca, she had just come from work. She walked in my office and sat down face to face with me. My first thought was, "She looks like she just had a makeover at one of the department stores." Her makeup was immaculate along with her carefully styled light brown hair. She was wearing jeans and a dark maroon sweater. Becca, a mother of five, eagerly shared her story:

Before surgery, I was tired all of the time, didn't have very much energy or selfesteem, I couldn't keep up with my kids. Because I was already heavy, having five children increased the chance of being overweight. After I had my last child, the weight just started coming on. I felt like I was going to die if I didn't do something. I couldn't walk from the parking lot to the office without having complications from my asthma. my legs were killing me. The first year is just amazing – the weight you lose and how much you feel, but you need to be prepared for all of the rest. I want to feel normal and look normal. I can hide (excess skin) really well in my clothing, but it's when I'm behind closed doors reality hits.

Jasmine

Jasmine, a 36-year-old registered nurse, agreed to meet me at my office. I first met Jasmine three years earlier, a few months after she had bariatric surgery. Jasmine is known for wearing a variety of wigs, and today was no exception. Her long braids swayed as she walked into my office. She was wearing a white t-shirt and jeans. The shirt caught my eye with dark lettering that read: "I married royalty. My x-husband is the king of the idiots." Needless to say, Jasmine was divorced and the mother of three young children. She sat her large fountain soda down on my desk and told her story:

Before surgery, I was 300 pounds, and I was healthy. I just couldn't lose the weight. I didn't gain weight until I was 28 years old and started taking Depo Provera shots to avoid pregnancy. I was a size 3 until then, which was too thin. I don't want to be really thin. I now weigh 190 and had been down to 170. I don't want to drop the weight off to where I look anorexic. I sip on fountain Pepsi all day to make sure I get enough calories. I kept thinking, I do not want to be an anorexic, so that is when I started drinking Pepsi.

Results

An extensive review of the data, including individual interviews, the focus group, field notes, and reflective journal, was conducted to analyze and identify themes of the participants' experiences before and after bariatric surgery. Eight main themes emerged from the data: (a) relationship with food, (b) interpersonal relationships, (c) relationship

with self, (d) living with excess skin, (e) food intolerance, (f) treatment from society, (g) concern with aging, and (h) support systems (Table 4).

After further analysis, three subthemes then emerged from relationship with food: food and family, emotional response to food, and coping with temptations. Interpersonal relationships developed into two subthemes: limited activity with family and relationship with others. As analysis continued, three subthemes of concern with aging emerged: fear of not growing old, fear of the unknown, and fear of gaining weight.

Table 4

Themes Among Women Before and After Bariatric Surgery

Negative	Positive		
Relationship with food	Interpersonal relationship		
Food and family	Limited activity with family		
Emotional response			
Coping with temptations	Relationship with others		
Relationship with self			
Living with excess skin			
Treatment from society	Treatment from society		
Concern with aging			
Fear of not growing old			
Fear of the unknown			
Fear of gaining weight			
	Support groups		

Profile of an Average Participant

Although participants' similarities are found throughout, I found it important to

comprehend the commonalities of an average participant before and after bariatric

surgery. Demographics provide a picture of the typical age, weight before and after surgery. The average participant was 44 years old, married with children at home, and worked full time. Weight prior to surgery was 293 pounds with an average weight loss of 122 pounds after surgery. All of this information can easily display in a chart, but a true profile would not fit. The average participant was overweight as a child and came from a family of overweight parents and/or siblings. Food was not just for essential nourishment, but as a way for her mother to comfort her on a bad day or possibly a reward for a good deed. Social gatherings and family get-togethers equaled large meals. As she grew, fast food continued to be a mainstay of her diet. She began dieting at an early age, and by adulthood she had tried and failed numerous diets. Additional weight accompanied her failures, which added to her low self-esteem.

Running and playing with her children was not an option. Shortness of breath began to affect her mobility at work and home. Shopping was done at night in an attempt to avoid old friends. She began to fear she would not live to see her children grown. As her weight continued to rise, bariatric surgery caught her attention. Bariatric surgical websites flashed before-and-after shots of model thin women who had undergone surgery. Possibly, there was a solution to weight loss.

A simple phone call was made to a bariatric center located within a two-hour radius of her home. The center required all potential surgical candidates to meet with their nutritionist after going through an intensive physical exam. Candidates were then required to make an appointment for one preoperative psychological exam with the health professional of their choice. After passing all of the exams, surgery was performed laparoscopically. She was discharged with postoperative instructions to advance a liquid diet to puree food. Solid foods were to be gradually introduced. Her stomach initially would only tolerate an ounce to two ounces with progression to four ounces. Nausea and vomiting was common as she experimented with different foods. She had to learn to ingest liquids well before meals or wait thirty minutes after.

She sometimes mourned for food and became angry and frustrated after cooking a large meal that she could not enjoy. Dumping syndrome was part of life as she rapidly lost weight. Eating a cracker one day may not be a problem, but the next week she would break out into a sweat, have abdominal cramping, and want to crawl up into a ball.

Rapid weight loss continued for about eighteen months. She was thrilled, but suddenly the weight loss came to a halt. What happened to model thin? Her weight was fluctuating between 170 and 180 pounds. Dietary counseling was not continued after discharge from the hospital. Food preparation for her family did not change nor did her choice of foods. She refused to deny her family unhealthy snacks and continued to make poor choices in meal planning. Fast food remained a mainstay, but she no longer ate large servings.

Everyone said she looked great, but in her mind, she saw herself as fat each time she walked by a mirror. Her skin under her arms began to sag, discouraging her to wear sleeveless blouses. Excess abdominal skin developed heavy loose rolls that created red irritated rashes. Shorts were out of the question. How could she hide all of that skin hanging from her thighs? Doctors told her intensive cosmetic surgery would remove all of the unwanted skin, but insurance refused to pay for the procedures. Counseling was not required or obtained after surgery.

If asked, she always said she never regretted having surgery. The ability to be

active in her children's lives and to have a social life made up for some of the adverse affects. She was no longer at risk for developing type 2 diabetes or other comorbidities of obesity, but she continued to have a nagging fear of growing old. Concerns included gaining weight as she aged and fear of not getting enough nutrition as an elderly person.

Support was sought through friends and family. Acquaintances who had also undergone bariatric surgery were available for support. She chose not to attend local support group meetings and was unable to drive long distances to attend the surgical centers.

Bariatric surgery for the average participant resulted in both positive and negative outcomes. Weight loss increased mobility as well as decreased the chances of developing chronic diseases. She was then able to be active with family and friends and has increased self-esteem in public settings. Her subconscious battle with feeling fat continued along with issues of excess skin. Changes did not include a balanced diet, but she did continue to exercise on a regular basis. Weight loss had come to a halt along with an approximate weight gain of 11 pounds. Long-term effects remain uncertain with being less than three years postoperative.

Relationship with Food

The majority of the participants' problems with weight began at a young age. Many of their parents and other family members were overweight. The topic of food emerged when describing their childhoods. Food was used as rewards, for comfort, and to the extreme of being considered an addiction. Nina, newly married and pregnant, clutched a bottle of water as she attempted to describe her childhood. Sadness enveloped her large doe eyes as she focused on a painting in my office. Nina described life as a child and dealing with being overweight:

Yeah, I was a chubby kid. My mom died when I was 12 years old. We didn't know how to cook. So, we lived off of macaroni and cheese and hot dogs or cookies. Whatever you could find. My skinny sister one year lived off of tuna and Diet Coke. So I decided to try to get skinny, mind you, I was in grade school. That summer I would eat only yogurt and carrots. It didn't matter how much I dieted, it didn't work. I take after my dad who is big and husky, and my sisters take after my mom, who was tiny and petite.

After the interview was over, Nina did not hurry out of my office. She spoke of how hard it was to plan a wedding without her mother and wondered out loud how life would be for her own child. She admitted life without her mother had increased her need to seek food for comfort prior to her surgery. Unconsciously rubbing her slightly bulging abdomen, she shook her head and declared things would be different for her baby.

