

PATIENT DESCRIPTIONS ABOUT WEIGHT LOSS SURGERY EDUCATION PRACTICES

By

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Abstract

Weight loss surgery (WLS) is a surgical option that can help obese patients achieve a healthy bodyweight when combined with behavioral lifestyle changes. Patients who struggle with adhering to postoperative regimens are more likely to experience weight recidivism approximately one year after WLS. Nationally accredited WLS centers are required to support patients in making necessary lifestyle changes before and after surgery through educational programs. A literature review showed the current state of WLS education is neither evidence-based nor patient-centered, as it varies in curriculum, teaching methods and type of educator for both preoperative and postoperative WLS phases. The purpose of this qualitative descriptive study was to obtain in-depth descriptions from patients about their WLS experience, specifically about education received before and after the surgery and recommendations to improve the experience for future patients. Eleven volunteers participated in a private, semi-structured interview after being randomly selected from one northeastern Pennsylvania WLS practice database and meeting study inclusion criteria. The interview data were used to answer the following research questions: a) How do patients describe their overall WLS experience? b) How do patients describe the education received during their WLS experience? and c) What factors contribute to patient satisfaction with WLS education? The study results were depicted using the concept of *A New Me-Version 2.0*, through three main themes. Theme 1: *Programming and Tools* explained how obese individuals become ready to take charge with a healthier lifestyle and the available educational and support programming offered to support that change. Theme 2: *Updates and Upgrades*, is where participants reflected on their quality of life before and after surgery and daily challenges still experienced. Theme 3: *Lessons Learned and Considerations for Future Versions* identified participant's level of satisfaction with the WLS experience and

provided suggestions to improve the WLS experience. Obese patients used WLS to initiate movement towards lifestyle changes for better health. Patients perceived education and support programs as collaborative necessity that positively reinforces continued progression toward healthier lifestyles. These study results reveal patient perspectives about the WLS educational experience and satisfaction with that experience. Recommendations provided may facilitate improvements for WLS patient experiences by refining education practices that were suggested by post-WLS patients, inform accreditation standards with results and facilitate change based on evidence and encourage development of future studies to evaluate the impact WLS patient education has on clinical outcomes.

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CHAPTER 1

Excess bodyweight can negatively impact overall health. Reduction in bodyweight often alleviates weight-related health concerns. Weight loss surgery (WLS), also known as bariatric surgery, is a surgical intervention that helps obese individuals achieve a healthy bodyweight after failing to lose weight by non-surgical means. WLS success is dependent upon patient-driven changes in current lifestyle behaviors and a sustained healthy weight. Typically, patients who comply with postoperative WLS regimens achieve a healthy bodyweight within 12-18 months. Conversely, obese patients who struggle with lifestyle revisions following surgery often regain previously lost weight (weight recidivism) during this time.

Education, provided by healthcare professionals, can guide WLS patients on lifestyle changes necessary for improved and sustained weight-related health. Despite the importance of WLS education, the current state of WLS patient education varies considerably in terms of curriculum, teaching methods, and type of educator for both preoperative and postoperative WLS phases. Patient perspectives on satisfaction with education received during the WLS experience have not been well examined or reported. The purpose of this qualitative descriptive study was to obtain in-depth descriptions from patients about their WLS experience, specifically about the education received before and after surgery, and recommendations to improve the experience for future patients.

Background and Significance

The Expense of Obesity

Obesity is a prevalent and costly health problem in the United States. The Center for Disease Control (CDC) identified 34.9% of Americans as obese with a marked body mass index (BMI) of 30 kg/m² to 39.99 kg/m² and 6.4% extremely obese (BMI ≥ 40) (Ogden, Carroll, Kit, &

Flegal, 2014). *Healthy People 2020* marked weight status as a national top priority (U.S. Department of Health and Human Services, 2014). Obesity causes weight-related comorbidities, such as cardiovascular disorders and Type 2 diabetes mellitus, which contribute to rising healthcare costs. Medical costs are reported to be on average 30% more for obese patients than normal weighted peers and contribute up to 2.8% of a country's total national expenditure (Withrow & Alter, 2011). Projected healthcare expenses for treatment of obesity-related disorders are estimated at \$28 billion per year by 2020 (Wang, McPherson, Marsh, Gortmaker, & Brown, 2011).

Historical Perspectives on Weight Loss Surgery

Weight loss surgery has been performed for the past 60 years to assist extremely obese patients to improve their obesity-related quality of life (ORQoL) by reaching a healthy weight (BMI <25) (Baker, 2011; Buchwald, Ikramuddin, Dorman, Schone, & Dixon, 2011; Modarressi, Balague, Huber, Chilcott, & Pittet-Cuenod, 2013). In its infancy, WLS served as an undesirable restorative option for weight management due to its detrimental health effects (Baker, 2011). The development of laparoscopic approaches in the 1990s minimized undesirable health effects by decreasing length of stay, pain, surgical site infections, and overall postoperative recovery (Baker, 2011). Today, surgery is performed on candidates who meet one of the following criteria: (1) a BMI greater than or equal to 40kg/m² or (2) a BMI greater than or equal to 35 kg/m² with comorbidities and unsuccessful weight loss (United States Department of Health and Human Services, 2009).

The use of WLS in the United States increased from 6.3 to 32.7 procedures per 100,000 adults per year from 1998 to 2002 (Nguyen et al., 2005). Livingston (2011) analyzed the National Hospital Discharge Survey (NHDS), a governmental database, and reported a plateau in

2003 with bariatric surgeries averaging 113,000 procedures performed per year from 2003 to 2006. DeMaria and colleagues (2010) analyzed the American Society for Metabolic and Bariatric Surgery (ASMBS) registry, also known as Bariatric Outcomes Longitudinal Database (BOLD), where 57,918 cases of WLS were self-reported by over 450 facilities. The most commonly reported WLS procedures in the registry analysis were gastric bypass [roux-en-Y] (54.7%), gastric banding (39.6%), sleeve gastrectomy (2.3%) and biliopancreatic diversion (0.9%) (DeMaria et al., 2010). Bariatric surgery program accreditors, American Society for Metabolic and Bariatric Surgery (ASMBS) and American College of Surgeons (ACS), reported in 2012 that 100,000 clients per year were entered in their respective databases (Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP), 2012).

Realizing the need for one repository, ASMBS and ACS announced their efforts to unite and form a shared data registry under a new name—Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP). Specific WLS statistics from 2009-2014 were not available due to the transition in WLS accreditation to the Qualified Clinical Data Registry (QCDR)(MBSAQIP, 2015).

Weight Recidivism Versus Success After Weight Loss Surgery

Direct benefits of WLS are evident, after the first year, through weight loss, improvement in weight-related health issues and patient-reported betterment in some aspects of quality of life (Colquitt, Pickett, Loveman, & Frampton, 2014). Patients' weight loss transformation begins with surgery and requires continued lifestyle surveillance to prevent obesity relapse. Weight recidivism, gaining of previously lost weight after WLS, is identified as a postoperative problem in WLS literature. Longitudinal studies reported maintenance of a healthy weight in only about 60% of all patients five to ten years following WLS (Meguid, Glade, & Middleton, 2008; Toussi,

Fujioka, & Coleman, 2009). On average, 30% of WLS patients experience an undesirable regain of previously lost weight by the two-year mark (Dayyeh, Launtz, & Thompson, 2011; Hsu et al., 1998; Peacock & Zizzi, 2012). Consequently, up to 50% of all WLS patients require a second surgery due to failed weight loss success within the first five years (Kellogg, 2011; Schouten et al., 2011).

Long-term WLS success is dependent upon patient-driven lifestyle changes—physical, psychological, and social—to achieve a sustained healthy weight (Bond, Phelan, Leahey, Hill, & Wing, 2009; Zeller, Reiter-Purtill, Ratcliff, Inge, & Noll, 2011). Factors influencing the occurrence of weight recidivism (regain of weight lost after WLS) relate to the type of WLS procedure performed, patient adherence to postoperative WLS regimen, and timeframe until weight loss goals are reached and desired weight loss is achieved.

The type of weight loss surgical intervention determines the potential physiologic demands postoperatively. Both biliopancreatic and roux-en-Y approaches have shown to yield the largest amount of surgical weight loss, as well as result in major physiologic issues with vitamin and protein malabsorption (Kelly et al., 2009). Sleeve gastrectomy, a practical WLS alternative to the roux-en-Y for the extremely obese, offered comparable weight loss with less early complications (Helmio et al., 2012). Himpens, Dobbelaer, and Peeters (2010) reported 57.3% of clients who underwent a sleeve gastrectomy procedure six years earlier retained weight loss. Consequently, a nonrandomized control study by Sjöström and colleagues (2004) revealed patients who had surgical gastric banding retained the least amount of surgical weight loss (28%) when compared to roux-en-Y candidates (74%) within 10 years after WLS (Angrisani, Lorenzo, & Borrelli, 2007; Kelly et al., 2009).

Weight loss surgery success is marked by a weight loss nadir 12 to 18 months post-surgery (vulnerable period) and improvement in weight-related comorbidities (Colquitt et al., 2014). The vulnerable period is greatly impacted by patient responsibility and adherence to suggested postoperative lifestyle changes. Achievement of desired weight loss at the 12-18 month post-WLS mark may cause a patient to stray from postoperative WLS regimen adherence. Lack of appropriate self-care management, the action of taking responsibility for one's own health, could lead to regain of previously lost weight or a plateau in weight loss efforts.

The aftermath of bariatric surgery results in many physical, sociocultural, and behavioral lifestyle changes. For example, physical changes such as malabsorptive disorders, hanging skin, depression, and alcoholism can impact adherence to nutrition and activity demands. These problems are confounded by psychosocial and socioeconomic stressors and can influence one's behavior towards surgery-induced lifestyle changes (Rusch, Andris, & Wallace, 2009). Weight loss surgery success is dependent on how the patient reacts to these physical and sociocultural stressors (Barbee, 2010; Morton, 2007; Toussi et al., 2009).

Patient Education in Weight Loss Surgery

Patient education on necessary behavior modifications post-WLS is vital for patients to improve their health and achieve an ideal or healthy weight. Bariatric surgery services consist of surgical intervention with preoperative and postoperative educational sessions, follow-up patient appointments, and support groups to minimize weight recidivism. However, noncompliance with postoperative regimens and weight recidivism remain problematic after surgery.

Knowledge about the information and support provided to patients throughout the WLS experience is limited. Best practices in WLS patient education remain unclear, as educational programs vary by bariatric surgical centers in terms of curriculum, teaching methods, and type of

educator. Wide programmatic variability exists among bariatric surgical centers with respect to curriculum, dosage, and delivery of WLS education offerings and accompanying services.

Patient education practices within WLS are not standardized across the specialty, nor tailored to patient need. In fact, WLS patient education practices vary in type and frequency and are not evidence-based. There is a lack of knowledge on how much information and support patients need, and when they need it from healthcare professionals throughout the WLS experience.

The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) addressed patient education minimums in accreditation standards that were based on expert opinion, to lessen this gap. Effective May 2014, accredited bariatric centers were required to describe the process used to educate WLS patients in order to be compliant with Standard 5.1-patient education protocols. Requirements in the patient education protocol included: (a) indications and contraindications to WLS, (b) available treatment options and expected outcomes with clear explanation of goals, risk and benefit, (c) instructions regarding diet, exercise, vitamin and mineral supplementation and lifestyle changes, and (d) expected perioperative care including but not limited to discharge instructions (MBSAQIP, 2014). According to this expert opinion, education requirements are to be delivered to patients using a pedagogy that incorporates a combination of video, website, slideshow, or other written formats.

Patient perspectives on education received during the WLS experience have not been well examined or reported. A literature gap also demonstrates patients have not contributed to the development of patient education practices in WLS. Identification of patient education processes amongst all phases of the WLS experience may provide patients with the knowledge, skills, and attitudes necessary to make substantive changes in behavioral, psychological, and sociocultural aspects of life to achieve a healthy weight after WLS. Obtaining patient

perspectives can have significant impact on what, when, and how education is delivered for future WLS patients. Providing effective education throughout WLS has the potential to minimize unsuccessful WLS outcomes—such as weight recidivism—and strengthen patient adherence to WLS regimens.

Weight Loss Surgery Patient Satisfaction

Recent healthcare reform has placed an emphasis on patient satisfaction with healthcare services rendered. Healthcare expenses are not well aligned with the appropriateness of service to meet patient needs (Miller, 2014). Under the *Affordable Care Act 2010*, patient satisfaction ratings have recently been used to measure the quality of care provided by healthcare services as well as structure financial reimbursements from Medicare (Rau, 2011). Quality of care is a subjective phenomenon that varies by and within the specialty per patient preferences. Current literature lacks an operational definition of patient satisfaction within the specialty of bariatric surgery services. Factors that meet patient expectations and yield high quality ratings remain unknown throughout the discipline. Determining the level of patient satisfaction with education received during their WLS experience can influence care of future patients in respect to services offered before, during, and after bariatric surgery. Obtaining personal descriptions about their WLS education experience will provide insight on satisfaction factors that yield high or low quality ratings from the patient.

Importance of Patient Perspectives

Obtaining patient perspectives can identify obstacles WLS patients face and describe current WLS education practices that facilitate or hinder compliance. Identification of factors that contribute to patient satisfaction, especially within WLS, will optimize the quality of care delivered to patients. Exploring patient views and determining the learning needs of patients

experiencing WLS will additionally assist healthcare professionals with refining care, including patient education practices, to provide a more meaningful and cost-effective patient-centered experience.

Study Purpose, Aims, and Research Questions

The purpose of this qualitative descriptive study was to obtain in-depth descriptions from patients about their WLS experience, specifically about the education received before and after the surgery, and recommendations to improve the experience for future patients. The qualitative research approach was appropriate because it helps practitioners obtain answers to relevant clinical questions (Sandelowski, 2000). Obtaining feedback directly from patients who have undergone WLS and received patient education during their journey can aid healthcare professionals in developing future education sessions to support and promote patient adherence to postoperative regimens. The study aims were to:

- a) describe WLS patient education, from both preoperative and postoperative perspectives, through patient reports of their WLS experience,
- b) obtain patient perceptions about satisfaction with education received and their overall WLS experience, and
- c) identify approaches to improve the delivery of WLS education through patient recommendations.

Data were collected through semi-structured interviews to answer the following research questions: a) How do patients describe their overall WLS experience? b) How do patients describe the education received during their WLS experience? and c) What factors contribute to patient satisfaction with WLS education? Results from this research can be used to guide patient education practices for future patients.

Summary

Obesity is a national health concern. Obese patients may consider WLS as a viable option to lose body weight if BMI has not been reduced by non-surgical means and the patient suffers from weight-related health concerns. Bariatric surgical success is marked by a sustained reduction in excess body weight and improvement in associated weight-related comorbidities within the first 12-18 months following surgical intervention. Research has shown weight recidivism occurs in approximately 30% of the patient population due to noncompliance with postoperative WLS regimens. Education currently provided to patients throughout the WLS experience is not based on evidence nor is it a patient-centered process. The implementation of the *Affordable Care Act 2010* has evaluated healthcare services from a quality and cost effectiveness lens. It is appropriate to also evaluate the quality of patient education provided to support such healthcare services. Patient descriptions about education received during their WLS experience are needed to develop educational programs that meet the learning needs, in a cost-effective manner, for future patients.

CHAPTER 2

This review of literature includes studies conducted to define the status of patient education and patient satisfaction in WLS. A synthesis of published literature on WLS education distinguished similarities and differences in preoperative and postoperative program offerings. Factors influential to patient learning consisted of curricular content, educational delivery strategies, and healthcare provider participation. Similarly, a compilation of studies on patient satisfaction within WLS is reported. This chapter ends with a summation of gaps in current literature and lends support for the proposed research.

Preoperative Weight Loss Surgery Patient Education

Types of Preoperative Weight Loss Surgery Education

Preoperative WLS education has been addressed in the literature through one systematic review, nine research/quality improvement projects, and four expert opinion papers. The quality of evidence for the aforementioned articles was classified mostly in levels III to VII of the ARCC model level of evidence hierarchy (Table 1). Table 1 provides a description of the ARCC model levels of evidence while ranking level is denoted for each article in Appendix A. Nine of the 14 publications rated from level IV to VII on the ARCC model levels of evidence. Two articles ranked at level two and three, respectively, and one provided a systematic review on best practice standards for WLS. The remaining two articles were quality improvement projects and were not rated using ARCC model criteria.

Table 1

*Hierarchy of Evidence for Nursing Intervention Studies**

Level I: Evidence from a systematic review or meta-analysis of all relevant randomized controlled trials or evidence-based clinical practice guidelines based on systematic reviews of RCTs

Level II: Evidence obtained from at least one properly designed randomized controlled trial

Level III: Evidence obtained from well-designed controlled trials without randomization

Level IV: Evidence obtained from well-designed case control and cohort studies

Level V: Evidence from systematic reviews of descriptive and qualitative studies

Level VI: Evidence from a single descriptive or qualitative study

Level VII: Evidence from opinion of authorities and/or reports of expert committees

*(Melnyk & Fineout-Overholt, 2011; Oregon Health and Science University (OHSU), 2014)

Preoperative WLS programs consist of two types: informational and surgery preparation. Informational sessions explain surgical options to obese people who are interested in learning more about WLS. Typically, these programs review the types of WLS, commonly associated complications, expected outcomes, insurance preauthorization, and eligibility criteria (Garza, 2003). Surgery preparation programs are designed for obese patients who have met necessary criteria and also have committed to surgical intervention. Preoperative preparation programs discuss specific details regarding hospitalization and recovery with a strong emphasis placed on behavioral modifications with nutrition and activity.