Rachel, a 37-year-old office worker, remembered being overweight prior to starting school. Her beautiful smile vanished as she described being weighed with other children at school. As a mother of a 10-year-old, she admitted to patterning after her parents and offering rewards of food for good behavior. She quickly added her son did not have a weight problem and refused to deprive him of earned treats. Rachel attempted to explain her childhood:

When I was in kindergarten, I can remember being told that I weighed 100 pounds. I was a big kid! So, I have been heavy all of my life. When I was my tenyear son's age, I was probably close to 200 pounds. I just think that food was used as a reward for me as a child. If you do this, we'll go get some ice cream or we'll get a pizza.

Anne, a 38-year-old registered nurse, struggled with weight most of her life prior to surgery. Leaving home for the first time increased her need for comfort food. As she looked towards the wall that held her young daughter's picture and artwork, her cheerful voice suddenly changed to a low whisper:

I've been overweight pretty much my whole life. When I went to nursing school, I put on what they call the freshman 15, except mine was the freshman 50, and it progressed from there. I'd drop 20 pounds and then put on 50. It was a vicious cycle. By the time I got married and pregnant, I was up to 270 pounds.

Victoria's place of employment is attached to her home. She described her work location as two steps from the refrigerator and three from her kids. As she sipped a Dr. Pepper and twirled the lighter resting on her pack of Marlboros, Victoria shared her thoughts about food:

My mother's whole side of the family is very obese. My 17-year-old daughter is just like I was growing up, only shorter. She's only 4'11" and weighs at least 170 pounds. Similar to me at that age. Both my daughters are overweight, but I have never tried to say anything to them about their weight. I don't want to traumatize them or hurt their feelings. Neither one of them are very active. You never go to my Mom's house without her wanting to make you fries or something else to eat. You know, I find that I am the same way with my kids, let's eat something. It's hard not to have snacks in the house because I have teenagers. They want snack cakes, and they want pizza. They recommend that you don't buy that stuff, but I can't tell them that they can't have the stuff.

Emotional Responses before Surgery

Sarah, a 52-year-old registered dietitian, explained her eating habits before surgery:

Grad school classes found me starting to eat at McDonald's and eating at other places that aren't healthy. Then I got my first job that required me to drive long distances for a year. So, you know, when you're on the road late at night, you stop at McDonald's and Hardee's, and you eat the comfort food.

Anne came from a large family that she described as extremely close knit. Prior to death, her mother had encouraged her to have bariatric surgery prior. Her finger pointed upward as she sadly shared her mother was watching from heaven. She further explained:

When my momidied prior to me having surgery, my sisters and I put on at least 40 pounds. Everybody ate, we'd take dad out to supper just to get him out of the house. Food was always a comfort measure.

Nina lost her mother at a young age and also sought emotional support through food:

My mother was known to cook and so that's what we learned to do. If we had a bad day, she would cook us a meal. To be quite honest, we were not the most well-adjusted family.

Emotional Responses after Surgery

All participants in this study underwent Roux-en-Y gastric bypass surgery. Postoperatively, the surgery leaves the stomach the size of an egg, allowing for a restricted amount of food to be eaten at one time. Strong emotions were expressed related to diet after surgery.

As previously mentioned, Rachel had cancelled her doctor's appointments for the previous two months. She feared weight gain and admitted feeling ashamed. Rachel referred to her relationship as an addiction:

I have an addiction to food, and the difference is that you have to eat to live and can't ever just quit doing that. So it's harder to get through that addiction than it is for anything else. Well, I don't know because I've never had any other addiction, but you don't have to drink or do drugs to survive on a daily basis. I think that I should have gone to counseling.

Becca, a mother of five children, was the only participant to seek counseling after surgery. She examined each perfectly manicured nail as she described life after surgery:

I did not know I was going to mourn food. I thought I would be fine. You're just not prepared; nobody said anything to me prior to surgery. I cried all of the time because I wanted to eat and couldn't eat like I used to. It's a mourning phase that nobody prepares you for. I was just not prepared for the emotional side effects.

Coping with Temptations

Rachel admitted she had gained approximately 20 pounds since her surgery. She avoided doctor's appointments out of shame. Initially, she spoke of avoiding soda and the foods she enjoyed prior to surgery, but as she talked, she hung her head and shared:

I probably do eat more things than I should. I am not going to lie about that. I'll eat a whole candy bar, or I'll eat a piece of cake. But I no longer sit down and eat the whole cake as before surgery. My way of dealing with this is I overspend at the grocery store and then cook and bake. My husband and child are not overweight, and I always told them that I would never deprive them of what they can eat just because I can't control myself.

Victoria continued to sip her can of Dr. Pepper as she explained her weakness for soda:

Soda is my downfall. I drank large amounts prior to surgery, but went a whole year without it after surgery. I was told to stay away from it, but I thought, oh I'm just going to take a sip because it looked so good. That's how it started. I would never drink it again if I knew then what I know now. I think it has been my biggest downfall.

Sarah, a registered dietitian and mother of three, described her feelings of temptation at meal time:

At first after surgery, I was sitting there and eating my little food, you know, with them (family) and that was not working because you sit there and you're watching them eat this food that you prepared that looks really good and you're mad about it. You're mad that they're getting to eat something that you prepared, that you spent time preparing, which was so stupid because I set myself up for it. So, I then began to prepare the food and then go for a walk and let them just eat however they wanted to eat and they didn't have to ooh and ah and tell me how wonderful it was.

Anne, a registered nurse, and mother of one stressed her goal was for her whole family to eat healthy. Anne has learned to satisfy her temptations along with eating healthy. She explained how she continued to enjoy dessert after surgery:

Now, I have learned to read labels. I eat a lot of stuff with Splenda, but even some

of that has sugar. If sugar is one of the first core ingredients, then it's too much sugar. When my daughter needs to take snacks to school, she chooses fruit instead of the Twinkies or Ding Dongs she would have chosen before my surgery. There are all kinds of sugar-free desserts that my whole family has learned to enjoy instead of all the ones with butter cream icing!

Most participants considered their social life and food temptations entwined. One member of the focus group described going out to eat with church members.

They always want to go to places like Ryan's after church. I will go through the buffet line and select tiny portions, and then I will feel their eyes on me as they sit in front of overflowing plates. I tell them not to pay attention to what I eat and try to reassure them that I will be full when we leave!

Celeste's sister has also had bariatric surgery. Both enjoyed going out to dinner with friends prior to having surgery. She further explained her reservations of being social after surgery:

At first, I thought of course I am not going out to eat with them. I don't eat, so why should I waste the money. I am doing better when she wants to go out with whoever is in town. Now, when we go to a buffet, we ask for a to-go box and tell them that we're just going to put our one-time-around in the box. When you look at the portion size, it's what you should have been eating anyway. It is amazing the food we used to eat prior to surgery.

Sarah has found a solution in her attempt to eat healthy while out with friends. She said, "I go and get something healthy to eat and just take into Long John Silver's. That way, I can eat healthy and don't begrudge anyone. They (restaurant) never say anything."

Victoria and her husband's social life revolved around going out to eat with a group of friends. Her husband initially voiced concern:

Going out to eat with our friends was a big issue with him (husband). He said, "Okay, what are we supposed to do now? Because we'd plan to go out and he'd start, "What am I supposed to tell them?" I'm like, "Well, I still can eat, maybe not much, I can still eat!" We settled the problem by him eating whatever is left of mine. Our friends could care less what is left on my plate.

Marie, a 55-year-old obstetrical registered nurse, has children are grown and live out of state. She laughed as she shared her experience of eating out with her husband:

Before surgery, I would go to buffets and pig out with my husband. Now, I figure I am just paying to spend time with him because I am certainly not eating enough to make it worth paying for. Now, I have made myself really aware of when I am full, and I just quit eating. My husband (laughing) continues to pig out!

Interpersonal Relationships

The theme interpersonal relationships developed into two subthemes: limited activity with family and relationship with others. Along with the need to improve their health, most of the participants expressed concerns with lack of mobility. Nine of the participants had children living at home or had grandchildren; one was expecting her first child. Prior to surgery, it was difficult for most of them to be active in their children's lives.

Limited Activity with Family

Two of Becca's five children were still very young. Her face cringed as she

described her son's attempt to hide to being unable to play hide-and-seek with him prior to surgery. Becca further explained, "Before I had surgery, I couldn't play with my children. I had asthma, and I couldn't run. Now, my asthma is almost gone, and I run, chase them, and play the games they always wanted me to play."