Informational program curricula. Garza (2003) suggested informational WLS sessions include discussions on the types of surgical approaches and their associated complications, expected WLS outcomes and expected changes in lifestyle related specifically to diet and

activity modifications. A cohort study conducted by Giusti et al. (2004) evaluated the impact of preoperative teaching on patients' choice of WLS approach. Participants (n=297) interested in WLS attended three weekly two-hour sessions. Each session focused on content related to surgical approaches, as well as nutrition and psychological implications (Garza, 2003) (see Appendix A). The researchers found that education lowered patients' feelings of uncertainty (23% vs. 1%). Few (n=45, 15%) participants changed their surgical option after receiving education and fewer still (n=27, 9%) decided against WLS after completing the three session educational program. Surgical procedures were compared with respect to benefits, risks, and complications during the first session.

A cohort study by Taddeucci and colleagues (2007) examined the effectiveness of a preoperative multidisciplinary educational seminar and surgeon visit on patients' choice of WLS procedure. The two and quarter-hour seminar was taught by a team composed of a clinic coordinator (nurse), dietitian, and surgeon. Each instructor had approximately 30-45 minutes to review content in the following order: insurance and preadmission testing concerns, pre- and postoperative nutrition management (fluids, vitamins and protein intake), and WLS procedure (types of surgical procedures, potential complications, expected outcomes and hospitalization course and risk for weight to be regained and secondary procedures to counterbalance) (Taddeucci et al., 2007) (see Appendix A). After the seminar, each patient had a private meeting with the surgeon to review previously learned information and answer remaining questions. Pre-post test results showed patients were unsure of surgical approaches; however, knowledge deficit diminished after education seminar and surgeon's visit. In general, patients selected the WLS procedure based on recommendation from family and friends who underwent the experience.

Only 13% of the sample was willing to be randomized to either procedure after both educational interventions were completed.

Surgery preparation program curricula. Horchner and Tuinebreijer (1999) conducted an experimental post-test design study to measure the effectiveness of a lecture-based classroom-style surgery preparation program on 25 patients' postoperative level of pain, use of analgesic medications and incidence of vomiting. Experimental group participants attended a 40-minute class accompanied by written materials while the control group participants received a welcome letter with no education materials. The educational class intervention included audiovisual presentation covering 44 topics in 12 presentation slides (see Appendix A). Although pain and vomiting episodes decreased, statistical significance was not reached (Horchner & Tuinebreijer, 1999). Clinical significance was suggested as all patients commented that their feelings of stress decreased and emotions were controlled during the experience because of the positive and personal attention given by nursing staff. Despite the limitations of small sample and treatment bias, this study generated future research in relation to curricular composition of immediate patient needs and delivery.

The debate of what content is necessary in surgical preparation programs continues. A literature review by Garza (2003) advised discussions on hospital routines related to anticipated equipment use (IV, NGT, wound drains), common complications, and immediate postoperative concerns, like pain assessment, medications, and pulmonary toileting be in the educational offering. In contrast Andris (2005), a Master's prepared bariatric program coordinator, provided an expert opinion that preoperative preparation programs should include information on expected weight loss, potential impact on pre-existing co-morbidities as well as necessary lifestyle changes with details on nutrition, vitamin and supplements. While aligned partly with Garza,

Andris' advice does not clearly describe how many educational sessions should be used to administer the content. Andris (2005) also fails to address the importance of activity level before and after WLS.

Kelley (2006) briefly addressed educating patients on surgery and follow-up medical care, pre- and postoperative nutrition and activity needs as well as completion of a metabolic profile during a one-day session. In addition to the daylong program, patients also participated in a presurgery diet and exercise regimen for at least 10 to 14 days. The exercise regimen consisted of walking daily for 20-30 minutes and using an incentive spirometer to increase lung expansion (Kelley, 2006). Kruzik (2009) further suggested quality programs include specified content and measurable outcomes (learning objectives) for the patient.

A systematic review conducted by Wee and colleagues (2009) explored 38 studies to identify practice standards that would improve patient understanding in WLS. Analysis concluded that preoperative curriculums should provide at a minimum short- and long-term risks of surgery including potential complications, alternatives to WLS, and counseling on diet and exercise needs postoperatively (Wee et al., 2009).

The synthesis of evidence presented here was based on fourteen publications that described preoperative WLS patient education practices. Studies show variations exist in design and delivery of informational and surgery preparation WLS programs. Content provided during informational program sessions concentrated on surgical procedures with discussions on expected outcomes, potential complications and long-term management. Timing of program delivery ranged from one to multiple educational sessions. Each informational program session lasted for approximately two hours and was delivered to patients in both classroom-style and one-on-one discussions.

Surgery preparation course content reviews surgical considerations and educates patients on postoperative lifestyle considerations. Postoperative lifestyle information discussed during these sessions range from brief to in-depth details on behavior modification and were delivered in classroom settings lasting anywhere from one hour to a full day. The limited quality of evidence for both preoperative program types supports the need for additional well-designed research studies.

Preoperative Program Teaching Methods

The preferred method(s) to deliver patient education remains unclear. Strategies recommended for patient teaching are written materials, individual and group structured instruction, videos, and web-based programs (Andris, 2005; Kruzik, 2009). A quasi-experimental study by Budak, Petitpain, Crowley, Axiotis, and Hunt (2008) compared patient posttest scores between two groups—online education program and live class program. A statistically significant difference was found in support of online education. This study supports the use of Internet for providing education. Because of the stigma and sensitive nature inherent with weight issues, the online program offers privacy and security to ask questions without fear. The individual also has the opportunity to playback parts that are not fully understood.

The EVOLUTION trial is currently examining the effectiveness and cost efficiency of in-person, written and web-based educational programs in 660 patients (Padwal et al., 2013). Study protocol showed that groups received an in-person program, web-based program or written pamphlets. In-person sessions are comprised of nine sessions (lasting 2.5 hours each) and were administered over a 3-6 month period of time. Web-based programs were administered over 3 months and consisted of 13 modules. Written materials were mailed to patients prior to clinic appointment. Specific content covered in these sessions is listed in Appendix A.

Benson, Pronk, VanWormer, Katz, and Marr (2010) conducted an insurance company quality improvement project that evaluated the impact of a phone-based support program for WLS bound patients. The program consisted of a written education resource binder and five calls (each lasting 20-minutes) with a certified educator throughout the pre-post WLS phase. Topics covered were surgical procedure, pre-post nutrition, exercise, and stress management (see Appendix A). The program affected patients' body image, exercise, eating habits, and daily water consumption (Benson et al., 2010).

Findings suggest ongoing support through various teaching methods (written and phone) were effective and comorbidities improved with WLS itself. This study raised attention to the qualifications of educators leading these programs. Educators must be versed in the physical, psychological and social aspects of WLS. Multiple educators may be warranted, depending on the available expertise.

Patients undergoing WLS are educated using passive and active teaching methods. Classroom-based instruction provides information with limited patient participation. Active learning strategies geared toward the individual (e.g. online or phone) are preferred by patients and support retention of knowledge (Benson et al., 2010; Budak et al., 2008). Employment of active learning strategies is congruent with adult learning theory principles.

Preoperative Program Delivery

How and when preoperative programs are offered may influence patients learning and ability to retain what is taught. The following analysis summarized variations in both the amount of education delivered (program dosing) and timing of when it is delivered.

Program dosing and timing. Program dose refers to the number, length, frequency, and strength (intensity) of each educational session. How and who delivered the education to the

learner determined the intensity of the session. Educational programs varied in respect to the total length of the program and module/session timeframes. The length of education provided by preoperative programs ranged from one 45-minute session (Horchner & Tuinebreijer, 1999) to 10 sessions totaling 25 hours of instruction (Padwal et al., 2013). One bariatric center provided four sessions taught by a bariatric surgeon. Each session lasted 1-1.5 hours each [totaling 6 hours] to a mixed audience of professional nurses, who were novice to the bariatric specialty, and WLS patients themselves (Davidson & Callery, 2000). In-person educational programs occurred often in one to three sessions (Benson et al., 2010; Eaton et al., 2012; Giusti et al., 2004; Taddeucci et al., 2007). An emerging trend of an educational seminar paired with a bariatric surgeon visit was identified. The intensity of the educational program increased when the bariatric surgeon was involved.

The exact time patients attended educational programs in the preoperative period remains unclear. Out of the nine educational research studies, only two reported when patients completed preoperative education programs in reference to the amount of time before surgery (see Appendix A). Horchner and Tuinebreijer (1999) stated patients attended their surgery preparation program one-week prior to date of surgical admission, which included written materials and in-person class. Patient satisfaction with the educational format and dosing was not examined. The Canadian EVOLUTION trial held 10 sessions were completed over a three to six month period before surgery (Padwal et al., 2013). The impact of the EVOLUTION trial program dosing remains unknown as data collection is in progress.

Knowledge retention. Program dosing and timing can impact patients' recall of knowledge. Madan and Tichansky (2005) studied 63 patients during the preoperative and postoperative periods to test patient recall of information taught in preoperative education

sessions. A true/false test about content taught during the WLS education session was administered to participants in three stages: immediately after preoperative education, one-month post-WLS, and at the one-year mark. Fewer than half (46%) of patients did not pass the test immediately upon completion of the education, 46% failed the test one month post-WLS, 36% failed one year post-WLS and 80% of patients over one year post-WLS failed (Madan & Tichansky, 2005). Findings suggest patients often forget critical information after WLS despite provision of such information. Consideration of timing and dosing of preoperative education should be further explored.

The exact time patients participate in preoperative WLS education programs is underreported in the literature. Length of educational offerings varies based on institution. Well-designed research is needed to determine the appropriate time and dose of educational offerings to optimize patients' recall of recently taught information.

Preoperative Program Educators

Preoperative educational programs have been taught in various forms both by individual practitioners and multi-disciplinary healthcare teams. Out of the twelve research studies pertaining to preoperative educational programs, only one listed nursing as the sole provider of preoperative education (Horchner & Tuinebreijer, 1999) while, three other studies listed nursing in conjunction with another specialty (Davidson & Callery, 2000; Handley, 2009; Padwal et al., 2013). Clinical nurse specialists were identified as collaborating with registered dietitians (Handley, 2009; Padwal et al., 2013), exercise physiologists (Padwal et al., 2013), psychologists (Padwal et al., 2013), and bariatric surgeons (Davidson & Callery, 2000).

Two studies described other combinations of healthcare team educators, which did not include nursing (Giusti et al., 2004; Taddeucci et al., 2007). These teams were comprised of a

mixture of case manager, endocrinologist, dietitian, bariatric surgeon, and psychiatrist (Giusti et al., 2004; Taddeucci et al., 2007). A telephone-based program used health coaches (experts in exercise science, counseling psychology, physical therapy, pharmacy and complementary and alternative medicine) to provide education and support to patients having WLS (Benson et al., 2010). Bariatric surgeons were noted to provide sole education in two studies (Davidson & Callery, 2000; Madan & Tichansky, 2005). Lastly, three studies did not specify the educator/program facilitator expertise (Arterburn et al., 2011; Eaton et al., 2012; Kelley, 2006). Overall, preoperative WLS education programs are often taught with a collaborative team of experts. The impact the educator has on patients' satisfaction of the WLS experience — whether using an individual or interdisciplinary team approach—has not been reported.

Postoperative Weight Loss Surgery Patient Education

Types of Postoperative Weight Loss Surgery Education

Eight publications—one level II, three level IV, one level VI and three level VII—specifically investigated postoperative patient education practices. Within these studies, there were discussions about types of programs, concerns regarding curriculum, and variations in delivery of education.

Postoperative patient education consists of immediate (discharge teaching) and on-going (follow-up and refresher) programs. Discharge teaching reinforces preoperative preparation education as well as instruction on postoperative concerns related to medications, wound care, and follow-up visits. Support and individualized education are provided at scheduled follow-up appointments at the bariatric center and community-based WLS support groups. Patients challenged with achieving or maintaining a healthy weight during the vulnerable period (12-18 months post-WLS) are encouraged to attend refresher educational programs that review post-

WLS regimens to rekindle patient commitment. Such programs review previously learned information pertaining to nutrition, activity, and psychological management. Refresher programs require patients to self-examine their current daily behaviors to pinpoint where WLS modifications fall short.

Postoperative patient education practices are more poorly defined than their preoperative counterpart. Bariatric literature is missing clear descriptions of hospital programs and educational offerings (Echols, 2010). Only seven articles addressed postoperative WLS patient education—four were research studies, two were literature review articles and one was a model case study based on expert opinion. The few studies found in this review suggest bariatric surgical patients are educated postoperatively on various topics, venues, and methods particular to the bariatric center. A review of literature by Echols (2010) noted that preoperative programs focus on “immediate recovery and prevention of complications associated with decreased mobility, pain management, and respiratory impairment” however, postoperative programs are limited (p.21).

Patients’ educational needs differ depending on length of time after WLS. A patient who recently had WLS will have different care concerns than a patient who had surgery two years prior. Hence, postoperative patient education is categorized into immediate and long-term interventions. Immediate education programs focus on providing discharge teaching or consistent follow-up within the first 12 months after surgery. Long-term programs occur one year or more post-WLS.

Immediate program curricula. Doolen and Miller (2005) presented a model case study of a nurse practitioner caring for a patient post-WLS in a primary care setting. The nurse practitioner provided individual counseling on behaviors to promote weight loss and prevent

weight gain and surgical complications over the first year's follow-up appointments. Sessions consisted of individual counseling with discussions emphasizing eating patterns, food selections, and associated emotions related to foods. The length of time the nurse practitioner taught the patient and details of teaching aids used in this individual counseling session were not described.

A bariatric program in Florida shared its immediate postoperative patient goals and educational approach. Individualized sessions with a RN started immediately post-WLS and continue at one, three, six and 12 months (Kelley, 2006). Additionally, a 6-week exercise prescription (facilitator unknown) was offered to assist with muscle imbalances, core strengthening, and assess baseline fitness that was followed up on a quarterly and/or semi-annual basis (Kelley, 2006). Over the first 6-weeks, patients were expected to ambulate up to 10 times per day, use the incentive spirometer 10 times on three separate occasions per day, and engage in lower limb exercises (Kelley, 2006). It is unclear how the author determined these numeric goals. One could speculate the frequency in ambulation was to prevent deep vein thrombus. The Vascular Disease Foundation (VDF) encourages use of low-molecular weight-based heparin derivative, use of antithrombotic devices, and resumption of activity as soon as possible after surgery (Vascular Disease Foundation (VDF), 2012). Use of incentive spirometer is encouraged to prevent atelectasis; however, suggested practice is to instruct the patient to take 10 to 12 breathes every 1-2 hours (MedlinePlus, 2014).

In a cross-sectional study, Pieper et al. (2006) examined incision care and discharge concerns of 31 patients who had either a traditional and laparoscopic roux-en-y gastric bypass (RYGB). Fifty-eight percent of the sample did not know how to clean their surgical incision, which leads to increase perceived fear of wound-related complications. Reading ability was also correlated to patients' fear, with lower reading levels associated with increased fear of incision

care. Forty-two percent of the sample who responded knowledgeable on proper incision care practices reported obtaining such knowledge from their physician, Internet, family/friends, books and nurses respectively (Pieper et al., 2006). This study emphasized the importance of providing appropriate reading level materials to patients and the need to teach proper incision care and signs of site complications at time of discharge.

A literature review on weight management and bariatric surgery programs provided a few noteworthy educational recommendations. Recommended topics to review at postoperative WLS follow-up included discussions on hydration, diet progression, minerals and supplements, bone density testing (related to increased risk of osteopenia, osteoporosis), and low-intensity physical fitness (Echols, 2010). Echols (2010) stated education and ongoing support should include a patient-centered plan reviewed in-person or over the telephone. Personal sessions should be supplemented with written or web-based materials. Multidisciplinary teams should provide and support patients with nutrition, exercise, and behavioral change. Patient progress should be monitored via workbooks, web-based database, or professional expert. Incentives should be provided to patients for goal attainment.

Long-term program curricula. Stewart, Olbrisch, and Bean (2010) identified clients 18 months postoperative RYGB who had difficulty with weight management. Psychiatric doctoral students, supervised by a licensed psychiatrist, provided an 8-week program consisting of cognitive and behavioral therapy to motivationally assist with weight maintenance challenges. The “Back on Track” program required participants to attend a 90-minute session one evening per week. Written materials accompanied classroom-style discussions on personal goal setting, emotional eating, motivational influences and coping strategies. Program participants reported peer influence and support as reasons for weight management success or failure (Stewart et al.,

2010). This pilot study validated the need for repeated postoperative interventions to promote an environment for continued weight loss and management efforts with cognitive strengthening through self-regulation and motivation tactics. Unfortunately, the study failed to specify the unique challenges disclosed by research participants, which could guide standard education process in postoperative bariatric care.

Nijamkin, Campa, Nijamkin, and Sosa (2013) conducted a prospective randomized control trial to evaluate the effect of two postoperative educational approaches—standard care and comprehensive support—on depressive symptoms and excess weight loss. Standard care consisted of prescribed follow-up appointments with a bariatric surgeon and registered dietitian. Psychological counseling was offered. Patients, who received the comprehensive support intervention, engaged in six 90-minute group educational sessions with a dietitian or psychologist every other week. Each session focused on behavior change and motivation strategies related to food, emotion, and self-image encountered after WLS. Content was provided with mini lectures and group discussions. Patients who experienced the comprehensive support program had less depressive symptoms and lost more body weight than those who received the standard treatment. This finding suggests long-term education programs may aid patients in modifying behaviors that can lead to better weight loss and decrease the incidence of depression.

Rothwell, Kow, and Toouli (2014) analyzed the impact Bandfit[®] classes had on short-term weight loss of patients with gastric banding at one and three years. One hundred and thirty-seven patients, who recently had gastric banding, enrolled in an exercise-focused program three months after WLS. Six live sessions, lasting one hour each, included supervision from a personal trainer with activities using fitballs, ankle weights, dumbbells, resistance bands, and Pilates. Patient-

specific weekly home exercise routine was given upon completion of live-session. Outcomes of this study showed patients who attended one or more sessions succeed at short-term weight loss, verses their nonparticipating counterparts, at the one-year mark. Ironically, the varied degree of participation (i.e.-attendance of none, one or more than one session) in a structured postoperative exercise program did not show retained long-term weight loss at the three-year mark (p value ranged from 0.30-0.91).