Similarly, Rachel was not able to play with her only son prior to surgery. Her face glowed as she described a recent outing:

As I was growing up, I was heavy, my parents were heavy. We never really did a whole lot together because we were so heavy. Before surgery, I wasn't able to take my son to the park and swing. I couldn't fit in a swing, let alone swing. I always felt too tired to play with him, and I couldn't go for walks. After surgery, I'm not so tired. We went to a park, and I was able to walk four miles in my flip flops. I would've never been able to do that before. I am able to do things with my family, that's a big deal for me.

Lack of mobility prior to surgery was also a topic brought up during the focus group. One participant explained:

Before I had surgery, I would never go shopping with my daughter. I couldn't walk the length of the mall and refused to be seen with her in a motorized chair. Now, we are able to hit the malls on a regular basis and she sometimes has trouble keeping up with me.

Jasmine, a 36-year-old divorced mother of three children, stated prior to her surgery she would be exhausted on her days off from the hospital. She described her limited mobility:

When I went to the park with my three kids before I lost the weight, I could play

with them for a few minutes, but then I would have to go sit down. My little girl would run over to me and ask, "Mommy, are you okay?" The slightest bit of exertion would wipe me out. I couldn't stand to see the concern in her little face. That just wasn't right. Now, after losing the weight, I play basketball with my daughter and run around and shoot that ball. Life is different. We can have fun now.

As previously mentioned, prior to surgery Anne was not able to carry her child without becoming short of breath. She explained:

Before surgery, I just could not enjoy living. I was short of breath at everything that I did. I wasn't able to be active with my daughter. I could carry her for maybe five minutes and then have to put her down and make her walk. You know, things you take for granted, like getting down on the floor and playing with her and trying to crawl around, simple things like that, I couldn't do. Now, I play softball, coach my child's team, we ride bikes. My husband and I play on our work's ball team. We can play now; you know, basketball at home and just enjoy stuff together.

Celeste, a 60-year-old divorced mother of two, shared her son's recollection of Christmas prior to her surgery:

Before surgery, I would go to work and go home and go to bed. I guess that I just wasn't able to stand that long. The year after my surgery, I decorated the house and stood for hours baking cookies and candies for the family. When my son came over, he told me that he was shocked at all that I had done. My son said that he never remembered me decorating or baking for Christmas. Back then, I just couldn't stand up at the stove or counter and climb all over hanging decorations.

Relationship with Others

Rachel's relationships with others began to puzzle her after her weight loss. Acquaintances no longer recognized her, and she admitted at first being upset. On the contrary, other participants enjoyed the reactions and words of praise from old friends. Rachel explained her initial reaction:

I would get so hurt when people wouldn't speak to me when I would run into them. I got really upset one day when I was with a friend of mine. A girl that I used to work with came up and started carrying on a conversation with my friend, but she didn't say anything to me. I finally looked at her and asked, "Why won't you even speak to me?" She studied my face for a long time and said, "Oh, my gosh, I didn't even know it was you." We were standing right next to each other, and she didn't even recognize me!

In comparison, two members of the focus group spoke of not being recognized due to their large weight gain. They both agreed they felt embarrassed along with relief that they weren't recognized. After surgery, they now agree they have the self-esteem to contact old friends and don't hesitate to approach them in public.

As discussed in Nina's profile, Nina stated she was never getting married and never having children prior to surgery. She explained, "You know if he had asked me out when I weighed 300 pounds, I would be like no, not interested. It certainly changed every aspect of my life."

Although Victoria described her life before surgery as being happily married, she admitted she longed for a social life. Important to Victoria was not only weight loss, but to be able to go "out." She declared that she has found a new love "Karaoke":

I wanted to be able to have a life and friends and go places and do things. Now, I have new friends and go places like Karaoke. I would have never done anything like that before surgery because I would feel like everyone was looking at me because I would be the fattest person there.

Relationship with Self

While all participants lost large amounts of weight, several still visualize themselves as fat. Nina explained, "People are like 'God, you are so skinny,' but I still see myself as fat and I think I will always see myself fat."

Marie stated she had difficulty not feeling "fat" and had continued to refuse her co-workers' advice to get a makeover. She raised her arm and described how she has taken in her polyester print blouse. She further explained:

I know that I'm not as heavy as I was, but I still feel like I am a short, little, fat person. But when I walk by a window in the mall, I think, well who is over that over there? You know, sometimes I think I see my grandmother in the mirror. She was really short and petite.

Celeste expressed she had difficulty seeing herself as someone who had lost half a person. As previously mentioned, she closely resembled the model Tyra Banks. Her classy appearance made it difficult for me to picture her wearing ill-fitting clothes. She attempted to explain as she casually checked over her shiny black leather high heels:

You know, you are so conditioned that you belong in the plus-size women's section when buying clothes. It took me eight months before I would let myself even look in the misses section. It was too mind-boggling. I would go to the

women's section and think, "Well, you can't find anything to fit here anymore, but I felt like I didn't belong in the smaller section." I finally went to the misses section, but didn't know how to pick anything out. I would not believe that I could actually fit in anything. I just couldn't go through that and I would go home. It took me a year before I finally could go to the misses sizes and buy clothes.

During the focus group interview, participants also verbalized similar feelings, but shared pictures prior to surgery to help them realize how different they look.

Living with Excess Skin

As previously discussed, persons who have substantial weight loss may experience excess skin and skin folds. Removal of excess skin is considered a cosmetic surgical procedure in most cases, with insurance typically not covering expenses. Excess skin was discussed by several of the participants and also was a topic of discussion during the focus group. Although not found in the review of literature, many expressed knowledge of insurance companies covering surgery if shown proof of multiple skin infections or diagnosed abdominal hernias.

As previously discussed, Nina married and had recently discovered she was pregnant. She described her feelings of excess skin:

Yeah, you have this skinny body now, but you can't show it off because you have all of this saggy, nasty, stretched-out skin. That is a big blow to your ego to look in the mirror and to see all of this yucky, nasty skin, and there is no way to afford to have plastic surgery.

Victoria explained how to get insurance companies to pay for surgery:

You need to create an infection. Yeah, I learned this in the doctor's office from other patients. They said, "This is what you have to do. Take a S.O.S. pad under the folds and rub it hard enough to create an irritation, then take pictures." Of course, you have to make it look as bad as possible; you need at least six infections before they will pay.

Becca expressed dissatisfaction with her body and was undergoing counseling. She loudly emphasized her belief of insurance companies being required to pay for cosmetic repair after bariatric surgery. She described her battle with insurance:

The first year is amazing, but you're really not prepared for the rest. I had been told that I would have some hanging skin, but I did not realize the apron from my abdomen would be so disgusting. It's hanging, sagging, there's rashes that has an odor. I don't know how my husband could want to have sexual relations. My doctor always told me, "If you get a hernia, you get a tummy tuck because when we fix the hernia, we'll go ahead and do the tuck and your insurance will cover it." I now have a hernia, but I am sitting at an impasse with my insurance and the doctor. They want pictures, and I am not going to do it. I just flat-out refuse. I can't stand to look at myself. I am certainly not going to stand there and let somebody take pictures of me.

As previously mentioned, Anne was the only participant to undergo cosmetic surgery. She said, "It's been a little costly, and it was a seven-and-a-half-hour surgery." She described the scars she now has down her arms, sides, and across her stomach: "I would rather have scars than all the loose skin. Now, I can wear sleeveless tops and dresses where before I couldn't."

Food Intolerances

Dumping syndrome is a potential long-term complication of bariatric surgery. The majority expressed problems with dumping syndrome and intolerances to various foods high in concentrated sugar or fat. A common thread from most, including the focus group, was the ability to tolerate a particular food one day, but became ill the next time they ate the food.

Sarah, a registered dietitian, explained, "That is one thing about dumping, what bothers me today may not bother me tomorrow." She described her first experience with dumping:

The first time I had dumping syndrome was when I ate an orange. I ate the orange and went to teach a class and had to let them out because I had gotten sick. I went back to my office, turned the lights out, and crawled under my desk. I still don't eat sugar because I don't want to go through that. You really wish you were dead.

Anne has tried to avoid sugar since her surgery. She learned that you have to be cautious eating out:

I found out what dumping syndrome was when I ate carrots at a restaurant. I thought I was eating healthy. By the time I got to my car, I was sick. So the next time we went back we asked and they said, "Oh yeah, we put brown sugar in the carrot glaze." It's one of those live-and-learn things – so I'm thinking, you know, if that can do it to me, what's a piece of cake going to do? Nina, who was pregnant, believed dumping syndrome was a good thing:

One you've dumped once or twice, you won't do it again, which I think is a good deterrent for a lot of people because it is so unpleasant. The dietitian came in after

my surgery and told me what I could eat and vitamins I needed to take, but I honestly don't think that was enough. She gave me her card, and I did call her a few times, but when you're sick in the hospital after surgery, you don't want to hear what she had to say. I thought, "Get in, get out, leave me alone."

Victoria openly admitted to eating what she wanted and had lost the least amount of the participants. She described her frustration with dumping:

Like today, I could eat two Reese's cups and be fine. Tomorrow, I could eat two and have to lie down because I'm sweating and my heart's throbbing and I can't think. It's that whole dumping thing, like it makes no sense to me. Sometimes I am fine, sometimes I get very sick. They give you this book on what to eat and what not, but it doesn't really matter what they write down on paper. If you have a hankering, you are going to try it.

As previously discussed, Jasmine expressed a fear of becoming anorexic. She explained she drank fountain soda all day to avoid losing too much weight. Her concern was not getting enough calcium in her diet:

I have to be careful about what I eat. Milk makes me vomit, any dairy products.

There are a lot of things that I could eat that I can't eat now just because of the surgery my body won't allow me to tolerate it. There are times when I just crave candy. For awhile all I wanted was M & M's, but it has got to the point where they're starting to make me sick.

Treatment from Society

As previously discussed, many obese individual suffer discrimination in numerous facets of their lives. Many of the participants described being treated poorly and/or discriminated against prior to their surgery.

Job discrimination was brought up by Sarah. She said, "I don't know this for a fact, but I do think obese people are passed over for jobs and promotions. I think that my weight loss me in a better position to get this job or other jobs."

Rachel angrily expressed being treated poorly prior to her having surgery. She blamed the rudeness on obesity. She further explained:

It was horrible the way people treated me. I didn't realize how bad it was until after my weight loss and people would open the door for me. As when before, they would go through the door, and they wouldn't hold it. People are rude to fat people. I always try to make eye contact with a heavy person and smile. Something people didn't do to me when I was heavy.

Anne did not openly admit children at her daughter's school hurt her feelings prior to surgery, but her facial expressions told the story. Anne reflected on the difference in attending her child's school functions prior to surgery and after she lost weight:

It doesn't bother me now to go to school functions now. Before my surgery, other kids would go, "Hey, your mom's fat!" That's what kids do. Now, I'm not embarrassed to do things at school. I am now able to coach my child's baseball team. I can now show the kids how to run bases and catch a ball.

Discrimination was discussed by various members of the focus group. Going to the grocery store at midnight was one solution to avoid people and not let them see what they were purchasing. Similarly, their experiences echoed those of many of the ten participants. Self-esteem rose after surgery regarding public situations and the ability to participate in more social events.

Concern with Aging

Participants voiced similar concerns of their lives be shortened because of their obesity. Review of the literature did not reveal any studies related to health concerns as bariatric patients age. The focus of bariatric literature was improvements in health and a decrease in comorbidities after surgery. Concern regarding the unknown was recognized as the participants shared their experiences, as well as fear of gaining weight.

Fear of Not Growing Old

Most of the participants voiced concerns of developing comorbidities related to obesity prior to surgery. Comorbidities such as cardiovascular disease, hypertension, type 2 diabetes all have the potential to decrease a person's lifespan.

Nina not only lost her mother at a young age, but also her brother as a young adult. She explained her fear of dying young prior to surgery:

When my brother died, I knew that I had to do something. He was a compliant diabetic still died from complications of diabetes. I knew that I was heading in that direction and for sure would not be compliant and end of dying at a young age. That is when I realized that I had to get the weight off.

Becca, a young mother of five, expressed her fear prior to surgery:

I was afraid they (family) was going to have to bury me, that my kids would grow up without me. My mother was always telling me that she was afraid that she was going to end up having to bury me. I didn't want to die and leave my kids and family.

Rachel also expressed fear of leaving a son: "I started having problems with my blood pressure and I thought, I am 35 years old, both my parents are dead, either I do it

(bariatric surgery) or I'm going to die and I couldn't do that to my son."

A member of the focus group voiced similar feelings:

I literally thought I was going to die. I was scared to death that if I didn't do something that it was going to happen. I am 43 years old and want to live a long time, but before surgery my life was spiraling downhill. It's scary to not be able to catch your breath just from walking a few feet.

Fear of the Unknown

Jasmine, a 36-year-old registered nurse, had worked in a long-term facility for a number of years. She spoke of caring for patients who required feeding tubes and the challenge of making sure they received adequate nutrition. Her experiences added to her own concern of aging:

My biggest concern now is that what's going to happen to me when I get older. What if I have to go to the nursing home. My stomach has been shrunk, and if I don't eat, what type of nutrition am I going to get and is it going to be enough. I don't even think that I can have a feeding tube because of my surgery, you can't even have nasogastric tubes put down.

Sarah, a registered dietitian, voiced similar concerns. She said, "What if I have to go the nursing home when I get old and they give me Ensure. I don't think I could tolerate it because of the sugar."

Although Nina was young and happily expecting her first child, as a registered nurse, she had cared for noncompliant patients who refused to diligently take daily required medications. Her concern for bariatric patients was long-term commitment to mandatory vitamins. She shared: Right now, I think bariatric surgery is a big boom. I believe later down the road there are problems going to be seen because of lack of calcium and other deficiencies in vitamins. You have to take your vitamins and try to get enough calcium, I worry about having problems with osteoporosis in twenty years. I just don't believe people will continue their pills and follow up like they should.

Nicole, a 52-year-old medical secretary, expressed concerns of developing multiple sclerosis later in life. She described a conversation with her physician that left her concerned for her future:

My cousin had bariatric surgery probably 25 years ago and now has multiple sclerosis. My family doctor said, "I hope you don't get that." Now my family is worried about it. I don't know if they even know what causes that, it may a nutritional thing. Absorption, like she wasn't absorbing her vitamins.

Anne had followed a healthy diet since her surgery, but recently had problems understanding frequent drops in blood sugar. She explained her concerns of eventually developing diabetes:

It (blood sugar) gets to the point where it's just low; it's been like in the 40's. I had to go through those glucose tolerance tests and all that because they thought at first that I might have been diabetic. And one of the reasons that I did this was because I had a grandparent that was diabetic. You know, I'm thinking that the surgery would prevent this and then they told me that I might have developed diabetes. You know, this is why I did this surgery! It ended up being hypoglycemia. I called my surgeon and told them what was going on, and they told me that they have had three other patients experiencing the same thing. I don't know if this is something they (surgery center) is going to start looking into. Now I have yearly labs to continue to monitor it.

Fear of Gaining Weight

Marie's mother had bariatric surgery back in the 1970s. She described her earlier procedure and the results:

My Mom's surgery was different. They stapled her stomach, and she had a lot of problems with vomiting as she aged. So far, I have done a lot better than her. She did lose 100 pounds, but eventually stretched her stomach back out, you know by eating more. Even up until just before she passed away, if she ate too much or drank very soon after eating, she would vomit. Hopefully, I won't have that happen.

As reported earlier, Rachel expressed concern of weight gain and fear of eventually gaining it all back. She admitted to not following a healthy diet and shared her concerns:

They (health professionals) always say you're going to gain 20 to 25 pounds back. I am not eating right or exercising like I should. I don't want to be that person that gains it all back. I should weigh less by now, but I'm not. I don't want to get over 200 pounds, but I am right there.

Fear of regaining weight was also discussed at the focus group. Several members of the group spoke of starting to increase their consumption of food. One complained of not being focused:

I can't lose sight of my goal. I have lost 118 pounds, but still need to lose 80 more. I can't lose sight of my goal and its becoming harder each day. I used to

feel full after surgery, but now I can eat a lot more than I used to eat.