Postoperative Program Teaching Methods

The following analysis is focused on teaching methods used postoperatively. Immediate postoperative educational programs are provided via one-on-one counseling sessions (Doolen & Miller, 2005; Echols, 2010; Kelley, 2006; Pieper et al., 2006). Private teaching sessions enabled educators to tailor topics to meet patient needs. Pieper et al. (2006) noted written education materials often accompanied individual teaching sessions to reinforce concepts taught; however, the written materials increased their feelings of fear versus alleviating them.

Hansberry et al. (2014) investigated the readability of patient education materials from 14 major surgical subspecialty websites. Ten valid and reliable assessment scales, such as Flesch-Kincaid Grade Level and SMOG Readability Formula, were used. All patient education materials were found to be far above the National Institute of Health's desired reading level of sixth to seventh grade (MedlinePlus, 2013) in all ten scales ranging from tenth to fifteenth grade. Patient education materials from the American Society for Metabolic and Bariatric Surgery (ASMBS) website were evaluated in this study and scored the highest on nine of the ten reading scales with the Flesch-Kincaid Grade Level reported at nineteenth grade (Hansberry et al., 2014).

Unlike immediate postoperative programs, long-term postoperative programs were taught primarily in a classroom-style setting that encouraged participants to participate via group

discussions (Nijamkin et al., 2013; Stewart et al., 2010). The exercise program described by Rothwell et al. (2014) was noted in this analysis to be the only program to teach the patient privately and expect patients to return a demonstration of concepts taught.

Postoperative Program Delivery

Program dosing and timing. Immediate postoperative teaching occurred over the first year following WLS. Details on the length of individual teaching and the time in which the education occurred were not disclosed by the literature. Long-term postoperative educational sessions were offered on a weekly, bimonthly or quarterly basis and consisted of both individual and group formats. Classroom-style sessions were taught over 90 minutes and individual sessions lasted approximately one hour.

Knowledge retention. Knowledge retention of postoperative education was examined solely in relation to incision care after WLS by Pieper et al. (2006). It is recommended that research be conducted to investigate patient retention and possible execution of educational concepts taught after WLS.

Postoperative Program Educators

Types of educators vary due to the diversity in postoperative education topics being taught. Healthcare professionals providing the individual counseling sessions are experts in the content area and part of the bariatric center team. For example, an exercise physiologist teaches and monitors the postoperative individual fitness program offered in their center (Kelley, 2006). Long-term program educators are predominately from nutrition or psychology specialties (Nijamkin et al., 2013; Stewart et al., 2010).

Summary

Education is provided to WLS patients in preoperative and postoperative phases.

Preoperative education practices were more developed and more frequently reported in the literature than postoperative programs. Preoperative informational programs occurred prior to the patient agreeing to WLS intervention and discussed available surgical options, potential complications and expected outcomes. Preoperative surgery preparation programs are reserved for patients who agreed to WLS and review the necessary lifestyle modifications before and after WLS. Both types of preoperative patient education programs were taught primarily in a classroom setting however, a combination approach of classroom and individual sessions was noted in rare occasions.

Postoperative educational programs addressed immediate and long-term WLS regimens and support. Immediate programs reviewed WLS regimens through individual teaching sessions. Long-term programs were often provided in a group setting and reinforced previously learned content during the vulnerable period (12-18 months post-WLS) when weight recidivism often occurs.

Although commonalities across reports were found between both preoperative and postoperative patient education curricula, variability existed in the depth and breadth of topics discussed. This wide programmatic variability, along with the lack of existing research and report of evidence-based practices, suggests a lack of consensus in WLS patient education practices. Although individualized, web-based educational methods have recently been explored; most WLS education programs consist of classroom-style approaches that instruct both patients and their families on WLS preparation and post-WLS routines with lecture and printed materials (Andris, 2005; Davidson & Callery, 2000; Eaton et al., 2012; Garza, 2003; Giusti et al., 2004;

Goldstein & Hadidi, 2010; Nijamkin et al., 2013; Padwal et al., 2013; Stewart et al., 2010).

Bariatric team members from one or more healthcare disciplines have taught all or assisted with portions of WLS education. This finding is not surprising, as the inherent complexity of bariatric surgery requires consultations from medicine, nursing, nutrition, physical therapy, and psychiatry. The role each team member plays in educating patients is often specific to their area of expertise.

Patient Satisfaction With The Weight Loss Surgery Experience

Primary search terms of “patient satisfaction” and “weight loss surgery” or “bariatric surgery” were used in CINAHL and PubMed databases. Search results were restricted to peer-reviewed articles available in the English language. Out of the 26 listings only six articles—two systematic reviews (level I), three cohort studies (level IV), and one was a quality improvement project (not ARCC ratable)—exclusively measured or evaluated patient satisfaction specifically in WLS (see Appendix B).

Goldstein and Hadidi (2010) conducted a prospective cohort study with 27 adult patients to evaluate the impact of structured preoperative education on postoperative patient satisfaction with the hospital experience. The educational session consisted of written handouts and a 10-minute video on the following topics: surgical preparation, postoperative procedures, pain management, activities to prevent complications, incision care, nutrition, lifestyle changes and before and after surgery instructions (follow-up appointments, home care, etc) (Goldstein & Hadidi, 2010). Study participants completed a presurgery knowledge questionnaire 2-4 days prior to WLS and a postsurgery satisfaction survey at time of hospital discharge. Eighty-eight percent of the study sample scored favorably on the presurgery knowledge questionnaire indicating retention of information taught. Participants responded on survey being well prepared

for their hospitalization (92%) and very satisfied with their WLS hospitalized experience (88%). Patients who scored low on their presurgery knowledge questionnaire also reported dissatisfaction.

Unrealistic patient expectations before surgery have been associated with patient dissatisfaction postoperatively. Similarly, a review on WLS in adolescent patients reported patients have high expectations prior to surgery and find great disappointment postoperatively with the actual weight loss and body image demonstrated through physical body shape and appearance (Pfeil, 2011). Determinants of success post-WLS or postbariatric body contouring are patient satisfaction and quality of life. Reavey et al. (2011) performed a systematic review of patient-reported outcome (PRO) measures. Five scales were identified—one liposuction, one general plastic surgery and three for breast reduction procedures. Psychometric properties were evaluated and deemed valid and reliable for these five scales. The need for development of valid and reliable measures for other major body contouring procedures—brachioplasty, abdominoplasty, and thighplasty—was identified. Additionally, PRO tool development for patients who underwent massive weight loss is warranted as these patients often experience a combination of procedures for reconstruction after WLS.

Peacock and Zizzi (2012) electronically surveyed 380 patients to determine the type, amount, and level of satisfaction with behavioral services provided during their WLS experience. The sample was primarily Caucasian (88%, n=336) females (95%, n=360) who experienced WLS approximately 22 months prior to completing the survey. Participants reported more services offered preoperatively than postoperative. Preoperative activities were mainly informational sessions and consultations with medical, psychological, and nutrition specialists. Physical activity consultations were reported to occur preoperatively in less than a third of the

time (30.5%). Postoperative sessions mainly consisted of support group and nutrition counseling. Health professional leadership greatly varied amongst these postoperative resources. Results suggested patients were very satisfied with their WLS and were satisfied, but to a lesser degree, with supportive services such as counseling/support groups on behavior, nutrition, and exercise. A significant relationship was found between supportive services and excess weight loss (Peacock & Zizzi, 2012). Participants who engaged in more supportive services experienced a greater weight loss than those who did not.

The implementation of Hospital Consumer Assessment of Healthcare Providers and Systems survey (HCAHPS) attempted to measure the quality of healthcare services rendered. Higher ratings infer patient satisfaction and delivery of quality services. Healthcare reform rewards institutions with high HCAHPS scores with larger financial reimbursements than low scoring counterparts. Use of a standard survey begs the question “Do differences exist in patient satisfaction between WLS and non-WLS patients?” The answer remains largely unanswered, as topic investigation is scarce. Rochin (2012) shared one healthcare organization’s perspective on these differences after implementing HCAHPS amongst both patient populations and suggested PRO measures of satisfaction do differ between bariatric and non-bariatric patient populations. Bariatric patients scored significantly higher on specific questions addressing nurse communication and pain management in this quality improvement project. “Responsiveness of staff” remained consistent in bariatric patients throughout the year but fluctuated for non-bariatric patient counterparts. No differences were noted in regards to discussions of medications or discharge information. Identification of these demarcations suggests continued development and use of disease-specific treatment services. Bariatric services such as preoperative education

and post-WLS support group aided in attainment of higher HCAHPS scores for nurse communication and pain management.

Fischer and colleagues (2014) further explored the concept of patient satisfaction by examining WLS patient expectations by gender. A cohort study design surveyed 248 patients from three regional bariatric centers. Study participants were primarily middle-aged (42.8 ± 11.8 years) females (69.4%) with a mean BMI of 48.4 kg/m^2 (Fischer et al., 2014). Participant recruitment was imbalanced between sites. Participants were asked to complete a three-part questionnaire including questions on patient demographics (part 1), patient description of WLS expectations and goals (part 2), and rating importance of expected WLS outcomes on a Likert scale (part 3). Statistical analysis discovered a strong correlation between preoperative BMI and preoperative body image ($r=.52, P<.01$) as well as between expected weight loss and postoperative body image ($r=.51, P<.01$) (Fischer et al., 2014). Ironically, these strong correlations did not show differences amongst genders. Almost half (45.7%) of the sample expected weight loss to occur solely from the surgical procedure. Wilcoxon rank sum test was used to compare comorbidities between genders. Male participants experienced hypertension and/or high cholesterol issues more than female counterparts ($P <.01$). Chi-square was used to evaluate patient perceived importance of WLS outcomes. Both male and female participants ranked “improved comorbidity,” “improved physical activity,” “reduction in clothing size,” and “pain reduction” as very important expected outcomes of WLS. The only significant difference reported between genders was “improved mental health” by females.

Patient satisfaction within the WLS population has been understudied with regards to patient surgical expectations, associated education, and subsequent hospitalization. The sparse literature published identifies patients have false expectations on how much weight will be lost

after surgery without ongoing lifestyle modifications. These limited studies suggest differences between realistic patient and healthcare provider expected WLS outcomes. Patient satisfaction differences have been reported between genders of WLS patients and within non-WLS and WLS populations. Further research is warranted to identify which elements make a satisfied experience and the level of patient satisfaction with current WLS education and other WLS experiences. Gaining understanding of this process could lead to improved educational programs for WLS patients.

Gaps in Literature

Gaps in the literature exist regarding WLS education practices and patient satisfaction with such services. Preoperative education practices are more developed and reported in the literature more frequently than postoperative programs. The underreporting of postoperative WLS education practices merits attention as documentation of postoperative practices consisted of low levels of evidence. Similarly, a paucity of literature exists on patient satisfaction with the WLS experience. The current descriptive study was conducted to better explain the phenomenon as described by former patients who experienced WLS and received associated education and support services. Narrative stories informed the understanding of the phenomenon by providing insight on current patient education in WLS, and identifying possible interventions to maintain or improve the quality of care delivered to current and future WLS patients in a patient-centered and cost-effective manner. Qualitative investigation will acquire a patient perspective on the WLS education experience and satisfaction with services received.

CHAPTER 3

Study Design

The purpose of this study was to obtain in-depth descriptions from patients about their WLS experience, specifically about the education received before and after surgery, and recommendations to improve the experience for future patients. This study used a qualitative descriptive design, as outlined by Thorne (Sandelowski, 2000, 2010), to obtain answers from patients about WLS education practices. Sandelowski (2000, 2010) reported key features of a qualitative descriptive design derived from Thorne to include: (a) purposeful sampling of participants who have undergone WLS, (b) data collection that will use semi-structured open-ended questions as outlined on an interview guide, (c) simultaneous data collection and analysis, (d) data analysis that will include data immersion and be an inductive process of identifying codes generated by the data, and (e) data will be presented as an organized descriptive summary in a manner that best fits the data. In essence, a qualitative descriptive design facilitated a comprehensive and clearer portrayal of patient perceptions on how education was experienced during WLS and its potential influence on adherence to WLS regimens.

Sample and Setting

Qualitative phenomenological studies generally report acquisition of data saturation with small numbers of 5 to 25 participants (Creswell & Clark, 2011; Onwuegbuzie & Leech, 2007; Sandelowski, 1995) while others report as many as 60 are needed (Mason, 2010; Morse, 2000). Therefore, the proposed study sample was expected to reach data saturation, with interviews in the range of 10-20 WLS patients. Participants were selected to represent a broad range of experiences to maintain a balance of breadth and depth. A simple random sampling technique from a single WLS practice in the northeast was used to obtain representativeness of the WLS

population. Participants must meet the following inclusion criteria: (1) a minimum of 18 years of age, (2) had WLS within past 12-18 months, (3) speak and understand English, and (4) agree to share his/her WLS experience. Participants were excluded from the study if they (1) had a surgical revision (second WLS procedure) or (2) have a living partner (spouse or significant other) who also had weight loss surgery.

Participants were recruited from a weight management center in a large health network in Bethlehem, Pennsylvania. The Weight Management Center at St. Luke's University Hospital and Health Network (SLUHHN) provides multidisciplinary care to eligible network community candidates via a dedicated service team consisting of two full-time bariatric professionals from each of the following disciplines: medicine, nursing, clinical nutrition, and social work (Miletics, 2013). The weight management center team offers preoperative information; education and counseling, postoperative support groups and weight management refresher programs. The center has received recognition as a Center of Distinction by popular health insurance companies and accreditation through the American Society of Metabolic and Bariatric Surgery (ASMBS) and American College of Surgeons (ACS) for the care they provide (St. Luke's University Health Network, 2012).

Recruitment Procedures

After SLUHHN Institutional Review Board (IRB) approval, the Director of Bariatric Services extracted patient information from EXEMPLO (SLUHHN database) on WLS cases performed November 2013 to May 2014 in a single WLS practice in the northeast. Patient demographics (name, address, phone number, email, date of surgery, type of WLS procedure and name of bariatric surgeon) were placed on an excel spreadsheet and delivered securely to the student researcher through a password-protected file server. From the population of 237 WLS

patients, the student researcher randomly selected 50% of the patients (n=119) using the true random number generator on www.random.org. The student researcher prepared the letter of invitation for mailing by the SLUHHN Weight Management Center.

Patients randomly selected were mailed a letter of invitation to participate in the study through the United States (US) Postal Service if they were 12-18 months post-WLS (see Appendix C). The Director of Bariatric Services agreed to mail the letter of invitation through US postal service or electronic means to randomly selected participants after the student researcher prepared letters. The student researcher anticipated the need to conduct follow-up recruitment phone calls after one week of mailing with patients. The call script can be viewed in Appendix D.

Interested participants volunteered for the study by responding to the paper invitation or verbally through the follow-up phone call. Follow-up phone calls were conducted with all male participants to ensure the letter of invitation to participate in the study was received, introduce the study, and inquire about patient intent to participate in the study. The overwhelming response of female participants who received the letter of invitation did not necessitate follow-up phone calls.

The student researcher collected some demographic data through either phone or email prior to scheduling an in-person or telephone interview (see Appendix E). Collecting some demographic information prior to time of interview helped screen participants for study inclusion criteria as well as describe the study sample in a consistent manner. Eligible participants chose a pseudonym to maintain confidentiality. Participants completed section B of the demographic sheet on the day of the scheduled interview (see Appendix E).

Sampling continued until data saturation was achieved and no new themes emerged. Data saturation was determined through consensual agreement by the student researcher and the supervising faculty member, Dr. Cynthia Teel, during simultaneous data collection and analysis.

Staff Communication and Education

The student researcher planned on meeting in-person with the SLUHHN Weight Management Center and bariatric surgeons' office staff to discuss the study with staff and reassure surgeons granted permission prior to the letter of invitation being mailed to potential study participants. The Director of Bariatric Services requested to meet with the student researcher in-person. During this meeting, the recruitment process and staff's potential role were reviewed by the student researcher. The Director of Bariatric Services verbalized staff members would be informed by her, through the monthly staff meeting about the study's existence. Staff was encouraged to ask patients who were within 12-18 months post-WLS and had appointments at the center/office to ask if they received a letter of invitation to participate in the study. Weight Management Center staff and providers verbally discussed the study during patient visits if initiated by the patient.

The student researcher maintained communication with the Director of Bariatric Services and bariatric surgeons on a regular basis (minimum of once a month) during the study period. This communication served as an opportunity for the student researcher to ask questions if unclear by patient descriptions of the Weight Management Center's education process.

Data Collection Procedures

Data collection included semi-structured interviews, observation, and document and artifact review. Semi-structured interviews were conducted at a location determined by the participant that was private and allowed them to be relaxed, open, and truly engaged. The

bariatric surgeons granted permission for study interviews to occur in the office. Every attempt was made to conduct interviews in-person so the student researcher was able to observe participants' nuances of communication. Telephone interviews were offered only if in-person interviews were not feasible. Permitting telephone interviews encouraged participation from participants who are not able to travel for onsite sessions (minimizing selection bias). All study participants offered to meet with the student researcher and were therefore interviewed in-person. The interviewer (student researcher) scheduled interviews via in-person, phone or email once the WLS patient agreed to participate. An interview guide was used (Appendix F). All interviews were audio-recorded after the participant had reviewed the consent form and gave verbal permission. All participants received a copy of the research consent for their records (Appendix G). At the end of each interview the student researcher summarized the discussion to highlight if she understood what the patient shared during the interview. Study participants were asked at the time of the initial interview if they would be willing to complete a second interview (by telephone or in-person). The purpose of the second interview was to clarify information shared or validate (member checking) study themes that emerged from the data to accurately describe participants' experiences. Member checking took place with three participants near the conclusion of the study. Second interview participants were selected to represent viewpoints from the sample at large.