Celeste similarly expressed concerns of gaining weight. She had maintained her weight loss, but knew of others who had not been as fortunate:

Usually after five years a lot of people that I've known that have this surgery have gained their weight back once more. Initially, all I did was lose weight because I wasn't able to eat. Now, you know I have to be more conscious about what I do because I can eat a lot more.

Support Systems

All the participants stressed the need for a strong support system before and after surgery. Two participants attended support group meetings for a year prior to having the surgery and continue to attend on a regular basis. Various means of support were utilized. Many of the participants depend on others who have had bariatric surgery for support.

Anne explained her method of support before and after surgery:

It was an eight-month process getting approval from the doctor and insurance. My family (sisters) went through a two-day process of meeting with the surgeon and his staff. My mother pushed me to do this, but I lost her during the waiting process, so she didn't get to see the benefit. I was married for nine years and then divorced five months after my surgery. It was a long time coming, but I knew I had to stay for his insurance to pay for the surgery. After surgery, I never attended our local support group. I have plenty family, friends, and coworkers. I called up a couple of women from church that had it done. If I would get down, one of them kept a log of what she lost every week. She'd say, "This is where I was and you're doing fine." So I had that support. You know, I do that for people now if

they call me. I'll call and talk to them and give them the encouragement that they need because you know you can get down. My sister is going through the process right now, so I am there to support her.

Rachel shared why she chose to be a part of a support group:

Every month for a year before surgery, I attended a support group. The process of getting the surgery approved and scheduled took about six months. It takes a strong person to be able to go through the surgery and deal with it. It's really difficult, and I really think that support groups are wonderful. Even though my support group isn't like where they bring people in and they talk about things. You can just go there and be able to voice how you feel, and be able to vent, and be able to say things about, you know your hair falling out, or your husband doesn't want to be close to you anymore. Sometimes you just need to be able to do that, and that's the perfect place to be able to do it because whenever you look at them, they know exactly what you are talking about. Not somebody that sits next to you at work that has no clue.

Victoria stated she gets support from her family and friends. She had a different view of support groups:

I did a lot of research on the internet and talked to my doctor for about a year before I decided to have surgery. I went to seminars. I talked to my husband, and of course he said, "You do what you want; I love you the way you are." My mother was so against it because I had a cousin who had it done and died 18 hours after surgery, but he was over 600 pounds. You are supposed to go to a support group, but I don't want to drive that far. My friend went to one around here, and
there was only one other person. I really don't want to sit around and compare, "Well, I lost 100 pounds and you only lost 10." That's not for me.

Celeste and her sister both have undergone bariatric surgery and had depended on each other for support. Recently, Celeste began attending a support group. She said, "It's just so neat to have a group that you can go and talk to. My sister has helped, but I now realize the importance of joining a support group."

Sarah's friends initially approached her about bariatric surgery. Sarah now runs a support group, but admits her friends and family are her true support.

I had a lot of support from my friends. They really and my family are my support system. At first struggled with being an RD who had gastric bypass, but I've come to terms with that, somebody out there has to know how to counsel to gastric bypass patients, so what better way to do that than to be somebody that's been in that position. My kids and family know what will make me sick and what won't and of course it affects their lives too. You know, if I get sick, then they have to deal with that, also. You either have to go home early or they have to drive me home. We were at a softball dinner last spring and they put tortilla chips out on the table. I picked up one and ate it and then I picked up another and I ate it. As I picked up the third one from across the room, my youngest said, "Hey Mom, that's got a lot of fat in it." I said, "Okay, thanks ______.". So I finished eating, but didn't touch another chip. Yeah, it embarrassed me and yeah, I wanted to slap the tar out of her, but you know she did exactly what she was told to do.

The importance of networking with those who understood was verbalized by

several of the participants. Participants had become acquainted with others who had undergone bariatric surgery through places of employment, church, introduced through friends, along with support groups. Attendance of support groups was recommended to all participants prior to having surgery.

Summary

This chapter discussed findings from data analysis. Experiences of participants were profiled in an attempt to share their qualities through thick rich description. The experiences of al participants' lives before and after bariatric surgery provided a glimpse of the struggles they faced living with obesity and their life after weight loss. These participants' experiences contributed an understanding using a qualitative approach. Eight main themes emerged from the data: relationship with food, interpersonal relationships, relationship with self, living with excess skin, food intolerance, treatment from society, concern with aging, and support systems. The use of quotes from the individual interviews and focus group provided examples to support the eight identified themes. Chapter 5 will include a summary of the study, conclusions, discussions, and recommendations.

CHAPTER 5

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

This chapter discusses outcomes of the research. The purposes of this study were to explore experiences of women who have undergone bariatric surgery and to gain an understanding of the decision to have surgery. Ten women who had undergone bariatric surgery and were two to four years postoperative participated in the study. Prior to the initial study, a focus group was conducted for comparison of data from the individual interviews. Through the use of in-depth interviews, the women shared their experiences before and after bariatric surgery.

Summary of the Study

Obesity has reached epidemic proportions in the United States with 66.3% of adults being overweight or obese (CDC, 2005). Although hereditary plays an important role in obesity, the current epidemic is attributed mostly to the consumption of energy-dense foods and sedentary lifestyle (Ahima, 2008). Results of diets, exercise regimens, and medications with most individuals are discouraging. Failure of conservative treatments to achieve long-term weight loss and heightened media attention has resulted in a dramatic increase in the number of surgeries performed in the United States (Villagra, 2004). From 1998 to 2004, the total number of bariatric surgeries increased nine-fold, from 13, 366 to 121,055 (Zhao & Encinosa, 2007).

No qualitative research was found in a review of literature regarding individuals' life experiences after bariatric surgery. Quantitative research is limited and for the most part, involves very small sample sizes. Patients undergoing bariatric surgery are overwhelmingly female, representing more than 80% of bariatric patients (Sagrillo & Kunz, 2004). For this reason, this study focused on women. A phenomenological approach was employed to investigate and describe the experiences of the women before and after bariatric surgery. One research question examined the following: What are the experiences of women before and after bariatric surgery? Participants were asked to tell their story: "Think about your experiences before and after bariatric surgery. Tell me your story."

The women ranged from 36 to 60 years of age. Average time postoperatively was 2.9 years, with average weight loss of 120 pounds. Reported weight gain since surgery ranged from zero to 25 pounds. All were employed, with the majority having physically demanding jobs. Careers included four registered nurses, one registered dietitian, one hair stylist, one in retail, and three office workers. Seven of the women had young children at home, with one expecting her first child; all expressed a desire to be able to be physically active in their children's lives. Many of the participants had family members who had developed cardiovascular problems from being overweight or were deceased at a young age related to complications of obesity. Improvement in health and increased mobility were the deciding factors of the women in having surgery. I discovered all of participants wanted to share their experiences before and after bariatric surgery, and no one who was approached for the study declined to participate.

Data collection included a focus group interview and individual interviews, transcribed verbatim, field notes, and my reflective journal. Content analysis incorporating thematic coding was used to determine and elucidate patterns among the data. According to Patton (2001), triangulation of data strengthens a study. Data from the focus group was used to cross check data and the interpretation of participants' experiences. Based on this analysis of data, eight main themes evolved from the participants' experiences before and after bariatric surgery.

Discussion

Bariatric surgery continues to increase, and as a result I find my dissertation topic no longer needs to be defined when it comes up in conversation, as it did when I began. Although bariatric surgery is on the rise, the surgery generally is sought as a last resort after numerous failed attempts at weight loss. There is a plethora of research regarding impact of surgery on the improvement of co-morbidities, but little focus has been on the psychosocial impact of bariatric surgery on the lives of those who received it. Based on data gained from participants of this study, eight themes emerged pertaining to participants' experiences before and after bariatric surgery.

Interestingly, the relationship with food was categorized into three subthemes: food and family, emotional response to food, and coping with temptations. The majority of the participants' parents and/or family members were overweight. Food being used as reward connected to their upbringing with the pattern and often the obesity continuing while raising their own children. Participants compared food cravings to addictions to alcohol or drugs. Grief along with anger was felt in regard to being unable to enjoy the same meals with family.