The student researcher observed one preoperative WLS education session (with non-participants). This direct observational experience supported immersion in and understanding of the WLS education experience in the selected center. This observation occurred prior to data collection at the weight management center close to where the student researcher lives or works—St. Luke's University Hospital and Health Network in Bethlehem, PA.

In order for the student researcher to better understand WLS clinical outcomes that may be impacted by education and patient descriptions of the experience, the following documents were reviewed as needed during and after the observation and participant interviews: (1) educational materials given to patients who participated in the study (if shared by participant during the interview); (2) SLUHHN education materials that detail each lesson plan, including the objectives, skills, and competencies (obtained during the observation experience); and (3) MBSAQIP accreditation standards that outline the amount and type of education required during the WLS experience. The student researcher reviewed artifacts during on-going data analysis to gain a better understanding of patient descriptions on the impact WLS patient education has had on the patient. Examination of study artifacts in this manner assisted in identifying the realities of WLS education from a patient and institution perspective.

Data Analysis

Qualitative content analysis was used to categorize textual data from participants' interviews. Qualitative content analysis was aligned with the purpose of this study to "attain a condensed and broad description of the phenomenon, and the outcome of the analysis is concepts or categories describing the phenomenon" (Elo & Kyngas, 2008, p. 108). Specifically, the inductive content analysis method was employed for data analysis. The method was appropriate because there was minimal former knowledge regarding patients perspectives on their past WLS experience, which allowed the data to move from specific to general so that particular instances are combined into a larger whole or general statement (Elo & Kyngas, 2008). Qualitative data analysis was completed as a continuous process as interviews occur. Interviews were audio recorded with the participants' consent and transcribed verbatim by a medical transcriptionist following the interview. The student researcher reviewed the transcription against the audio

recording to ensure accuracy reflected the totality of the interview experience and facilitated analysis (Polit & Beck, 2008). On the rare instance when the transcriptionist did not understand a verbal passage, the student researcher noted the interview, reviewed the passage, made a decision, and documented the decision in a log (Appendix H). The transcribed notes did not contain names or participant identifiers. A log of data-collecting activities (Appendix H) included time and location of each interview and any notes from the researcher (Marshall & Rossman, 2011).

Preparation

The unit of analysis was the individual interviews. Artifacts (e.g. printed handouts, website references, applications) were also analyzed if referenced and/or shared in interviews. Manifest content (visible, obvious components) was the focus of the analysis, however latent content (meaning of the text and body language, tone, etcetera) was analyzed as well. The meaning units of this study was words, sentences, or paragraphs containing aspects related to each other through their content and context (Graneheim & Lundman, 2004). Data organization and immersion were refined as each interview occurs. Every interview was read and reread by the student researcher to promote intimate engagement with the data (Marshall & Rossman, 2011). Only after the student researcher became completely familiar with the data did further data analysis happen (Polit & Beck, 2008).

Analysis Process

Analysis occurred in the following steps: open coding, coding sheets, grouping, categorization, and abstraction (Elo & Kyngas, 2008). Open coding was completed as the student researcher wrote notes and headings in the transcribed text. Next, the written text was re-read. Additional headings as deemed necessary were written to describe all aspects of the content.

These headings were added to coding sheets and categories were freely generated. The lists of categories were then grouped under higher order headings to reduce the number of categories to provide a means of describing how WLS educational programs affected the WLS experience and feelings of success after WLS for patients. Each category was named using the actual words/behaviors in the data and/or the creative insight of the student researcher. Subcategories with similar events and incidents were also grouped. Abstraction, or formulating a general description through generating categories, continued until a reasonable end was reached. The student researcher coded the entire data set, which ensured the highest possible coding consistency across interviews (Polit & Beck, 2008). The various code sheets formulated a codebook that was developed during the process. The codebook contained written documentation describing the definition of the various categories used in coding and at least one actual excerpt that characterizes the material in the category (Polit & Beck, 2008).

Data analysis was an iterative process of developing categories and returning to the data to reassess for proper fit and refinement. Notes and reflective journaling was completed by the student researcher throughout the analytic process and filed. Each category was determined to be mutually exclusive and participant recruitment continued until it was determined that data saturation had occurred as no further topics were provided in interviews. The student researcher searched for alternative understandings of the data. The frequency of themes and patterns that emerged were noted and documented.

Trustworthiness and Methodological Rigor

Multiple procedures were included in the study design to support the trustworthiness and rigor of the study. The study was designed and carried out to provide support for Whittemore and colleagues' (2001) Framework of Primary and Secondary Qualitative Validity Criteria:

credibility, authenticity, criticality, integrity, explicitness, vividness, creativity, thoroughness, congruence, and sensitivity (Polit & Beck, 2008). Study credibility was demonstrated by using data collection and analysis techniques that allowed for participants experiences to be represented in a comprehensive and believable way. Member checking was completed at the end of each interview to ensure that an accurate, objective, and neutral representation of patients' perceptions of the education received during their WLS experience was gained. Participants had the opportunity to clarify if necessary during that time. After the student researcher analyzed the data for emerging themes a second interview (by telephone or in-person) took place with three participants to ensure description of the participants WLS experience were accurately captured. Design components of this study (collection and inclusion of latent data in analysis and sampling procedures) supported its authenticity and ability to adequately represent the voices and multiple realities of those being studied.

The student researcher and faculty mentor critically appraised and documented decisions made throughout the research process to support the criticality of the study. Collaboration between the student researcher, Dr. Cynthia Teel, and the remaining dissertation committee members, occurred to get feedback on the coding, the analytic memos written during analysis, and further insight (Marshall & Rossman, 2011). Dr. Teel and Dr. Stegenga are both nurse researchers experienced in qualitative research. The collaboration allowed for frequent checks and expert supervision during the duration of this study (Marshall & Rossman, 2011). Integrity was demonstrated by ongoing self-reflection and self-scrutiny (iterative analysis process and reflexive journaling) to ensure that the interpretations made were grounded in the data (Polit & Beck, 2008).

The student researcher maintained records documenting decisions and interpretive processes (audit trail and code book) and attempted to expose any bias presented to support the explicitness of the study. Vividness occurred as the student researcher obtained a rich, evocative, and complete description of the patients' perceptions regarding their WLS experience with collected data. Creativity was a focal point in stretching the student researcher's imagination to think outside of the box during collection, analysis, and data interpretation. The thoroughness of this study was supported as the student researcher carefully appraises sampling and data adequacy with determination of when data saturation has been reached and the aim of the study has been fully answered. The congruency of this study was supported with the consistency between: (a) the study aim and the qualitative method of inquiry; (b) the study and existing research in this area; and (c) likely the connections to be made between study findings and the WLS patient education practices. The research methods and questions were intended to reflect an ethical and sensitive respect for study participants and their respective bariatric centers, places of work, and cultures.

Ethical Considerations

Protection of Human Subjects

Approval was sought from SLUHHN Institutional Review Board since participants were recruited from their clinical site. Additional approval from the University of Kansas Medical Center Human Subjects Committee was also sought because this research was conducted to fulfill dissertation requirements for the doctor of philosophy degree in nursing.

Interested participants received an invitation to participate through the recruitment site. The invitation shared the study purpose, eligibility criteria and the student researcher's contact information. Written informed consent was obtained after eligibility criteria was verified and

prior to the start of the interview. Participants were asked to read the consent form and ask questions if clarification was needed (Appendix G). Each participant was informed how to withdraw from the study. Study withdrawal could occur at any point without repercussions. At present time, no participant has withdrawn from the study.

Participant anonymity was preserved as much as possible. Only the student researcher knows the participant's true identity as she conducted all study interviews. Each study participant created a pseudonym at the beginning of the interview. The student researcher used the pseudonym to separate remarks from the participants' true identity on paper transcriptions. Only the student researcher has access to the demographic key linking participants' true identity to the pseudonym. Pseudonyms were referenced as appropriate in the reporting of results.

Study artifacts of institutional-specific patient education materials were treated as confidential information. Evaluation of institutional-specific materials was beyond the focus of this study that was to understand patient perceptions of WLS education.

Data Management

The student researcher was responsible for managing all data collected in the study. To preserve confidentiality, the student researcher stored all field notes, demographic sheets, transcriptions, and other material on a secured, encrypted, password-protected computer, server, and USB drive. Printed research documents were locked in a private, secured, filing cabinet located in the student researcher's office when such documents are not in use. File transfer of research materials (i.e.-audio recordings, transcriptions, thematic analysis) occurred through secured and password-protected means between the student researcher and faculty mentors (Dr. Teel and Dr. Stegenga) if needed. Prior to sharing of files, the student researcher ensured anonymity with use of a pseudonym on all documents. All transcriptions were emailed as a

secured file in a password-protected system. Confidentiality of participants was maintained during verbal discussions with the use of the pseudonym with faculty mentors. Upon completion of the study, research documents and data will be kept for 10 years and then destroyed.

CHAPTER 4

Eleven participants, who had WLS 12-18 months prior to time of interview, responded to prompts from the interview guide the PI constructed to answer the three research questions: 1) How do patients describe their overall WLS experience; 2) How do patients describe the education received during their WLS experience; and 3) What factors contribute to patient satisfaction with WLS education? The interviews explored participants' WLS experience and education received before and after surgery, satisfaction with the WLS experience, and if able to change the WLS experience for future patients what would they change?

Qualitative content analysis was used and started immediately after the first interview was complete. Interviews were audio-recorded, transcribed verbatim and checked for accuracy, and continued until data saturation was reached. Participants' responses were grouped into codes and categories. Themes were assigned to categories as patterns were recognized. The iterative process of data analysis prompted member checking with two participants (approximately 20%) on themes that emerged from participants' interviews.

The WLS experience—*A New Me-Version 2.0*—was revealed through three themes: *Programming and Tools*, *Updates and Upgrades* and *Lessons Learned and Considerations for Future Versions*. *A New Me-Version 2.0* emerged as participants repeatedly commented WLS enabled them to approach life as a new person in a journey they could control and redefine. The first theme, *Programming and Tools*, contained participant descriptions of WLS as an opportunity for change, the education as experienced, and participant engagement in the experience. The second theme, *Updates and Upgrades*, encompassed participant accounts of how life after WLS differed from before and the ongoing struggles with adhering to WLS regimens in daily life. The final theme, *Lessons Learned and Considerations for Future*

Versions, described participants' level of satisfaction with the WLS experience. Factors contributing to WLS success and satisfaction are shared through recommendations for how to improve the educational process in terms of important content and preferred ways to learn. Details about the study sample and themes follow.

Sample Description

In-depth interviews were conducted with 11 WLS patients. The average face-to-face interview length was 83 minutes (range 50-116 minutes). Most participants (n=7) were female and primarily Caucasian (n=10). Table 4 provides a summary of sample demographics. The sample had a mean age of 56 years. Forty-five percent of the sample reported having a high school diploma or equivalent, 27% had some college preparation through trade school or junior colleges, 18% were bachelors prepared, and 9% masters prepared. The sample represented two types of WLS procedures, Roux-en-Y (55%) and sleeve gastrectomy (45%). At time of study enrollment the average amount of time lapsed since WLS was 463 days (nearly 16 months).

Participants self-reported a wide range of WLS education hours (4-50) and number of educational events before WLS (0-32) and after WLS (0-31). On average participants reported 21 total hours of education with approximately 9 events occurring during the WLS journey.

Theme 1: Programming and Tools

The theme *Programming and Tools* depicted participant descriptions about their WLS education experience. The experience was organized through five sub-themes—*Catalyst for Change, WLS Education Programs, WLS Support Programs, Resource Materials, and Client Engagement*. Exemplars of participants' words are provided in Appendix I.

Table 2

*Sample Demographics (n=11)**

	N	Range/ Percentage (%)	Mean
<i>Age (years)</i>	11	47-67	56
<i>Gender</i>	11		
	Female	7	63.64%
	Male	4	36.36%
<i>Ethnicity</i>	11		
	Caucasian	10	90.90%
	Hispanic	1	9.10%
<i>Education level</i>	11		
	High School/GED	5	45.00%
	Trade School	1	9.50%
	College	4	36.00%
	Graduate School	1	9.50%
<i>WLS Type</i>	11		
	RnY	6	54.55%
	SG	5	45.45%
<i>Days Post-WLS</i>	11	389-562	462.64
<i>Weight Lost Pre-post-WLS (pounds)</i>	11	58-155	115.10
<i>Total hours of WLS education</i>	11	4-50	21.36
<i>Pre-WLS education sessions (number of sessions)</i>	11	0-32	9.00
<i>Post-WLS education sessions (number of sessions)</i>	11	0-31	9.09

* Range, Percentage and Mean (where applicable)

Catalyst for Change

The first sub-theme, *Catalyst for Change*, defined WLS as a tool. Weight loss surgery enabled one to have a second chance at a non-obese life. No participant viewed WLS as a “quick fix” to solve their weight-related troubles. Instead, participants associated WLS with the opportunity to “rewire their life” through a “lifelong process” of a “journey to self-love.”

Personal accountability was recognized as a quality to employ the necessary changes for the new healthy lifestyle. Six participants acknowledged they needed to put into action what they were learned in the sessions. As Rocky expressed, “It’s up to you...I could go call these people...a 100 times, means nothing if I don’t follow through with it.” For example, only four of the 11 participants admitted to completing all of the lessons in the book entitled, *My Weight is Over: What You Need to Know About Bariatric Surgery* prior to WLS. A majority of the sample admitted to glossing over the book lessons prior to surgery and reviewing or referencing them in great detail after WLS.

WLS Education Programs

The sub-theme, *WLS Education Programs*, conveyed the educational process. Participants vividly shared the educational activities that led up to the day of surgical intervention. Details such as when sessions were offered, where they were held, what they entailed, and who provided the information were shared. Program curricula and activities are summarized in table 3. Categories comprising this sub-theme were the *informational session*, *consultation*, *six-months of weigh-ins*, and *surgery preparation class*. Specifics on each type of program will be herein described.

Informational session. All participants (n=11) noted their WLS experience began with registering and attending an informational session held at the hospital. It was “the initial meeting that tells you about the surgery...the session to give you all the information of, like, what happens, the different kinds of surgery. Exactly why they do it, and so on and so forth. So just got all that information” Jenna.

Table 3

Content and Activities of Pre-WLS Education Programs

Session Type	Content	Activities
Informational	<ul style="list-style-type: none"> • Content of Presentation • Overview of obesity problem • Surgical approaches to WLS (SG, RnY, Lap-Band®) • Benefits and life changes after WLS • WLS eligibility • Overview of WLS process • Insurance requirements for WLS 	<ul style="list-style-type: none"> • Weight and height measured at sign-in • Insurance card copied • Sign-up for free consultation
Consultation	<ul style="list-style-type: none"> • Patient-specific insurance requirements • Surgical options reviewed and discussion on appropriate option for patient • Pre-WLS goal identified • Current drinking and eating habits evaluated • Healthy diet components • Post-WLS nutrition expectations • Plan developed to adjust eating habits 	<ul style="list-style-type: none"> • Weight and body measurements taken • Insurance-specific checklist generated and reviewed • Psychological evaluation • Nutrition assessment and goals established • Food diary recommended
Six months of Weigh-ins	<ul style="list-style-type: none"> • No content 	<ul style="list-style-type: none"> • Patient weighed • Book reviewed
Surgery Preparation	<ul style="list-style-type: none"> • Book content reviewed in entirety • Stress importance of meeting pre-WLS weight loss goal • Nutrition: what to eat now and preparing self for post-WLS eating habits. Key concepts reviewed were: protein sources, protein shakes, vitamins, counting grams of sugar, consequences of eating too much sugar, stay away from alcohol for one year post-WLS, drinking 30 minutes before or 1 hour after eating • Hospitalization: how to perform pre-WLS bath, items to bring on surgery day, instruct on fluid consumption post-WLS (drinking water from medication cups every so often), pain management 	<ul style="list-style-type: none"> • Take 'before' picture • Tour unit and hospital pharmacy • Taste-test and purchase vitamins and protein shakes • Book content reviewed

The informational session was taught in a large group setting. Eight participants mentioned the class size ranged between 20-40 people. This size was seen as acceptable by the sample because it created a non-threatening environment where information was presented, individuals could ask questions for the group to hear, and attendees were motivated to schedule the next step in the process. Breanna commented, "it's an informal way for people to make a choice in a group where you don't feel like you're just going right to the doctor's office." Hunter stated, "folks had questions that I didn't even think of at the time."

Content was provided through a Powerpoint® presentation and discussion. Seven participants recalled the bariatric surgeon and nurse presented the following information: overview of obesity problem with statistics, surgical approaches to WLS, benefits and life changes after WLS, and WLS eligibility and insurance requirements. Three of the seven participants who recalled the experience stated WLS complications were briefly mentioned. Misty commented, "It's more glorified and, 'Oh, well you'll look like this when you're done and oh, this and this,' but the bad stuff that's a possibility is never brought up." The dietitian was identified as being present and engaged during the question and answer portion of the session (n=2). According to four participants, the session lasted between one to two hours.

Most participants (n=8) mentioned the informational session was helpful. Jenna expressed, "they really made you think about, you know, this. It's not something that I think people should take lightly." Three interviews described the informational session as an effective marketing tool that felt a bit factory-produced. They reported that the bariatric surgeon stated during the presentation, "It's gonna be great, it's gonna change your life, it's really, you know...it's the best decision you ever made,' kind of a thing. It was kind of like a pep rally kind

of thing” (Ann). It seemed only the positive aspects about WLS were presented and individuals in attendance were encouraged to have the surgery.

Consultation. All 11 participants noted the one-on-one consultation occurred within four weeks after attending the informational session. Ann stated,

“They book several, because while one person’s in with the insurance lady, you’re in with the dietitian. And then while somebody else is in with the...social worker, you’re in with somebody else...there are, like, four...or five different people you see that day. And so they bring everybody in and you sort of go...change class.”