Participants did not follow up with a dietitian. Driving distance and lack of time may have played a part in the lack of nutritional counseling received by most participants. Hours traveled one way to physician visits ranged from one-and-a-half hours to six hours. Participants adjusted to changes in diet in different ways, and some were more successful than others.

Anne's life has changed drastically since her surgery. She remains loyal to following a balanced diet, exercises on a regular basis, and is now able to enjoy life with her family. Similar to Anne, Sarah remains loyal to her diet and exercises on a regular basis. Victoria's story was not the norm related to the other participants; she lost the least amount of weight, but admits she does not eat healthy nor does she exercise on a regular basis. Rachel expressed fear of failing if she does not become accountable for her actions; she stated she knows she is not going to be successful unless she does.

Interpersonal relationships improved related to the ability to participate in their children's lives. Prior to surgery, limited mobility and shortness of breath prevented most from being active with their families. Sedentary lifestyles began at an early age due to being overweight. After surgery, walking on a regular basis was the form of exercise most participants had chosen. Experiences varied from now being able to run and play to hiking long distances. Exercise had become a way of spending time with their family. Sarah explained further, "My husband and daughter along with my sister and her kids walk every night. It's become a social thing along with getting in our three- or four-mile walk."

Marital status included eight married and two divorced. Of the eight married, one participant had divorced and remarried, while another had married for the first time. The majority of participants had children living at home and found satisfaction with their ability to be active in their families' lives. All married participants stressed that their husbands did not influence them to have the surgery and that the husbands loved them regardless of being overweight. One described a change in every aspect of her life, which included being married for the first time and expecting a child.

Looking back, I found it interesting that all married participants stressed their husbands did not have any influence on them having surgery and loved them regardless of their weight. Consideration needs to be taken that nine of the participants did not know me and only spoke with me one time. Personal information regarding their husbands may have been kept guarded. Similarly, there was no mention of husbands or significant others during the focus group interview. Again, women in attendance had never met me and shared their experiences one time.

Relationship with self brought out feelings of body image disturbance. Many expressed that in their mind, they will always feel fat. Others looked at pictures prior to surgery to help them recognize the changes in their bodies. One felt mortified by the way she looked and has sought counseling to help cope with her feelings of dissatisfaction. As previously discussed, Grilo et al. (2005) found women had significantly higher levels of body image disturbance than men and may need long-term counseling following bariatric surgery. All of the participants were employed, and the majority had responsibilities of young children. Lack of time and possibly insurance coverage may have been discouraging factors in seeking counseling.

Lacking in the literature was the desperate need felt by some to have cosmetic surgery. Desperation resulted in fellow bariatric patients sharing tips on how to create infections. The need to document multiple infections was stressed in order to prove their case to insurance companies. A hernia repair led to hope for a tummy tuck. Several participants expressed a problem with excess skin, but lacked the funding to have cosmetic surgery. A similar sentiment expressed was that insurance companies should be

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required to pay for needed cosmetic surgery. Preoperatively, participants were informed of the potential of excess skin, but added they felt like they should have been better prepared. As Jasmine further explained, "They (surgical center) show you all of these people that are now thin, and if you can look like that, you really don't care about anything else at that time."

Food intolerances resulted in dumping syndrome in most participants. Although warned to avoid concentrated sugars, many found eating a simple food such as a cracker or an orange may make them become unpleasantly ill. The complaint of not being able to determine food intolerances was expressed by many. Most described the ability to eat a particular food, then experiencing dumping syndrome the next time it was eaten. All participants met with a dietitian at some point, varying from prior to surgery to shortly after surgery. The need to be better prepared was expressed by several in regards to nutritional counseling. Surprisingly, only two participants stated that they followed a balanced diet on a regular basis. The majority expressed intolerance to sugar, but now eat what they want in smaller portions. Nina explained, "Before, I would eat three hamburgers, fries, and a large Coke, now I can eat three-fourths of a hamburger and maybe half of my fries."

Unfortunately, obese individuals face discrimination in our society. The women of this study had been overweight most of their lives and had been ridiculed and treated badly for years prior to their surgery. Treatment from society was shown to improve after weight loss. From something as simple as people making eye contact and offering a smile to success in obtaining a job after weight loss was described by participants. A rise in self-esteem allowed one participant to go out in public and meet new friends. Thoughts of being treated poorly remained in some minds when approached differently after their weight loss. Klem et al.'s (2000) study results revealed significant improvements in selfconfidence, job performance, and quality of life after surgery. In comparison, Mamplekou et al. (2005) revealed comparable results of significant improvement in their physical, professional, and social lives.

Concern with aging was not a topic found in the review of literature. All participants expressed concerns with their health as one of the main reasons for undergoing bariatric surgery. Interestingly, some focus shifted to health concerns in later life. Multiple vitamins, calcium, and iron are now a part of all participants' everyday life. Concern was voiced about not receiving necessary nourishment if they are unable to eat at an advanced age. Fear of not being able to be fed through their nose or stomach was expressed. Family member experiences brought concern with stretching out her stomach while another developed multiple sclerosis, leaving feelings of apprehension. Fear of failing and regaining weight was expressed by some of the participants.

Support systems ranged from family and friends to fellow bariatric patients. Formal support groups were utilized by some participants. Three participants sought support from obesity.com, an internet site. Networking with others who have had bariatric surgery was an important means of support for most of the participants. Although support groups were encouraged by all surgeons, only two reported attending them on a regular basis. In comparison, McMahon et al. (2006) recommends supervised support groups for at least six months after surgery. As previously discussed, participants were required to drive one-and-a-half to six hours to their surgical centers. Time and distance was a major obstacle for all participants not attending their surgery centers" support groups. Lack of advertising was a concern of the focus group along with a need for a local paper to interview one of them to increase awareness of their meetings.

Conclusions

Data obtained from this qualitative study resulted from one short sentence: "Tell me your story." Participants provided a glimpse of their personal struggles with obesity and their lives after bariatric surgery. Eight common themes emerged from their stories, and all revolved around the need to be better prepared for surgery and continued support after surgery.

To be successful, bariatric surgery requires lifelong medical monitoring and major changes in diet and lifestyle. As discussed in Chapter One, patients need to be well informed about how their life will change after surgery and the potential for serious complications, dietary restrictions, and occasional failures. Patients must be committed to lifelong medical follow-up.

Looking back at common themes and subthemes, I realized family was interconnected with most. The majority of participants stated they had been overweight since early childhood. As children, their families provided comfort and support through the use of food, which continued to adulthood. This tradition persisted as participants married and had their own families. To be successful, there is a need for close family members to understand the requirements of lifelong medical monitoring and the necessary changes in diet and lifestyle. Involvement of the participants' families would not only benefit the participant, but possibly improve their own health through diet and lifestyle changes.

Relationship with food, interpersonal relationships, and relationship with self

revealed need for not only an increase in nutritional counseling, but also psychological counseling. Psychological counseling for the majority of participants required one visit before surgical approval. In comparison, past research, as reported in Chapter Two, recommended patients participate in behavior therapy for lifestyle changes regarding eating (Villagra, 2004). Collazo-Clavell et al. (2006) similarly recommend patients receive behavioral therapy for lifestyle change (eating, exercise, social support, and stress management) from a licensed mental health professional prior to surgery. As previously discussed, psychological counsel extremely important preoperatively and postoperatively (Presutti et al., 2004).

Nutritional counseling was conducted prior to surgery and immediately after for most participants. Frequent follow-up visits with the surgeon were required for the first year with yearly visits thereafter. Nutritional services were made available through phone calls or scheduled visits. Expressed was lack of preparation and mixed emotions felt in lifestyle changes required in relationship with food. Cravings compared to addiction along with an actual feeling of mourning were experienced. A multidisciplinary approach is needed to provide a way of recognizing and meeting not only the physical needs of most participants, but also the psychological before and after surgery.

Results of this study reveal a need for increased nutritional counseling before and after surgery. Only two of the participants spoke of healthy eating habits and the need to read labels. Inclusion of family members would help them gain an understanding of healthy food choices and possibly relieve the guilt the participants felt if they don't buy unhealthy snacks. Again, time and distance was a factor for continued follow-up at surgical centers. Participant may have sought further counseling if surgical centers had

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arranged follow-up with registered dietitians in their area.

Overall, interpersonal relationships improved after surgery. Weight loss allowed participants to become active with their families. Running and playing with their children was not an option prior to surgery. The U. S. Surgeon General recommends physical activity for 30 minutes a day, five or more days a week (Crespo & Arbesman, 2003). Exercise in the form of walking on a regular basis had become part of the majority (70%) of participants' lives. Prior to surgery, a major complaint was becoming short of breath from walking through a store or from the parking lot to their place of employment.

The majority of weight loss was within the first 18 months after surgery, in which their weight reached a plateau. Living with excess skin then became an issue for most participants along with thoughts of still feeling "fat." Cosmetic surgery is an expensive option not covered by most insurance companies. Some participants voiced their opinion that insurance companies should be required to pay for cosmetic repairs. With health care challenges faced by most today, it is doubtful companies will ever be forced to pay for all requested cosmetic surgeries. I believe that would be similar to opening Pandora's Box. At present, some surgeries are covered if proven to be medically needed. These studies revealed the desperation of some people to self-inflict skin irritations through the use of SOS pads. Only one of the participants admitted to seeking counseling for feelings of body image dissatisfaction after surgery. There is a need for individuals with body image dissatisfaction to be recognized and long-term counseling made available. Similarly, Kinzl et al. (2003) conducted a study (n = 160) to determine the consequences bariatric surgery had on physical appearance. The majority of the participants reported negative consequences of flabby skin and/or abdominal skin overhang.

The majority of participants in this qualitative study did not attend a bariatric support group, although need for support was expressed. Most sought support from friends, family, and others who had also undergone bariatric surgery. The bariatric support group I visited was formed by individuals who had undergone bariatric surgery. The support group offered an excellent means for individuals to share their thoughts and experiences, but did not include support from health care professionals. Support groups offered by participants' surgical centers were located at distances making it difficult to attend. Thus, in view of this fact, local health care facilities must recognize there is a need to offer support in their communities. Support groups conducted by health professionals could assist in meeting the needs of those who have undergone bariatric surgery.

Families and friends were emphasized as a strong form of support for most of the participants. This support system would benefit if included in all preoperative as well as postoperative counseling offered by the bariatric centers. Bariatric surgery requires major changes in diet and lifestyle and may also affect the lives of friends and family. Those affected need to be well-informed in order to provide the support needed in making a lifelong behavioral commitment to achieve the best results possible. Foreyt and Poston (1999) reinforced family and peer support as being important in helping persons learn greater self-acceptance and manage stressful or family-related situations.

Looking back, I conclude there is a real need for all involved in the care of a bariatric patient to listen. Every potential participant contacted agreed to be in the study. As previously mentioned, I received numerous emails from women requesting to be in the study who did not meet the criteria. I believe the majority of participants agreed to share their experiences to provide a better understanding of their continued battle with weight loss. Their stories have shown need for support related to diet, counseling, and a strong support system before and after surgery.

Recommendations for Health Education

Health educators have a responsibility to educate the public for the purpose of promoting, maintaining, and improving individual, family, and community health (Greenberg, 2001). Health educators are often called upon to plan and implement health education programs in a variety of settings. Knowledge of bariatric surgery will assist health educators in providing the services needed for this population. Recommendations include:

- Universities and community colleges should assign a segment of the health education curriculum to include education needed before and after bariatric surgery. Bariatric surgery is on the rise; therefore, students need an understanding of what they can offer as health educators in the form of primary prevention regarding diet, exercise, and support before and after surgery.
 - University and college wellness centers and/or health services, work sites, and communities have the availability to help individuals who are considering bariatric surgery or have had bariatric surgery. Health educators should have the resources to develop or incorporate in existing programs, such as diet, exercise, and means of support.
 - Universities, colleges, and work sites need to offer incentives to all of their students and employees, including those who have undergone bariatric

surgery, for participation in exercise programs and other wellness programs.

• Health educators can add to the literature by conducting needed research on individuals who have undergone bariatric surgery.

Recommendations for Clinicians

Although there is a plethora of quantitative research for health care professionals regarding bariatric surgery, limited focus has been on the positive as well as the negative psychosocial outcomes. Results of this study show the importance of health care professionals following up on the physiological needs of women after bariatric surgery, but also it is imperative providers focus on psychological as well as social concerns. Recommendations for clinicians include:

- Need for increased counseling before and after bariatric surgery. Health care professionals should be required to identify factors that may reduce psychosocial as well as physiological functioning postoperatively.
- Health care professionals should encourage family involvement prior to bariatric surgery as well as postoperatively. Results of this study revealed the majority of women's support systems were family. Family members would benefit from educational programs regarding bariatric surgery.
- Need for health professionals to include long-term psychological as well as nutritional counseling for women after bariatric surgery. Health care professionals have the responsibility to provide interventions based on the women's needs.
- There is a need for health care professionals to expand research to include qualitative studies of bariatric patients. Shared experiences of life before and

after bariatric surgery can be vital in identifying patients' physiological, psychological, and social needs.

Recommendations for Future Research

The following recommendations provide an outline for future research related to the experiences of individuals before and after bariatric surgery.

- Findings suggest women who have undergone bariatric surgery had concerns related to aging and weight gain. Participants ranged from two to four years postoperative with the average being 2.9 years. A longitudinal study is recommended to assist in answering these concerns.
- Participants were limited in sharing their husbands' or significant others' feelings concerning the decision to have surgery and life after the weight loss. A study of women interviewed as a group may initiate further discussion regarding their mates.
- Research is needed to compare bariatric surgical programs related to the amount of psychological and nutritional assessment and counseling required before and after surgery on whether addressing their specific needs makes a difference.

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- Future research should include the experiences of women who have undergone gastric banding surgery. Findings if replicated could be compared to the experiences of this sample of women who by chance all had Roux-en-Y surgery.
- Future research should include a qualitative study of men's experiences before and after bariatric surgery. If replicated, findings could be compared to the

results of this study to determine differences among genders.

• Future research should include a qualitative study of urban women's experiences of bariatric surgery. Women who live in close proximity have the advantage of quick access to their surgical center. Participants for this study were required to travel one and half hours to six hours to follow up with their surgeons. If replicated, findings could be compared to the results of this study to determine differences among urban and rural women's experiences.

Summary

A qualitative study borrowing from phenomenology was used for this study in order to gain a better understanding of women's experiences before and after bariatric surgery. The use of in-depth interviews allowed the participants to express their feelings and experiences of life before and after bariatric surgery. Although the number of bariatric surgeries is on the rise, the review of literature found a notable gap in studies of women's lives who have experienced bariatric surgery. This study's findings support the need for further research to gain an understanding of these women and the support that they continue to need.

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The purposes of this study were to explore experiences of women who have undergone bariatric surgery and to gain an understanding of the decision to have surgery. The eight themes generated from the data collected in this study provided a glimpse of life before and after bariatric surgery. The positive outcomes along with the negative were shared by the participants.

Although general themes have been identified, each of the women who participated in this study was a unique individual who expressed a desire to share how bariatric surgery has impacted her life. I commend each one of them for having the courage to share their experiences for the benefit of this study.

Who will be successful in maintaining their weight loss? I am hopeful for all of them, but only time will provide the answer to that question. Looking back, Anne and Sarah have been quite successful in lifestyle changes and maintaining the weight loss. What makes their experiences different than the other participants? I believe it is because their families are involved in helping them stay motivated in eating healthy and being physically active.

While obesity continues to be on the rise, there is a need to understand and support women who have made the decision to have bariatric surgery. Studies such as this can offer health care professionals information that is needed to be supportive and provide the care needed of this vulnerable population.

I found myself thinking of Lillian as I listened to participants' experiences. Many similarities emerged as they told their stories. Lillian's increased mobility allowed her to play with her children as did many of the participants. She shared similar fears of gaining weight after surgery along with receiving limited counseling before and after surgery. Most of all, Lillian had the desire to tell her story as did the participants. She and the participants recognized the need for health care professionals to understand life before and after bariatric surgery.