Seven participants identified meeting with the bariatric surgeon, dietitian, case worker, nurse and psychologist during the consultation. The estimated time spent with each healthcare worker was 30 minutes.

Each educator met privately with each individual and discussed certain content. Half of the sample referred to the case manager as the healthcare worker who reviewed his or her insurance requirements and created their own checklist of steps to complete before and after WLS. Four participants commented they met briefly with the bariatric surgeon to discuss what surgical option would be best suited for their case based on the individual’s personal goal. Two participants disclosed their interaction with the psychologist did not explore how or why they were obese, instead questions appeared to confirm if they were a victim of abuse and were stable enough to not inflict harm on themselves or others. Interactions with the dietitian were most remembered by the sample. Participants noted the dietitian asking about current dietary habits, reviewing components of a healthy diet, stating post-WLS dietary expectations and developing a plan to meet pre-WLS weight loss goal. Half of the participants heeded the dietitian’s advice to

begin a food diary. Diary entries consisted of the individual's weight, what was eaten and feelings before, during and after.

Content was presented through one-on-one discussion at the weight loss center. All participants mentioned different sections of the book were referenced during individual meetings. This book was given to the individual at the beginning of consultation. Four participants vividly recalled watching a short video with the dietitian to emphasize the importance of not drinking when eating. Jenna explained,

“She (dietitian) showed you a little video...they put applesauce in and they said this is what happens if, you know, if, you've eaten and this is your food in your stomach. And then she showed you, if you even take a sip of water how it just drops through the sieve, and then if you would drink a whole glass of water, how it totally empties out. And that was supposed to show you that if you drink, your stomach's just going to empty from your food and then you're going to be hungry again. So that sticks in my mind.”

Participant impressions of the consultation experience varied from positive to neutral remarks. All felt it was organized and convenient to meet at one place with the weight loss center team on one day. A few of the participants (n=3) expected more from the session in regards to exploring the source causing their obesity and eating issues. Information regarding basic nutrition was not perceived as learning anything new.

Six months of weigh-ins. Six of the eleven participants were required by their health insurance to complete six months of weigh-ins and counseling before having WLS. In addition to the six months of weigh-ins, one participant (Sarah) was also required to partake in a phone-based bariatric counseling program offered through her insurance company. Those interviewed for this study perceived the intention of the six-month period was to help individuals explore

current lifestyle practices that led to the weight problem and engage in healthy lifestyle behaviors before surgical intervention. During this time a certain amount of weight was to be lost by the participant (known as the pre-WLS goal) to demonstrate commitment to making healthier lifestyle choices.

All participants stated their monthly appointment at the weight loss center consisted of being weighed. Most participants struggled with losing weight before WLS however progress toward the goal was not addressed until closer to surgery. Roberto was informed at his last weigh-in, “you have to go on the liquid diet now, because if you don't hit this number we, you're insurance company's not going to approve it and we're not, we can't do the surgery.”

Although participants were told by weight loss center staff to bring their book with them to each visit, half (n=3) of the six month program participants denied receiving any form of education or counseling during the weigh-in appointment. Misty confirmed, “I mean, yes, you're supposed to take it (book) back to every meeting, and, and every weigh-in, um, half the time they didn't even ask me for it.” The time needed for the monthly check-ups were 10 to 15 minutes maximum. A quote from participant Ann demonstrates the missed opportunity to provide education during the monthly weigh-ins,

“I drove all the way out there and I got weighed, because I had to for my insurance, but it was an opportunity for education, and it was lost. I mean, it wasn't utilized. And, you know, I would have liked something more at that point.”

Surgery preparation class. The surgery preparation class was taught by the nurse in a small group setting with other individuals who were scheduled to have WLS around the same time. The class was perceived as a means to have patients look through information previously received. “I got it (book) at the beginning, the consultation. But we never looked at it until the

week before surgery” (Ann). Six participants recalled the class was approximately three hours long and happened one to two weeks before having WLS. Tiffany stated, “it was at the hospital and it was...in a room that had long tables so that we could sit...it was a lot of information.” Responses stated the class was taught to a small group ranging in size from 8 to 35 people.

According to Rocky, “Its all talk.” The nurse provided the content in a didactic manner using only the paper book and no video or computer presentation. Breanna’s quote provides a detailed explanation of the class,

“telling you about the surgery before and after and, what help you may need at home or how, it was in the hospital. It was in this little auditorium and they, you know, just what to expect from the surgery, how you're going to feel after the surgery, what you should bring to the hospital or what you may need...the pharmacy had set up samples of all the little protein powders and what they're going to taste like. And, most people buy their stuff there and so they're prepared for when they come out of the hospital, you should have at home already waiting for you, not waiting to like the day you come home and now I have nothing here, you know. They're telling you to, get the stuff. You should have this on hand.”

The class also included some additional activities such as, a tour of the hospital unit and pharmacy, taste-testing samples of protein powder, and when the infamous ‘before WLS’ picture was taken. The session was well received. Participants seemed to appreciate the “long day of information” that made certain you were prepared for WLS.

WLS Support Programs

The subtheme of *WLS Support Programs* describes the hospital-based support group, pep rally, and nine month meeting that patients were exposed to before and/or after WLS.

Support group meeting. All participants attended a minimum of two support group meetings. Tiffany and Roberto were the only participants reported attending support group on a consistent monthly basis. Three additional participants mentioned they attend the monthly meeting if there was a good speaker/topic. The other seven members interviewed admitted to only attending two meetings—one pre- and one post-WLS—as it was an insurance requirement. Nick shared, “I’m not a group kind of guy” meaning he was a private person and would rather participate virtually or through a private session than in front of a group. Nick believed support group created a safe zone to foster negative behaviors. Patient perceived barriers to support group attendance were distance/long-commute (n=3), work conflict (n=2) and value for time investment.

The monthly meetings were held at a nearby large auditorium that included some bariatric sized chairs. Individuals in attendance were either anticipating or already had WLS. Rocky described the meeting size as “Packed. I mean it was standing room only.” Reported typical meeting size ranged from 75 to 150 people. Gardena stated each support group meeting lasted about 1.5 hours. The progression of a typical meeting included being welcomed by greeters, signing in, recognizing individuals who met weight loss achievements, and a topic presenter.

The weight loss center staff was present during support group meetings. Weight loss achievement ribbons were distributed by one of the surgeons. The nurse and dietitian were identified as meeting facilitators. Guest speakers spoke about aspects of nutrition, physical

demands and body transformation with WLS. For example, plastic surgeon talked about removal of excess skin post-WLS and local shop owners discussed benefits of using different types of olive oil and herbs to season food. Choosing the right fitness gear and how to dress with weight loss were additional topics patients recalled. The four male participants noted that topics presented by guest lecturers were oriented to a female audience. Rocky shared his impressions on the support group meetings and stated, “they didn’t pertain to me, it was for mostly women...if skin hangs...the plastic surgeon guy was there to show people what they do if they gotta put skin, back, blah, blah...Next one was on organic gardening... showed you how they took a rain garden and planted...all that herbs and spices. I go to the store and buy it, it’s half the price and no work.”

Four of the participants stated weight loss achievements were presented to the at-large group through a before picture of the individual on a PowerPoint slide. Audience members then engaged in a “search and find” to locate the person he or she transformed to after WLS. Breanna said, “I think it helps everybody who does participate...to stay on track. You know, you stay in that mode. You don't want to go back to what you looked like.” Guest speakers primarily taught through lecture and occasionally provided handouts or hands-on activities. Aforementioned hands-on activities consisted of tasting food samples or trialing exercise equipment.

Overall, participants (n=9) shared support group meetings were a marketing tool where successful patients were desired and struggling individuals were not. Tiffany shared it was motivational to see the before and after WLS transformation. Most perceived support group to be geared towards pre- versus post-WLS. Jenna mentioned, I want to be with people ‘like me’ who already had WLS and are experiencing what I am experiencing. Sarah felt support group was more like a pep rally that energized and excited you rather than helped you share and cope with

struggles. After being at both types of meetings she commented the meetings are misnamed and should be reversed (e.g. support group meetings should be called pep rally and pep rally meeting should be changed to support group meeting). Participants began to create informal support groups within their area of employment or development of camaraderie from support meeting attendance. Two participants (Ann and Tiffany) disclosed they desire to help at future meetings by serving as an inspiration to others by sharing how life changed profoundly.

Pep rally. Participants spoke about pep rallies, which were weekly support group meetings organized and facilitated by patients who had WLS. These meetings were held in a small conference room at the hospital for about a one-hour time period. These small group discussions consist of real WLS people storytelling with question and answer. Everything is talked about even the less attractive parts. Sarah explained, “they talk about sex, they talk about, you know, like rubs and, you know, they talk about food. You know, like when your skin’s chafing. All the less attractive parts.” Three participants had experience in these small group patient-driven sessions containing no more than 20 people.

The weight loss center verbally mentioned existence of pep rallies but did not provide details on how or where they met. One participant attended the session by accident after learning about it on the Facebook page prior to surgery, while the other two attended post-WLS. Hunter stated, “It was a gossip session...I stopped going cause I didn’t get much from it. It was a free for all.” The three participants felt the weight loss center did not encourage pep rallies as it’s patient driven and are concerned about liability.

Nine month meeting. The intent of the nine-month meeting was to provide a venue for patients to gather and exchange their weight loss journey thus far as they are approaching their one-year post-WLS anniversary. Three of the nine participants stated they were unable to attend

due to a conflict with work or restricted travel during the winter months. From those that attended, the meeting was described as a small group discussion. The meeting size of 25-30 people encouraged sharing. Content discussed depended on what participants shared with the group. Common topics of discussion were struggles with eating habits, exercise and relationships with spouses. The meeting was coordinated by a member of the weight loss center team, typically the nurse or psychologist. The meeting lasted about an hour and occurred prior to the normal support group meeting. Although the nine-month meeting was held immediately prior to the traditional support group meeting, Jenna said it did not entice attendees to stay. “(the) whole group of us that were there that night, none of us went upstairs after our meeting was done. We all left.” (Jenna).

Participants who did attend the nine-month meeting stated they would attend another one if offered in the future. Jenna remarked “It was smaller. It was more intimate... You had an opportunity to...share feelings and emotions and so on and so forth. Now, if they ever have another one of those I would go back to that because I felt that to be useful. It’s like, oh, I didn’t think about that...that’s a good suggestion.”

Resource Materials

This sub-theme included details about oral, written and digital venues that were used by participants. Written or digital-based educational materials were either provided by the center or were sought by the participant. The peer influence of a previous friend or family member who had WLS previously also served as a vital resource in determining the type of WLS to have.

Center materials. Participants stated the weight loss center provided them with pamphlets, the *My Weight is Over: What You Need to Know About Bariatric Surgery* book, online forum, and closed group Facebook® page. The pamphlet was distributed at the

informational session. It provided information on why to choose WLS and specifics on the expertise of the bariatric surgeons (n=5). The *My Weight is Over: What You Need to Know About Bariatric Surgery* book was created and produced by the weight loss center. Most participants referred to the book as the “Bari-Bible”, and stated it was received at time of consultation. The *My Weight is Over: What You Need to Know About Bariatric Surgery* book consists of nine sections and six lessons (see Appendix J). The “Bari-Bible” contained information on types of WLS procedures, pre-WLS diet, strength exercises, and lifestyle rules to abide by post-WLS such as diet progression. Written activities geared toward mental preparation and social adaptations with relationships were also noted. Of the eleven participants, three shared it “felt like a workbook for the process but it wasn’t” as the book was only skimmed through before WLS. The “Bari-Bible” was not fully used during preoperative follow-ups as patients anticipated. Misty shared, “you're supposed to take it back to every meeting, and, and every weigh in, half the time they didn't even ask me for it.”

Six of the 11 participants commented the book was an “invaluable reference afterwards” that “contained anything you need or want.” Four participants said the information appeared organized in an obscure way until post-WLS. Misty shared she threw the book away as it was so confusing. She was the only participant that did this.

Most participants were aware of the online resources: closed group on Facebook, online forums or message boards accessible through the weight loss center website and the mobile application. The perceived purpose of these resources was to serve as a venue to share stories and ask questions (Breanna). Misty shared the resources were useful if you could related to the post and were not having problems. Four participants passively participated by following what others posted but not actively commenting on the threads. Three of the 11 patients remarked they

do not participate in social media and could relate to Gardena's comment, "I know a lot of people blog and they email each other and I don't blog and I don't Facebook, I just don't do that as a natural practice." Two participants accessed meeting dates and emailed the center with a question using the weight loss center's mobile application. Tiffany said, "I wanted to ask questions, always someone's there to help you...by phone or now you can even email them or, yeah. And that's a lifetime, they will always be there for you...I called her, she called me the same day."

Individual materials. Participants demonstrated their personal accountability through the search and use of resources other than what was provided by the weight loss center. Simple internet searches were conducted by most participants to gather further information on specifics of WLS procedures and discovering protein sources or recipes to aid in the post-WLS dietary demands.

Mobile applications such as Fitbit®, My Fitness Pal®, Journal® were reported as useful during the WLS experience. Two participants commented they used the Fitbit® app to track food and activity and even had a friendly competition with family and friends. Two other participants used the My Fitness Pal® to record diet and exercise. One participant used a free journal application to write down their emotions towards food.

The eight participants engaged in social media also were part of other private bariatric surgery support groups on Facebook®. Similar behavior was seen with reference to passive versus active participation. Two of the eight participants that admitted to using social media voiced membership in private bariatric surgery support groups that were not affiliated with the weight loss center maximized their honesty on experiences whether they were positive or negative during their WLS journey. Membership to closed groups not managed by the weight

loss center minimized participants' concern for being treated differently by center staff if negative remarks were made or post-WLS struggles were shared.

Client Engagement. Throughout patient interviews the descriptions of the educational experience revealed passive learning principles. Most participants admitted to remaining silent for fear of embarrassment in a large group setting. Misty illustrated, "I didn't want to embarrass myself, by asking something inappropriate or not. So I didn't say anything. I just took as much as I could in." Four of the participants shared they did not solicit having WLS to others and concurred with Nick's sentiment, "I didn't want to do, um, I, I didn't tell a lot of people. I mean, my doctors know that I had the procedure. I didn't go around telling a lot of people I had had the procedure." Gardena admitted to liking to observe rather than participate in education sessions. A similar trend was noted in the use of online resources such as Facebook® and forums that were managed by the weight loss surgery center. Participants feared retaliation from the weight loss center staff if posts were not positive about the experience. Misty shared, "I have kept a lot in, because I didn't want, I didn't want to be retrali-, I didn't want it being taken out on me." Ironically, the same individuals who preferred to observe in the learning process were interested in helping others go through the process through a one-on-one or small group manner. Participants recognized their personal responsibility to use the information provided in educational sessions.

Theme 2: Updates and Upgrades

The second theme, *Updates and Upgrades*, comprised of two sub-themes *Holistic Transformations* and *Establishing Habits*. The subtheme *Holistic Transformations* included participant comparisons of how life changed after WLS through physical, psychological, and social contexts. Participant perceived ongoing struggles with adhering to WLS regimens in daily

life were depicted through the second sub-theme named *Establishing Habits*. Exemplars of participants' words are provided in Appendix I.

Holistic Transformations

Participants reflected back on lives they led before WLS through descriptions of physical and psychosocial changes. Tiffany shared, "you realize how much the weight limited you before." Seven of the 11 participants disclosed their struggles with obesity as a child and health problems that resulted from excess body weight. Typical weight-related health issues experienced were diabetes, hypertension, heart disease, and arthritis. Four participants stated before WLS they were "heavy and barely mobile" and often felt tired and sluggish. Most noticeable post-WLS physical changes were reduced body weight (n=11), increased activity/mobility (n=5), and more energy (n=4). The amount of prescribed medications taken post-WLS was significantly reduced in seven participants due to improvements in weight-related health issues.

On a psychosocial level, mental and social transformations were evident. Eight participants were able to identify their bad behaviors and learned through the WLS experience how to cope with them. Emotional eating, grazing patterns and poor food choices were often noted as causative factors to the weight problem. Journaling was seen as a noteworthy activity that helped participants unmask the connection between emotions and food addictions and consider the trade-offs (n=4). Sarah commented, "learning just because you can do something doesn't mean you should."

From a social perspective, one participant avoided being seen in places where she was previously known to be thin. She shared that WLS helped her regain her confidence to be

socially active again and rekindle a relationship. Additionally, three other participants shared feeling more confident and having a more positive outlook on life.

Establishing Habits

Two categories—WLS Rules and Daily Struggles—make up the subtheme *Establishing Habits*. The category WLS Rules identifies the changes in lifestyle behaviors in which participants stated must be adhered to post-WLS. The category entitled Daily Struggles reveals the time and effort demands to employ the post-WLS rules on a daily basis. Participants shared the realities of executing these rules on a daily basis in their lives and the complications experienced if slip-ups occur.

WLS rules. Each participant mentioned the need to follow the post-WLS rules. These patient-identified “rules” consist of the following:

- a. Take vitamins and protein shake faithfully every day
- b. Exercise 3-5 times a week
- c. Eat only amount of food allotted
- d. Reduce sugar intake
- e. Eat meal over 30 minutes
- f. Follow 30/60 drinking rule (stop drinking 30 minutes before meal and do not consume any liquid until 60 minutes after a meal)
- g. Do not drink anything “fizzy” (carbonated)
- h. Do not use a straw to drink
- i. Do not consume alcohol for at least the first year, then sparingly afterwards

As participants explained the rules, rationale was provided validating the importance of complying with the rules. Participants admitted that using these rules in daily routines took

practice and time initially. Keys to success were preparation and making it a highly repeatable habit. Some mentioned thinking of preparing food more than they used to. Most of the male participants (n=3) stated not wanting to be consumed by the counting of nutrients and thus simplified the process with a pass/fail test using grams of sugar and protein.

Daily struggles. Weight loss surgery requires individuals to adopt significant changes, particularly in the dietary realm. Preoperatively, this entails monitoring meal portions, counting nutrition values on food labels, and making ‘healthier’ food choices. Postoperatively, dietary restrictions continue with adherence to the “WLS rules” mentioned above.

The biggest pre-WLS challenge identified by participants was achieving their pre-WLS weight loss goal. This specified amount of weight loss required before surgery was determined at time of consultation. The time given to achieve the pre-WLS weight loss goal ranged (1 to 6 months) for participants as insurance companies differed on requirements. Ann expressed, “I had six months to lose and was obviously struggling I feared he wouldn’t do the surgery if I was over 2 pounds.” If participants did not employ these habits or struggled with them, they were placed on a liquid protein diet two weeks before surgery to assist patients in dropping the weight and reaching the goal. Although adoption of healthier eating habits was desired before WLS, drastic dietary restrictions through a special diet were used without hesitation to ensure success.

From a postoperative WLS perspective, the old adage ‘old habits are hard to break’ was reported (n=3). Participants confessed to having difficulty following the WLS rules in the beginning of the post-WLS experience. Overall, adhering to a high protein, low sugar diet was identified as the most difficult task on a daily basis (n=9). Some of the participants shared they had difficulty staying hydrated due to abiding by the WLS rules. Four mentioned using a timer to remind them when they could eat or drink something through out the day. Three participants also

said it was hard to get used to not drinking while eating. Four participants reported struggling with consuming different food textures. Most individuals interviewed experienced a “rock” feeling in their throat that would not dissipate for hours (often beef or pork). Each participant attributed the “rock” feeling to not chewing food well enough but did not recall ever being warned about the experience.

Other post-operative challenges were mentioned that were not food related. Participants discussed how they had to learn how to cope with emotions in non-food ways (n=5). A few of the participants noted changes in relationships (n=3) that either brought the couple closer together or drove them apart. The need to develop an exercise habit (n=6) and dealing with excess skin after extreme weight loss (n=2) was also experienced by some of those interviewed.

Each participant identified with becoming complacent over time with executing the WLS rules. Many interviewed stopped tracking food or logging exercise around the one year WLS anniversary. Rocky attributed his weight recidivism to eating bagels and pasta again. Sarah summarized, “In the beginning you stick to every rule but after awhile you loosen up and make slip ups.”

Theme 3: Lessons Learned and Considerations for Future Versions

Theme three, *Lessons Learned and Considerations for Future Versions*, consists of three sub-themes; *My Impressions*, *What to Teach Me*, and *How to Teach Me*. Through the three sub-themes, participants’ level of satisfaction with the WLS experience and factors contributing to their WLS success and satisfaction rating were shared. Recommendations for how to improve the educational process in terms of important content and preferred ways to learn were also provided.

My Impressions

The sub-theme *My Impressions* provided rationale for participants' satisfaction ratings on their WLS experience. Ten participants used the descriptors of "satisfied" or "very satisfied." One participant provided a C-rating to her WLS experience. The low rating was given because she felt the education process lacked portrayal of the real struggles experienced after WLS and did not prepare individuals mentally for the hardships. The major factor attributing to positive ratings was contentment with the amount of weight loss (n=8). Other reasons mentioned for satisfied ratings included the right balance of information given within an appropriate time during the education process (n=8), questions were answered by the weight loss center staff (n=6), and overall feeling "better about self" (n=3). Four participants stated they felt prepared for WLS after completing the screening and classes over the provided timeframe. While most often favorable factors were noted, some participants expressed dissatisfaction with the hospital experience (n=4), excess skin post-WLS (n=2). One participant said the information provided during the WLS education experience was confusing and not readily accessible.

As participants voiced their satisfaction with the WLS experience, determinants of WLS success were revealed. Participants' gauged WLS success on three factors: achieving WLS weight goals (n=9), following program rules (n=5) and personal effort (n=3). Three of the 11 study participants identified their WLS as unsuccessful. Each of the three individuals, who experienced weight recidivism, attributed the gaining of previously lost weight to the return of bad habits. The amount of weight gained back by the three participants ranged from six to 22 pounds and occurred near the one and a half year mark.

What to Teach Me

Although most study participants were satisfied with their WLS experience, they still offered suggestions for future programming. The sub-theme, *What to Teach Me*, provided recommendations for curricula and teaching methods to better the WLS education experience for future patients (see Appendix K). Recommendations included considerations for class composition, curricula, and teaching materials.

Participants expressed information needed to be front-loaded pre-WLS so an informed decision about the surgery could be made. Content provided during the pre-WLS setting was sufficient. Constructive criticisms from participants encouraged session content to stop ‘sugarcoating the process’ by providing more insight on the negative realities of WLS. Offer a teachable moment to discuss weight recidivism and why people become unsuccessful after WLS (n=3). Emphasis in pre-WLS education sessions’ curricula were recommended in the following areas: discuss feelings concerning a full pouch, discuss how to cope with negative realities of WLS, and provide additional information on food preparation with post-WLS diet.

General statements to improve education and support group sessions focused on meeting the needs of all audience members—women and men, young and old. Overall, participants stated discussions should be tailored to include gender and age-related changes or challenges of the WLS patient when necessary. Male study participants stated advertisements, education and support group meeting topics were geared primarily toward female patients and lacked WLS male-specific considerations. Sexuality and masculinity related to large body size were mentioned. Another two participants also noted generational difference amongst WLS patient groups and the need to address these differences with regards to psychosocial needs of the young versus older WLS patient.

The book provided to patients at consultation was deemed as a valuable resource post-WLS by most. Four participants remarked on ways to improve the written resource (see Appendix K). Three of the four participants suggested creating a start up guide to orient patients to the book and how it is organized. Two of the four participants gave additional details to removing Lap-Band® information (as it is no longer offered at the facility), and simplifying nutrition content to focus on hydration and break the cycle of addition to sugar.

How to Teach Me

The final sub-theme, *How to Teach Me*, revealed perceived optimal setting for patient learning. Improvements to the WLS education experience included participants' thoughts regarding class size, accessibility of services, benefit of participation, and center communication post-WLS.

Smaller group sizes were favored for education and support program sessions. Four of the 11 participants remarked smaller audiences permitted interaction and encouraged sharing of feelings and ideas. Another three participants mentioned the large group size for the informational session was appropriate as it enabled one to feel comforted amongst the masses.

In regards to the support group meetings, participation and distance were seen as areas for improvement. Only two admitted to participating in support group on a monthly basis. Most participants blamed long travel time and distance as the attendance barrier. Three participants commented that meetings should rotate to other locations as the area has grown that the weight loss center serves. Possible solutions to minimize this barrier are to consider rotating meeting sites or create means for online attendance. Two individuals recommended that the weight loss center create webinars at low or no cost to members. These opportunities could focus on the

topic given by the guest lecturer and do not have to provide a means for participation in live question and answer session.

Support group attendance was also attributed to the perceived individual gain of time spent at the meeting. Nick shared “if I'm going to invest my time, and I do look at it as an investment of time, I'd want there to be some positive outcomes...they don't have to be for me, uh, but I think...they need to be some positive outcomes.” Participants valued the benefit of having individuals who are preparing to have WLS interacting with those who have experienced it. As pre-WLS candidates, all felt it was motivational to see the success of individuals before them. However, from a postoperative perspective, participants stated the support group meeting was targeted toward the pre- rather than post-WLS candidate. They wished the support group could separate pre-WLS from post-WLS individuals at some point to provide more of a post-WLS conversation.

Participants who had no complications at the one-year follow-up appointment felt abandoned or forgotten. Jenna shared the letter inviting her to participate in the current study was the first communication from the weight loss center in months. Five participants echoed feelings of being “forgotten” and recommended a one and a half year out post-WLS check-in meeting. The venue of this “check-in with the forgottens” could be in a similar format as the nine-month meeting to discuss current habits, expose bad habits if they are resurfacing and overall prevent weight recidivism through awareness.

Summary

The purpose of this qualitative descriptive study was to obtain in-depth descriptions from patients about their WLS experience, specifically about the education received before and after the surgery, and recommendations to improve the experience for future patients. Specific aims of

the study were to: a) describe WLS patient education, from both preoperative and postoperative perspectives, through patient reports of their WLS experience, b) obtain patient perceptions about satisfaction with education received and their overall WLS experience, and c) identify approaches to improve the delivery of WLS education through patient recommendations. *A New Me-Version 2.0* encompassed participant descriptions of the WLS experience, education and support services, body transformations, lifestyle challenges. Participants shared their level of satisfaction with the experience and gave recommendations to improve the WLS experience for future patients. The three research questions for this study were answered as follows.

Research Question 1: How Do Patients Describe Their Overall WLS Experience?

Most participants described their WLS experience in a positive manner. Weight loss surgery was identified as fulfilling their personal need for a drastic life change. The impetus for drastic life change was either elicited by a personal desire to live life as a non-obese person for a family member or alleviate experienced weight-related health problems. Theme 1, *Programming and Tools*, illustrated how obese individuals saw WLS as a new beginning to a healthier life that they were now ready to control. This theme also illustrated the education and support programs experienced before or after WLS.

The overall WLS experience was also evident in patient-perceived lifestyle changes post-WLS as depicted in Theme 2, *Updates and Upgrades*. Participants identified their obese self prior to WLS as lazy, unhealthy and barely mobile. At time of interview, participants shared reflections of how life improved with reports of being more active, confident and diminished health problems due to the amount of weight lost since surgery. Lastly, participants acknowledged the importance of following WLS rules and shared how life events can derail WLS rules adherence on a temporary or permanent basis.

Research Question 2: How Do Patients Describe The Education Received During Their WLS Experience?

Eleven study participants, who experienced WLS 12-18 months prior to time of interview, expressed their memories of the WLS education experienced through Theme 1, *Programming and Tools*. The theme unmasked the education and support programs, with specifics on how programs were delivered according to setting, curricula, teaching methods, and educator. Most participants summarized before and after WLS education and care processes as organized, thorough, and detailed. With the exception of the individual consultation education sessions and support groups, other programs were mainly held in a large group setting. Educators were multidisciplinary, using didactic instruction and a comprehensive written resource book.

Research question 3: What Factors Contribute To Patient Satisfaction With WLS Education?

Theme 3, *Lessons Learned and Considerations for Future Versions*, unveiled participants' level of satisfaction with the WLS experience. The primary factor attributed to being satisfied with the WLS experience was the amount of weight lost or achievement towards WLS goals. Other factors consisted of having positive communications with weight loss center staff, and improved self-concept. Recommendations to enhance the WLS experience for future patients were also discussed. Participants suggested education and support programs with smaller class sizes that tailor to audience gender and age-specific needs, emphasis on mental preparation and provides weight loss center patient contact with long-term patients. Chapter Five contains a discussion of study results, implications for the bariatric specialty, and considerations for future research.

CHAPTER 5

The need to better understand WLS patients' perceptions about education received and subsequent level of satisfaction with the experience is critical to discern the potential impact education has on weight recidivism and WLS success. Obtaining information from WLS patients first-hand identifies components of the WLS education experience that are most and least beneficial for support in life-long adherence to postoperative routines. Discovering factors that contribute to a positive or negative experience can inform programs and elicit improvements. Identification of these factors will help the weight loss center team in addressing learning needs of most patients seeking WLS, in addition to understanding more specific, individual learning requests.

In this qualitative descriptive study, in-depth descriptions were obtained from patients about their WLS experience, specifically about the education received before and after surgery, and recommendations to improve the experience for future patients.

The study was designed to answer the following research questions (RQ):

1. How do patients describe their overall WLS experience?
2. How do patients describe the education received during their WLS experience?
3. What factors contribute to patient satisfaction with WLS education?

To answer these questions, patients were recruited from one MBSAQIP accredited weight center in the Northeastern United States. A letter of invitation to participate in this study was distributed to 119 randomly selected WLS patients, of whom 27 were male (22%). Semi-structured interviews occurred with eleven individuals (7 female, 4 male) who met inclusion criteria.

Findings, Interpretations and Recommendations

Based on participant interviews, the WLS educational experience was described through the concept of *A New Me-Version 2.0*. Data were categorized into three main themes—*Programming and Tools*, *Updates and Upgrades*, and *Lessons Learned and Considerations for Future Versions*. The ten sub-themes nested in the three main themes provided insight about WLS patients' perception about the WLS experience and education received.

The first theme, *Programming and Tools* helped answer the first two research questions (RQ1 and RQ2) that asked patients to describe their overall WLS experience and education received during their WLS experience. *Programming and Tools* used five sub-themes to illustrate the education and support programs offered to patients during the WLS process. Ancillary materials and participants' participation level were recognized as valuable tools for the learning process within this first theme.

The second theme, *Updates and Upgrades*, further described patients overall WLS experience (RQ1) through personal reflections after WLS. This theme depicted patient-perceived changes and ongoing challenges that became apparent after WLS through two sub-themes.

The third theme, *Lessons Learned and Considerations for Future Versions*, answered the final research question (RQ3) to identify factors that contributed to patient satisfaction with WLS education. This theme contained three sub-themes. Each sub-theme helped describe how satisfied study participants were with their WLS educational experience as well as areas that could be improved through participant accounts of what was or was not helpful (see Appendix I). Discussion of each theme follows with comparisons made to previous published literature.

Theme 1: Programming and Tools

One of the study intentions was to examine emergent themes associated with describing the lived WLS education experience. Information revealed in *Programming and Tools* helped answer RQ1 and RQ2. Participants shared their WLS experiences in great detail by explaining the education and support programs offered, ancillary resources provided, and perceived level of patient accountability and engagement needed.

Catalyst for change. In this sub-theme, participants unanimously verbalized that WLS is “not a quick fix.” Instead, participants viewed WLS as a mechanism to assist them in their weight loss journey. This result mirrored sentiments discovered in a phenomenological study conducted in Norway by Groven (2014) where the societal view that WLS was an immediate solution or cure to obesity was rebutted as the “*quick fix*” by the Norwegian women. Findings in the current study demonstrated that obese individuals who sought surgical weight loss intervention realized WLS is not a cure but rather an intervention to speed up the weight loss process. The desire for WLS patients to demystify society’s obesity stigma and prove themselves to normal-weighted or non-WLS seeking individuals may serve as a form of motivation for patients to continue post-WLS routines. The description of WLS as a tool to facilitate change in *Catalyst for Change* reinforced the notion of *Rebutting the “quick fix” fallacy* as stated by Groven (2014). Obese individuals undergoing WLS understand surgery is a reconstructive intervention that will require behavioral changes. I recommend weight management centers include information about how obesity is a disease that one cannot always be ‘blamed for’ in their advertisements.

WLS education programs. Information obtained from participants about the provided WLS education was explained in *WLS Education Programs*. Preoperative WLS programs

consisted of informational session, consultation, six months of weigh-ins, and surgery preparation. Postoperative WLS education programs were described as meeting topics at support group meetings and were explained under the sub-theme *WLS Support Programs*. Study participants provided more details on pre-WLS educational programs than post-WLS. This finding correlates to what was found in the review of literature, i.e., preoperative education practices are more developed than postoperative programs.

Pre-WLS educational offerings described in the current study paralleled recommendations regarding content recommendations set by Garza (2003) and Wee et al.(2009). Participants in the current study described in greater depth the recommended pre-WLS educational progression of information initially made by Garza (2003). They suggested giving an initial informational session identifying general information about obesity and WLS, followed up with an evaluation consisting of lifestyle patterns and candidacy requirements (consultation), as well as preoperative WLS teaching done at time of preadmission testing (surgery preparation). Participant interviews illustrated pre-WLS education provided by the weight loss center gave specific information on the surgical procedure risks, complications, non-surgical alternatives, as well as postoperative diet and exercise needs, similar to what was published as curricular recommendations in a systemic review by Wee et al. (2009).

Several similarities amongst participant descriptions and published literature on pre-WLS education topics were discovered. Most participants in the current study recalled reviewing the types of WLS, non-surgical alternatives, health benefits, some WLS complications, and diet restrictions. Some mentioned discussing the mental component (i.e.-psychosocial issues). This study's participants did not obtain details regarding the depth and breadth of topics discussed in any of the educational programs. Results from this current study suggest further investigation is

needed to obtain information from bariatric surgery centers on the types of WLS patient education programs offered with acquisition of lesson plans explaining what is taught and to what extent in said programs. Obtaining these details also will inform MBSAQIP and can minimize the wide programmatic variability that currently exists amongst educational processes in MBSAQIP accredited centers.

Pre-WLS teaching methods were reported primarily as large or small group classroom-style instruction. Participants stated independent teaching moments only occurred pre-WLS during the consultation visit and six months of weigh-in appointments. Written handouts were distributed at the informational session and consultation visit to reinforce topics discussed. The review of literature showed most pre-WLS education programs consist of classroom-style approaches with lecture and pre-printed materials (Davidson & Callery, 2000; Eaton et al., 2012; Garza, 2003; Giusti et al., 2004; Goldstein & Hadidi, 2010; Nijamkin et al., 2013; Padwal et al., 2013; Stewart et al., 2010). Findings from the current study were congruent with common pre-WLS education practices reported in the literature.

Participant descriptions in this study correspond with other descriptions about WLS education practices. The weight loss center's use of an audiovisual presentation in a group setting was consistent with pre-WLS education work published by Andris (2005) and Kruzik (2009). A combination of individual instruction and classroom-style group setting have been shown to minimize knowledge deficits in the pre-WLS learner (Taddeucci et al., 2007) and these strategies were used by the weight loss center in the current study.

Participants in the current study identified educational deficits during the six months of weigh-ins. Over half of the study participants reported they were required by their health insurance to participate in a medical weight management program lasting a minimum of six

months before having WLS. Participants reported being told by center staff that they would be using the “Bari-Bible” at each weigh-in appointment. However, most of the participants’ reported this did not happen and appointments consisted only of being weighed. Participants viewed the visit as a missed educational opportunity and encouraged maximizing the time for future patients with discussions about the mental connection with food or struggles with completing book lessons. Clinicians need to clarify the purpose and intent of the six months of weigh-ins, and a greater emphasis on helping patients’ transition to new habits is required at pre-operative appointments. Patients may benefit from a discussion about how much WLS education will be performed individually, compared to education provided in a group setting. Giving patients clear guidelines about how and when the “Bari-Bible” will be used and who will be navigating its use may alleviate mixed expectations described by study participants.