I will never forget Lillian and would someday like to meet her and personally thank her for sharing her story. Lillian is always on my mind as I care for a severely obese patient. She had no idea the impact that it left on me, and I am hopeful the results of this study and future research will benefit others like Lillian. Is bariatric surgery the answer for everyone? Only time and longitudinal studies will provide the answer to that question.

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APPENDICES

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APPENDIX A

Email from L. Krefting

From: laura [ldkrefting@yahoo.com] Sent: Thursday, December 27, 2007 7:45 PM To: 'Janet Followell' Subject: research references

Dear Janet:

Thank you for your kind words regarding my article. Please use the table and any other part of the article in your dissertation and in any future articles you might publish about your research. I hope your dissertation work goes well.

Peace: Laura Krefting

Laura Krefting Phone: 780-452-7727 email: ldkrefting@yahoo.com

From: Janet Followell [mailto:followell@verizon.net] Sent: December 27, 2007 8:29 AM To: ldkrefting@yahoo.com Subject: Rigor in Qualitative Research

Dr. Krefting,

I am currently a doctoral student at Southern Illinois University in Carbondale, IL. While writing my dissertation, I found an article of yours entitled "Rigor in Qualitative Research: The assessment of trustworthiness" (1991). I would like to include the summary of strategies that you developed related to establishing trustworthiness. Table 2 "Summary of Strategies with which to establish trustworthiness" offers an excellent summary of various techniques. Is it possible for me to obtain your permission to use this table in my dissertation? You may reach me at this email address. Thank you for writing such an excellent tool that has assisted in explaining the steps in establishing trustworthiness in my dissertation.

Janet Followell RN, MSN, PhD (c) 1 Followell Lane Murphysboro, IL 62966 618-687-1945 or 618-521-3846

APPENDIX B

CONSENT TO PARTICIPATE IN FOCUS GROUP RESEARCH

Consent to Participate in Focus Group Research

I, ______, agree to participate in this dissertation research study being conducted by Janet Followell, PhD student in the Department of Health Education at Southern Illinois University in Carbondale. The purposes of this study are to explore the experiences of women who have undergone bariatric surgery and to gain an understanding of the decision to have surgery

If you agree, you will be asked to participate in a focus group. Your participation is strictly voluntary. You may conclude your participation at any time without penalty. You may refuse to answer any question at any time during the interview.

Your responses to the questions will be audiotaped. I will tell the group when the tape recorder is turned on to begin the session and stopped to conclude the interview. All reports based on this research and written by the researcher will maintain the confidentiality of individuals in the group. Only group data will be reported and no names will be used. Since a focus group involves a group process, all members of the group will be privy to the discussions that occur during the session; therefore, absolute confidentiality on the part of the participants, themselves, maybe difficult to ensure. At the conclusion and approval of the research project, the audiotapes and transcriptions will be destroyed.

Please direct any questions or concerns about this study to: Janet Followell, telephone number 618-687-1945 or email <u>followell@verizon.net</u>. You may also contact my Committee Chairperson, Dr. Kathleen Welshimer, Department of Health Education, SIUC, Carbondale IL 62901. Phone (618) 453-2777.

Thank you, Janet Followell

I have read the information above, and any questions I have asked have been answered to my approval. I agree to participate in this study and know that my responses will be audiotaped. I understand a copy of this form will be made available to me for the relevant information and phone numbers.

Signature of Partici	oant	Date
0		

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, Southern Illinois University, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail siuhsc@siu.edu.

APPENDIX C

FOCUS GROUP INTERVIEW GUIDE

Focus group:

1. Tell me what is important to women who have undergone bariatric surgery.

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APPENDIX D

TELEPHONE RECRUITMENT PROTOCOL

My name is Janet Followell, and I am a doctoral student at Southern Illinois University Carbondale. Your name was provided to me by ______.

I would like to request your participation in a study I am conducting on bariatric surgery. The purpose of the study is to explore the experiences of women who have had bariatric surgery and to gain a better understanding of the decision to have surgery.

Criteria for the study requires participants to have had the surgery two to four years ago. How long has it been since you have had surgery?

Participation in the study is strictly voluntary. This study has been reviewed by the Southern Illinois University Human Subjects Committee.

I am requesting your participation in a 90-minute interview. I will be glad to meet you at the time and place of your discretion.

Your participation would be greatly appreciated and a great asset to this study. All information will be kept confidential and you may stop the interview at any time or refuse to respond to any question.

Do you have any questions?

May I schedule a time and place to conduct the interview?

APPENDIX E

CONSENT TO PARTICIPATE IN RESEARCH

I, ______, agree to participate in this dissertation research study being conducted by Janet Followell, PhD student in the Department of Health Education at Southern Illinois University in Carbondale. The purpose of this study is to explore the experiences of women who have undergone bariatric surgery and to gain an understanding of the decision to have surgery.

If you agree, you will be asked to respond to some interview questions, which will take approximately 90 minutes. Your participation is strictly voluntary. You may conclude your participation at any time without penalty. You may refuse to answer any question at any time during the interview.

Your responses to the questions will be audiotaped in a private session. I will tell you when the tape recorder is turned on to begin the session and stopped to conclude the interview. The data will be kept confidential and will be transcribed by me. On the tape and the transcription, you will be identified only by a pseudonym. The list of code names will be kept separate from the tapes in a locked file cabinet. I will be the only person to have access to the code list and tapes. At the conclusion and approval of the research project, the audiotapes and transcriptions will be destroyed.

You will not be identified by name in the dissertation. You will be given a pseudonym to protect your identity. You will receive a hard copy of the interview transcript following the interview. You may make any changes you choose to the transcript.

Please direct any questions or concerns about this study to: Janet Followell, telephone number 618-687-1945 or email followell@verizon.net. You may also contact my Committee Chairperson, Dr. Kathleen Welshimer, Department of Health Education, SIUC, Carbondale IL 62901. Phone (618) 453-2777.

Thank you, Janet Followell

I have read the information above, and any questions I have asked have been answered to my approval. I agree to participate in this study and know that my responses will be audiotaped. I understand a copy of this form will be made available to me for the relevant information and phone numbers.

Signature of Participant_____

Date_____

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, Southern Illinois University, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail siuhsc@siu.edu.

APPENDIX F

PRE-INTERVIEW SCHEDULE

Physical Environment of the Interview

- 1. Arrange for time and place of interview.
- 2. Confirm date/time with participant.
- 3. Turn cell phone off.
- 4. Arrange to sit three to four feet apart from participant.
- 5. Tissues available.
- 6. Recorder: check for batteries/recording function, spare recorder on hand, tape of adequate length, place recorder out of view.
- 7. Consent forms times two.
- 8. Note pad and interview schedule.

Verbal Content of Interview

- 1. Important to build rapport with participant to put at ease.
- 2. Introduce yourself, your role, purpose of study, the reason the participant was chosen, approximate length of interview.
- 3. Explain the use of the recorder and that notes will be taken.
- 4. Explain confidentiality of who will have access to data; participants' identity will remain anonymous; transcripts, notes and tapes will be placed in a locked file cabinet and will be destroyed after the study is completed.
- 5. Explain if a question makes them uncomfortable to ask for it to be reworded or not required to answer.
- 6. Explain the interview may be stopped at any time.
- 7. Obtain written consent, provide copy of form for participant.
- 8. Encourage to take time, take a break if needed.
- 9. Thank them for taking the time to participate in the study.
- 10. Ask if they have any questions prior to starting the interview.
- 11. Turn on recorder and begin interview.

APPENDIX G

INDIVIDUAL INTERVIEW GUIDE

Demographics:

- 1. Current age _____
- 2. Marital status _____
- 3. How would you describe your ethnicity?

Primary Questions:

- Think about your experiences before and after bariatric surgery. Tell me your story.
- 2. Is there anything else you would like to share with me regarding your weight loss?

VITA

Graduate School Southern Illinois University

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Janet Followell

1 Followell Lane, Murphysboro, II 62966

McKendree College Bachelor of Science in Nursing, December 1995

Southeast Missouri State University Master of Science in Nursing, May 2000

Dissertation Title:

Experiences of Women Before and After Bariatric Surgery

Major Professor: Dr. Kathleen Welshimer

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