Recent evidence from both randomized and non-randomized trials has shown pre-WLS weight management programs do not correlate with more preoperative or postoperative weight loss (Kuwada et al., 2011; Parikh et al., 2012). Kuwada and colleagues (2011) noted such programs significantly delayed WLS. This point also was mentioned by a few of the study participants. More specifically, a randomized control trial concluded no significant difference in weight loss, eating habits or exercise between gastric bypass patients who had preoperative group counseling and those who did not one-year post surgery (Lier, Biringier, Strubhaug, & Tangen, 2012). Lier et al. (2012) also identified the need for more comprehensive treatment on a postoperative level to support patient adherence. Kuwada et al. (2011), Parikh et al. (2012), and Lier et al (2012) only briefly described structured classes that used passive learning principles. Details about counseling procedures used in the weight management programs were not included.

Participants in the current study said that the act of being weighed during their monthly appointment did not support transitioning to post-WLS behaviors. Participants also said that counseling would have uncovered the personal barriers hindering achievement of pre-WLS weight loss. Further investigation of the commonly provided six-month weigh-in pre-operative education programs is needed. Investigational studies that describe and monitor program delivery are needed to determine if education can positively impact post-WLS outcomes. If preoperative education and counseling is not being fully executed as intended to maximize post-WLS outcomes, then health insurance payers can consider redefining or waiving pre-WLS requirements. If there is no benefit to intensive education and counseling before WLS the cost savings could be applied to post-WLS interventions to promote weight loss and healthier lifestyle, as Lier et al. (2012) suggests. Clinicians providing care to patients during the six months of weigh-ins should briefly review weight loss accomplishments and struggles experienced over the past month. Auditing the patient's progress beyond the scale may help with personal accountability and exploration of psychosocial issues that may have attributed to an obese state.

Discharge teaching is a post-WLS education opportunity that is a common practice in healthcare. However, participants in this study did not mention receiving any teaching during or upon hospital discharge. In this study, educational activities described by participants were listed on their WLS checklist. These opportunities included the informational session, consultation, six month of weigh-ins (if required by insurance), surgery preparation class, support group and nine month meetings. Participants may not have mentioned education provided at hospital discharge because this type of education was not introduced to patients as a part of the formal educational

process (i.e. displayed on WLS checklist). In future studies, having a prompt during the interview may have sparked discussion of this educational experience.

The act of discharge teaching is nearly non-existent in WLS literature. Only Doolen and Miller (2005) and Kelly et al. (2009) described education provided through patient follow-up appointments shortly after discharge from the hospital. Echols (2010) recommended WLS patients receive education on the following topics at hospital discharge: hydration, diet progression, vitamin supplements and bone density testing and physical fitness. Similarly, participants in the current study did not mention or describe receiving any teaching about those topics during the hospital stay or at time of discharge.

The discharge education process is individualized to meet WLS patient needs but often includes postoperative instructions including activity, diet, medications, and physician follow-up appointments. Discharge teaching is a common practice that reviews pertinent information to promote patient recovery when a patient is leaving a healthcare institution. A registered nurse usually delivers education during the hospital experience. Nurses are busy caring for multiple patients with varying degrees of complexity. Education provided during the hospital stay should occur in concentrated doses; that is providing essential information pertinent to recovery and during small amounts of time when the patient is ready to learn. Monitoring when and how nurses deliver education to WLS patients during their hospitalization will be needed to better understand why this post-WLS form of education was not recalled during study interviews.

WLS support programs. The value of support programs was realized as participants discussed acquiring motivation and comfort from being surrounded by people ‘like me’ during support group activities. This notion of finding comfort with people “like them” was also

reported by WLS participants who were engaged in a post-WLS exercise program (Groven, 2014).

Participants in the current study described support-type programs as primarily post-WLS interventions. The exception to this description was when participants mentioned required attendance to a support group meeting once before WLS. Other weight loss center driven support programs were identified as pep rallies and the nine-month meeting. In-person support meetings were identified as formalized when weight loss center staff was present (i.e., support group meeting) or unstructured when meetings were solely patient-driven (i.e., pep rally, informal support groups).

All study participants attended the two mandatory support group meetings (one during the pre-WLS process and one immediately post-WLS). These formalized support group meetings were identified as being held in a large group setting. Individuals who attended support group meetings were either anticipating surgery (pre-WLS) or already had undergone the procedure (post-WLS). These meetings used a classroom-style approach that encouraged group participation in post-WLS program, which is similar to what others have reported (Nijamkin et al., 2013; Rothwell et al., 2014; Stewart et al., 2010). In the current study, participant descriptions about support group meeting activities suggested minimal opportunity for discussion of challenges experienced or questions by members. Study participants spoke positively about the nine month meeting which was smaller than the traditional support group meeting and focused only on post-WLS issues. Differences in pre- and post-WLS patient support group needs exist. The large audience can limit comfort level but small groups enhance sharing between members which can also provide comfort. Pre-WLS patients may feel more comfortable attending a support group large in size so they are not confronted. Post-WLS patients may prefer

smaller support groups so they can share experiences with others. Based on study findings, facilitators of future support group meetings should consider keeping groups small enough to elicit discussion amongst members. If a mixed audience is necessary consider offering a breakout session to provide small group discussion with people who are “like them”.

Only two of the 11 participants reported attending support group meetings held by the weight loss center on a consistent basis. Both of these individuals had met or exceeded their post-WLS weight goal. A decrease in depressive symptoms and increase in amount of weight lost after WLS have been associated with postoperative support group programs (Nijamkin et al., 2013). Additionally, results from a systematic review of 10 studies confirmed greater weight loss for patients who regularly attend support groups than those that do not (Livhits et al., 2011). In the current study, the two that attended support group meetings on a regular basis stated they were motivated and energized by the meetings. Motivation and accountability have been reported as benefits of support group meeting attendance (Livhits et al., 2011; Nijamkin et al., 2013). Given the success of these two study participants, and the consistent recommendations found in the literature, WLS patient should be encouraged to regularly attend support group meetings.

In the current study, participants who did not attend support group meetings stated that the main reason for lack of meeting attendance was how far meetings were from their home or place of employment. This was not reported as a challenge for attending support group meetings in city settings (Orth, Madan, Taddeucci, Coday, & Tichansky, 2008). Non-attendees in the present study also shared feelings that support group meetings targeted the pre-WLS attendees and did not discuss post-WLS struggles so they saw no direct benefit of attending. Healthcare clinicians should consider mechanisms and ease of patient travel when offering programs in less

populated areas. Encouraging participation by rotating meeting sites or through online attendance would be possible solutions to the problems of distance.

Participants in this study perceived pep rally meetings as the primary support group meeting for post-WLS patients. Only people who have undergone WLS attended pep rally meetings. Meetings were held in small groups and facilitated by a WLS patient. Effectiveness of peer-led support initiatives is underrepresented in the bariatric surgery literature. A pilot study in Harlem conducted by Goldfinger, Arniella, Wylie-Rosett, and Horowitz (2008) supported the use of peer-led programs as a culturally appropriate intervention in the management of obesity and diabetic care. Under-served minority patients demonstrated significant weight loss, enhanced activity levels, and reported improvements in quality of life after 10 weeks of the program intervention. The result from the current study and Goldfinger et al. (2008) suggest patients may benefit from patient-driven support group activities and warrants further investigation.

Weight loss centers may have concerns with trusting patients in facilitating center-run programs. Perhaps weight loss centers could alleviate these concerns by offering a peer training program such as the *Amputee Coalition of America* certified peer visitor program (see: <http://www.amputee-coalition.org/support-groups-peer-support/certified-peer-visitor-program/>). This would enable post-WLS patients interested in leadership positions to become trained in working with patients before and after WLS.

Resource materials. In the sub-theme *Resource Materials*, participants identified helpful materials and resources, whether generated by the weight loss center (Center materials) or of other independently sought sources (Individual materials).

The weight loss center distributed a take-away informational pamphlet about WLS and a book form that summarized before and after WLS activities taught throughout pre-WLS

education sessions. The use of these types of teaching methods were consistent with pre-WLS education work published by Andris (2005) and Kruzik (2009). The effectiveness and cost-efficiency of in-person education session and written materials is still under investigation with pre-WLS candidates in the EVOLUTION trial (Padwal et al., 2013). Clinicians should continue to provide ancillary aides to patients with education sessions. Educational research is needed to explore the potential use and benefits of technology as an ancillary aid.

Most of the participants in the current study shared that social media resources offered by the weight loss center were not utilized for fear of punishment for speaking about struggling with *WLS rules*. The need of peer support and learning contributed to participants seeking membership on closed bariatric surgery patient groups on social media that were not affiliated with the weight loss center. Social media membership was found to support vicarious learning regarding the daily struggles experienced post-WLS and offered recommendations on how to adhere to the WLS regimen. Weight loss centers should continue to offer support to patients through various means, including social media. Clinicians should be cognizant that participants may not share challenges they are facing during their WLS journey as they are embarrassed, shamed or scared of reactions they will receive from healthcare workers and other WLS peers.

Participants stated technology was used to obtain answers or support throughout the WLS experience. Random Google® internet searches to obtain quick information on protein sources or recipes was reported. A plethora of mobile applications (apps) were mentioned throughout the 11 interviews consisting of logging various forms of data to searching for information. It was evident that most participants desired to use current technology to help them in their WLS experience. Current smartphone technology has not created a usable app that meets all the daily

needs of WLS patients. This deficit provides an opportunity for collaboration and communication between patients and healthcare staff to design an app that best fits patient needs.

In 2013, Connor and colleagues (2013) presented the lack of medical professional development in smartphone apps for bariatric surgery through a search of five major online app stores. Out of the 674 hits generated using search terms, only 83 were relevant apps were identified and these received a consumer rating of 2.8 out of 5 stars. Stevens, Jackson, Howes, and Morgan (2014) repeated the obesity surgery smartphone apps search and found minor improvements with their results a year later. Twenty-six of the 28 apps were designed for patient use and professional healthcare involvement in app development was apparent in 12 of the 28 apps (Stevens et al., 2014). Consumer ratings of apps averaged 3.6 out of 5 stars. Implications of nonparticipation in development of mobile applications by healthcare providers and patients could result in wrong information, confidentiality issues, and possible medical involvement not disclosed as a conflict of interest. MBSQIP accreditation standards encouraged weight loss centers to use a variety of teaching methods in their patient education processes however use technology beyond websites is not mentioned despite existence of smartphone technology. Offering education by way of mobile or computerized means may assist with customizing education to the learner's needs.

Client engagement. In the sub-theme of *Client Engagement* the importance of patient accountability and participation in their overall WLS experience and learning was revealed. This phenomenon has not been explained by literature on WLS patient education practices. In this study, participants described how the level of their participation in the learning process could impact WLS success. Participants who reported engaging in the education process by applying concepts learned to daily life through completion of independent assignments (such as book

lessons) were more successful in adhering to post-WLS rules and keeping weight lost off than those who did not.

According to Grima and Dixon (2013), the level of patient engagement has been investigated in the care of other chronic illnesses. Sjöström and colleagues (1999) identified cardiovascular disease patients who actively participated in the four week education program were able to manage their weight and blood pressure better up to five years post education. The impact patient engagement or participation has in long-term WLS success is unknown. Conducting further studies to explore this may better inform patients about their importance in WLS education processes and care.

Comparison to MBSAQIP standard 5.1. The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) was developed by the American College of Surgeons (ACS) and American Society for Metabolic and Bariatric Surgery (ASMBS) as the national accreditation standard for bariatric surgery centers (<https://www.facs.org/quality-programs/mbsaqip>). The MBSAQIP accreditation program ensures consistency across bariatric surgery centers. Bariatric centers are designated as an accredited center after demonstrating adherence to MBSAQIP (2014) standards. Accredited centers are required to provide educational programs that review specific content before and after WLS through written, slide show, website or video venues as described in *MBSAQIP Standard 5.1-Patient education protocols*.

Information obtained about WLS education provided during the preoperative and postoperative WLS phases were found to be fairly consistent with MBSAQIP standards. Participants' descriptions about their pre-WLS educational experiences suggested a majority of the required content listed in MBSAQIP Standard 5.1-*Patient Education Protocols* was provided

by the weight loss center through the three pre-WLS educational sessions—informational session, consultation, and surgery preparation class.

Both the consultation visit and surgery preparation class more formally addressed the MBSQIP standards as detailed instructions were given regarding surgical complications, diet, exercise, dietary supplementation, and lifestyle changes. This delivered required education through a private and group setting.

In this study, participants did not mention receiving discharge teaching during hospitalization, which differs from the MBSQIP standards discharge teaching requirements. Future qualitative studies exploring WLS education processes should include probes about discharge teaching.

Theme 2: Updates and Upgrades

Evidence presented in *Updates and Upgrades* answered the study's first research question. Interviews provided an opportunity for the participant to reflect on how different their life was since WLS. Participants compared life after WLS with what life was like prior. During the interview, participants made realizations about life improvements and sources of ongoing struggles. For example, some participants uncovered reasons they struggled with weight recidivism or reflected on how weight limited them prior to surgery.

Holistic transformations. Study participants reported noticeable changes in their body appearance, activity, and demeanor. Physical improvements after WLS were identified through amount of weight loss and improvement in weight-related health disorders. Changes in energy levels were associated with increased levels of activity. Mental transformations were linked to emotional eating behaviors. Social acceptance as a thin person after WLS led to increased self-confidence.

Participants compared their current “new life” from their previous one from a holistic perspective. Change in body image was the most common factor first reported as the amount of weight or reduction in body size. Subsequent reports of a positive outlook on life and feelings of being more confident were then reported. These transformations were similarly described in a qualitative descriptive study by Jensen et al. (2014) that examined the effects of body image in young women after WLS. The women progressed from unfavorable body images and lack of self-esteem before WLS to improved appreciation and increased self-worth afterwards (Jensen et al., 2014). Weight loss surgery success can be measured by factors that are beyond the number that is visible on the scale.

The *Holistic Transformations* sub-theme described how WLS patients perceived their health-related quality of life (HRQOL) post surgical intervention. A retrospective population-based study conducted at a large bariatric center evaluated patient-reported HRQOL and functional status through a survey between patients who had WLS and those that sought medical intervention (Batsis et al., 2009). Batsis et al. (2009) concluded significant weight loss and absence of medical comorbidities predicted better HRQOL and self-reported functional status. A strong correlation between HRQOL and the percent of weight lost was also discovered. Bariatric surgery supported HRQOL and functional status improvements in obese category II-III patients (Batsis et al., 2009). Although weight was the first noticeable transformation post-WLS in this current study, participants also reported increased activity and other HRQOL improvements. This result may assist with measuring successful outcomes of WLS.

Participants in the current study discussed psychosocial transformations with developing awareness about their relationship with food. A pilot study that used a cross-sectional non-experimental survey design aimed to evaluate self-reported HRQOL in post-WLS patients in one

institution concluded HRQOL improvements with social and mental functioning being least remarkable (Sutton & Raines, 2010). Results from both Sutton and Raines (2010) and the current study indicate a need to provide interventions that can support strengthening the psychosocial aspect post-WLS. Establishing such mechanisms may help WLS patients keep weight off for the long-term as maladaptive behaviors can be exposed.

Childhood obesity was noted by most study participants. The effect of obesity in adolescence on adult health status has been associated with chronic comorbid conditions (Inge et al., 2013). Bariatric surgery literature examined the connection between childhood abuse and weight loss surgery success. Studying the impact of chronic obesity issues stemmed from childhood on WLS success have not been examined. Further investigation of the correlation may demonstrate more vigorous programs are needed to support these clients in changing behaviors.

Establishing habits. The categories WLS Rules and Daily Struggles portrayed the lifestyle modifications patients make throughout their WLS experience and their struggles in employing the aforementioned ‘WLS rules’. Study participants expressed learning, developing and establishing new lifestyle behaviors throughout the WLS experience. This notion was supported by previous work from Sarwer et al. (2008) and Jensen et al. (2014). Conclusions from a prospective cohort investigation with 200 WLS patients associated a higher percentage of weight lost with self-reported adherence to post-WLS diets at week 20 and 92 (1 year and 10 months) (Sarwer et al., 2008). Overall, these findings support the usefulness of dietary counseling in weight loss success if used by patients throughout their pre- and post-WLS phases.

The concept of behavior change after WLS and its associated challenges was identified in study by Jensen and colleagues (2014) through the theme *learning new boundaries*. Jensen’s work supported findings in the current study of the ongoing daily struggles while attempting to

blend WLS routines with everyday life. Providing supervised healthcare support in lifestyle management has been beneficial. Kalarchian et al. (2014) discussed the importance of lifelong medical monitoring to support healthy habits post-WLS. Uncovering the daily challenges perceived by patients may encourage healthcare educators to emphasize particular content taught in WLS education programs or develop/revise post-WLS programs to provide WLS patients' support in their self-monitoring activities.

The current study is the first qualitative work in the field of WLS research to highlight participants' struggles and feelings about losing the specified amount of weight stated at during the consultation visit (pre-WLS goal) before having WLS. Study participants first told of their struggles with employing healthier eating habits during their weigh-in appointments. However, participants became frustrated when their struggles were not explored, but instead brushed off with a quick solution, i.e., a two-week liquid protein diet to help meet pre-WLS weight goal. Clinicians can use therapeutic communication during patient appointments to establish or revise care plans that support patients in meeting pre-WLS goals in a healthy way that also encourages adoption of WLS Rules.

Study participants also shared ongoing struggles with complying with dietary recommendation, e.g., nutrient acquisition, digestion, and reverting back to emotional eating. The conscious effort required to eat properly was described as time-consuming and regimented. Daily meal planning was necessary to ensure foods high in protein and low in sugar were consumed. Participants reported a "rock feeling" would arise if foods were not chewed well. The "rock feeling" was associated with particular food textures (i.e. beef and pork). These findings add to current literature, as patient-reported struggles about dietary compliance have not been previously discussed in the care of the WLS patient. Awareness of these patient-perceived

struggles may spark revision in recommended practices to improve patient adherence to post-WLS nutrition. Clinicians can use this information in future education sessions that focus on nutrition.

Participants also described becoming complacent over time with conforming to the dietary WLS Rules after the one year WLS anniversary. Some participants who were closer to the 18-month mark post-WLS and experienced weight recidivism immediately, attributed it to not keeping exactly to the regimen of dietary restrictions. Nutritional noncompliance is the primary causative factor of weight recidivism (Karmali et al., 2013). A systematic review of 16 studies in bariatric surgery found that patients gradually consumed more calories or engaged in grazing behaviors over time (Karmali et al., 2013). This evidence supports what was revealed through study interviews, which was lax nutritional behaviors led to weight regain post-WLS. This result and evidence from previous studies in the literature (Karmali et al., 2013) encourages nutritional counseling to WLS patients on an ongoing basis to decrease the incidence of weight recidivism.

Theme 3: Lessons Learned and Considerations for Future Versions

Lessons Learned and Considerations for Future Versions, answered the final research question (RQ3) by describing factors that contributed to satisfaction with their WLS education experience. Three sub-themes—*My Impressions*, *What to Teach Me*, and *How to Teach Me*—provided insight in what made the experience satisfying to patients, how they defined WLS success, and recommendations on how to improve the education process for future patients.

My impressions. All patients were satisfied with the weight lost for their *New Me-Version 2.0*. The sub-theme revealed the amount of weight lost by the patient was the leading factor associated with high satisfaction ratings. Participants were pleased with their weight loss

no matter if they achieved their post-WLS weight goal. This result differed from Pfeil (2011) who stated adolescent bariatric patients had inflated WLS expectations with body image and weight loss postoperatively and were discontented if these lofty goals were not achieved. Peacock and Zizzi (2012) saw more weight loss in patients who had access to additional supportive services (i.e., counseling and support on nutrition and activity behaviors) than those who did not. Patients' comfort to staff responsiveness may be linked to achievement of the postoperative weight goal.

Other factors attributing to patient satisfaction were related to patient perceptions of how they were prepared and treated through the process. Retrospectively, study participants felt the education was provided in an appropriate amount of time and adequately prepared them for the WLS process. These impressions were akin to findings from Goldstein and Hadidi (2010) who evaluated patient learning with hospital satisfaction and reported those who scored high on the pre-surgery knowledge questionnaire also rated their hospital experience favorably post-WLS. Likewise, dissatisfaction was associated with low pre-surgery knowledge scores (Goldstein & Hadidi, 2010). In the current study, participants who self-reported not reading or using the "Bari-Bible" pre-WLS were less satisfied with the overall WLS experience than those who used the resources. There is value in reinforcing independent learning activities with the patient. Clinicians are urged to reinforce patient engagement during the pre-WLS process by discussing patient progress toward pre-WLS independent learning activities. This action also demonstrates center staff's interest and genuine concern in WLS patients' progress toward goals. Lastly, this intervention enables nurses to individualize the current care plan if necessary.

In the current study, patients who reported satisfaction with the overall WLS experience felt weight loss center staff were responsive and genuine in answering their questions and

concerns. Rochin (2012) similarly noted staff responsiveness as the primary component of patient satisfaction in bariatric and non-bariatric patient counterparts. The current study results identified staff responsiveness was a factor of patient satisfaction after WLS however it was not the leading factor (amount of weight loss). This finding suggests patient satisfaction factors may differ amongst bariatric patients undergoing WLS and non-bariatric patients. Identification of specialty- or population-specific differences in patient satisfaction stimulates the need for quantitative research to develop and measure the impact of bariatric specialty satisfaction variables on clinical outcomes. Identifying patient satisfaction elements and differences regarding the WLS patient experience ultimately may impact pay for performance measures in bariatric care.

In the current study, satisfied participants reported improved self-concept. This finding has not been linked to patient satisfaction in prior published work; however, it has been mentioned in studies measuring HRQOL. Improved self-concept is likely associated with weight loss; self-concept and weight loss likely contribute to body image and personal identity. Further research is needed to examine these relationships.

This qualitative descriptive study is the first to obtain a patients' perspective on how WLS success is defined. Determinants of WLS success were revealed through three factors: achieving weight loss goals, following program rules, and level of personal effort. The return of previous "bad" behaviors was the key factor participants linked to weight recidivism. The first two factors attributing to WLS success have been supported by previous research. WLS success was measured by excess weight loss (EWL) and BMI two years post-surgery (Coleman, Toussi, & Fujioka, 2010). Robinson et al. (2014) tested behaviors predicted to be most associated with WLS success in 274 gastric bypass patients approximately 3 years post-surgery and found

dietary adherence was the best predictor of positive WLS outcomes. Weight loss doubled when dietary adherence was combined with support group attendance (Robinson et al., 2014).

Interestingly, the level of patient participation was not discussed as a component of WLS success by Coleman et al. (2010) or Robinson et al. (2014). The inclusion of personal effort indicates that patients understand WLS is not a “quick fix” and requires lifelong commitment to maintain post-WLS outcomes. The addition of a patient participation factor helps explain that patients view WLS success within a longer timeframe than what has been measured previously in WLS studies. Future investigation of patient-perceived measures of WLS success should be conducted to facilitate development of quantitative patient satisfaction measures.

What to teach me. *What to Teach Me* offered suggestions from study participants to improve the process for future WLS patients. Participants expressed preferences for education early in the process so obese patients could make an informed decision about this drastic lifestyle change. Although content provided in education sessions was comprehensive, it lacked detail regarding the negative realities of WLS and rationale for adhering to WLS routines. Participants defined negative realities as WLS complications and nuisances. Clinicians are encouraged to educate future patients on all aspects of the WLS experience, including the negative realities, by using patient stories as teachable moments for future patients.

Offering discussions of real peoples’ past events could be powerful in demonstrating the importance of complying with WLS routines by helping others learn through real examples. Storytelling has been shown to be a powerful educational tool (Dahalstrom, 2014). Employing this technique in WLS education may help post-WLS patients learn from the mistakes of others and possibly be a prevention strategy for pre-WLS patients. Approaching discussions with stories from patients who have undergone WLS may help weight loss center programs assess

patient care delivery using quality improvement strategies such as error/gap or process map perspectives.

Participants hinted during interviews that WLS programs experienced did not speak to all types of members in the audience. Study participants recommended WLS education should encompass gender and age-related considerations. For example, psychosocial needs may need to be explored differently in a younger client, compared to an older person who has an established support system. Inclusion of masculine topics such as societal associations with large body size and sexuality were seen as areas to discuss. Participants suggested expanding weight loss center advertisements to include male WLS patient success stories. Overall, including more gender- and age-specific topics into education and support sessions may improve the level of patient engagement, as topics discussed will be more individualized and applicable to daily life.

Most participants favored the “Bari-Bible” as an invaluable resource post-WLS. Participants recommended that a quick start-up guide be given to orient the learner to content included in the large book. Additional areas to amend were simplifying the nutrition content by focusing on hydration and foods low in sugar, and removing Lap-Band® information, as it is not offered as a surgical treatment option at the facility. Incorporating these suggestions for changes in the written materials may help compliance rates, but only if the materials actually are used by WLS patients.

This is the first study known to obtain patient perceptions about how the WLS experience could be enhanced. WLS patients are experts in their experience. Obtaining feedback from such experts, and implementing their suggestions, may alleviate struggles WLS patients currently experience and lead to greater WLS success beyond average of two years (Coleman et al., 2010).

How to teach me. This sub-theme focused on the best setting and methods to facilitate WLS patient learning. The support group meeting was emphasized due to size, level of participation, and location availability. The massive size of the support group was found comforting to participants in the pre-WLS phase. In the post-WLS phase, however, participants stated the large group hindered sharing about their real struggles. Post-WLS patients voiced a desire for a smaller audience at support group, so sharing with those having the same experience could be done easily. Arigo et al. (2015) studied perceptions of a weight management program and noted support groups of 11-25 members obtained better results and participants reported being more satisfied. In the current study, participants remarked the nine month meeting was beneficial due to its small group audience of only post-WLS patients. Clinicians are urged to limit group size to promote patient engagement. The purpose, benefits and limitations of having support group with a mixed (pre-WLS and post-WLS) audience should be considered. One solution would be to separate mixed audiences at some point during the meeting to address member-specific questions or concerns.

The use of technology in WLS patient education has not yet been fully examined. Online pre-WLS education programs have just starting to be developed and evaluated in bariatric surgical care (Budak et al., 2008; Padwal et al., 2013). In comparing online with live pre-WLS classroom instruction, Budak et al. (2008) found a preference for online education due to the sensitive nature of weight-related issues. Padwal et al. (2013) is examining the effectiveness and cost efficiency in web-based, written and in-person education modalities. Designing, employing, and testing technology in WLS patient education is needed. Mobile technology continues to be used in daily life routines. The use of technology may enhance WLS educational programs and improve patient satisfaction by offering information at a time and setting conducive for the

learner. Future investigation is warranted to test the effectiveness of education delivery in a manner that enables a consistent message to be delivered, while also allowing for customization for the learner.

Study Limitations

Descriptions about the WLS experience were obtained from 11 participants who had received their education and WLS from the same weight loss center. This single site could be a study limitation because it explored the experience of only one center's approach to WLS education. In spite of this limitation, the approach provides more detail about one center's approach to WLS education than has previously been available and could serve as an opportunity for the center's program enhancements. Random sampling from the full population of WLS patients in the clinic also minimized the risk of over-sampling patients who were outspoken or extremely satisfied or dissatisfied with their experience. Sampling from one weight loss center exclusively enabled study results to be useful by informing the center of current strengths and need for improvement with educational programs offered.

Future studies should more clearly define the term "WLS education" to make it clearer to participants when answering questions about total amount of pre-WLS and post-WLS education sessions attended. In the current study, a wide variance of participant responses was evident as some participants' interpreted each encounter with weight loss center staff members as an educational opportunity.

A common limitation in bariatric surgery research is often gender equity with a preponderance of participants being women. Compared to other bariatric studies, this study included a higher percentage of male participants. Men make up 20% of WLS candidates in the United States (Birkmeyer & Gu, 2012; Coleman et al., 2014) and similar percentages are found

in bariatric studies. In this study, men represented 36.36% (n=4) of the study's final sample size. Farinholt, Carr, Chang and Ali (2013) noted that severely obese men with more comorbid disease often avoid WLS, although they could potentially have more to gain health-wise. Even though obesity is a problem for both genders, 80% of all WLS patients are women (Coleman et al., 2014). Surgical outcomes are the same for both genders (Kennedy-Dalby, Adam, Ammori, & Syed, 2014).

Newhook and colleagues (2015) explored gender differences of obese individuals contemplating and having WLS through a descriptive qualitative study, yet only 6 of the 27 participants were male. Results from the Newhook study showed men were not as bothered by the "big" body image associated to them as women were, and the decision to have WLS was primarily led by their wives. Men did not consider WLS as an option for them as WLS advertisements are geared toward women. Men were also concerned with not being able to eat "large, hearty meals as a man should" after WLS. Fear of co-workers noticing changes in eating habits were more concerning in men than women. Findings from the current study showed slight differences in gender preferences throughout the WLS experience and were related to how WLS advertisements and support group meeting topics are geared toward the female client. Participants also discussed how post-WLS patients manage a new distorted body image after dramatic weight loss, which highlights the gender-neutral viewpoint medical society uses – perhaps incorrectly – to treat WLS patients.

Lastly, the data was coded from a single perspective. The student researcher's individual biases and interpretations were minimized through documenting impressions and feelings as they occurred. Faculty mentors met with the student researcher to talk through possible first

impressions. Faculty mentors also reviewed the student researcher's analysis and advised if coding was questionable using the singular perspective.

Recommendations

Current WLS patient education practice recommendations are based on guidelines created by expert opinion (i.e., MBSAQIP standards). During the design phase of the current study, a literature synthesis of WLS patient education practices was performed. Gaps were found in what was known about patient education practices and in patient satisfaction with bariatric surgery. Results from this qualitative descriptive study provided a unique perspective from individuals who previously undergone WLS about the education they experienced and satisfaction with such experiences. Insights obtained from the 11 study participants may stimulate discussions amongst the bariatric specialty in regards to clinical practice, patient education, and future research and policy development.

Implications for Clinical Practice

Clarifying the purpose and intent of the six months of weigh-ins is needed. Participants view the weigh-ins less favorably than other parts of the education process because they feel program expectations are not being achieved. Offering clear guidelines at the beginning of the WLS experience with regards to the purpose of weigh-ins and restating the weigh-in purpose again throughout the experience would be helpful to keeping expectations clear between the patient and the center staff.

Clinicians also should clarify their expectations for appropriate use of the "Bari-Bible" from a pre- and post-WLS perspective. Center staff should ask patients for suggestions about best practices for using the book. Participant interviews revealed the book lessons were not completed by all pre-WLS but all participants did value the book as a great resource post-WLS.

Incorporating participant suggestions in future revisions of the “Bari-Bible” will make the book more user-friendly. Clarifying expectations of how to use the book and including patient suggestions may help increase use of the book during the pre-WLS time period.

Peer-led programs have been shown to be beneficial for WLS patients. Weight loss centers can harness the potential of this approach by inviting former WLS patients to serve as mentors for the WLS education and support process. For example, creating a shared leadership program similar to what is used by the Amputee Coalition of America may address potential concerns about patient expertise in leading a support group. Patients would be partners with healthcare providers to create a strong leadership model.

Weight loss centers are encouraged to continue seeking and offering new ways to employ technology in weight loss center programs. This study demonstrated vicarious learning occurs with use of technology; technology can be a worthwhile support intervention. Offering anonymity on computerized platforms may enhance active forms of client engagement in to program adherence and in discussing and problem solving the daily challenges experienced, while simultaneously reducing fear of judgment or stigma.

Awareness of patient-perceived daily challenges to adhering to the WLS rules allows clinicians to readily assess, reinforce or support concepts during patient interaction. It also promotes discussion of patient progress toward goal attainment through independent or group learning activities. For example, since nutrition is a significant factor in weight recidivism, clinicians may want to provide education sessions or encourage activities that focus on nutrition.

Implications for Patient Education

Healthcare staff working with patients who must complete a pre-WLS weight management program should consider asking patients about their self-reported accomplishments

and struggles experienced over the month between pre-op visits. This inquiry will provide information that can be compared to the scale data (bodyweight) and lead to changes in the patient's care plan. Incorporating these activities will support patients in identifying causative factors, assuming personal accountability and making necessary changes that will support adoption of healthier lifestyle behaviors.

Discharge teaching is an education experience offered to all patients who are preparing to leave the hospital. This routine teaching in the hospital setting should be included on the patient's WLS checklist as part of the WLS experience. Hospital nurses should be prepared to teach crucial immediate post-WLS concepts in short time periods to maximize the learning experience during the postoperative recovery period. Weight loss center administration should heighten hospital nurses awareness regarding the value of discharge teaching. Verbal reminders through staff meetings or continuing education programs that use simulation or role-play can emphasize the influence this teachable moment has on the patient's health.

Attending and participating in support group meetings has been shown to benefit patients in long-term adherence to lifestyle behaviors. Support group facilitators should create opportunities for patient cohorts, i.e., groupings by age or gender. Support groups may need to be limited in size to encourage interactions between group members. Group facilitators can try breakout sessions with preoperative and postoperative WLS patients in support group, rotating meeting sites, and offering online participation. These strategies may encourage all patients to participate, including those who currently do not join because they perceive lack of value, excessive work demands, or travel restrictions.

Implications for Future Research

Results from this study support the need for further research about education programs offered to WLS patients, including a preoperative and postoperative perspective. Exploratory studies can focus on an examination of the specific topics covered in WLS education programs, to determine the curricular variability among weight loss centers. In particular, research focused on post-WLS education, especially hospital discharge instructions, is needed. Cohort or quality improvement initiatives should be considered to monitor when and how nurses deliver education during the patient's acute care experience (hospitalization).

Interventional studies consisting of single and multiple weight loss centers that define and test a particular education program will help determine the best approaches for education programs to be delivered to patients. Interventional studies designed to focus on how programs are delivered (i.e.- synchronous or asynchronous online learning) and with what types of resource materials (i.e.- online resource websites, or printed pamphlets) can be tested for their effect on patient learning objectives or clinical outcomes. Research is needed to determine how much systematic or individualized education is needed to elicit desired WLS success. For example, standardized education could be provided through an online program, however individualized education could be supported through additional modules based on patient's response to quizzes taken in the standardized modules or information acquired at time of consultation. Studies that investigate how mobile technology can provide standardized education through a customizable platform are warranted to meet the demands of patient-centered healthcare.

The uses of social media platforms by participants in this study suggest further investigation of social media use is indicated. Studies could examine the impact of social media

on support group participation. For example, it would be interesting to test if support group participation is higher in groups that enable anonymous identities or are not-affiliated with weight loss centers. Examining if support group behaviors have a positive or iatrogenic effect on post-WLS behavior modification would be worthwhile. Research that also explores benefits of patient-driven support group activities, evaluates the relationship between level of client engagement and incidence of weight recidivism, and patient satisfaction will inform healthcare providers and payers to improve the WLS experience for future patient consumers.

Additional studies are needed to examine the impact childhood obesity; gender and age have on patient engagement, behavior modifications and overall WLS success as participants described patient perspectives vary and may impact clinical outcomes. The information gained will improve education and supportive services provided by aiding tool development for weight loss centers to assess, monitor, or evaluate clinical outcomes for bariatric surgery and its subcultures. Investigation of patient-perceived measures (such as self-concept) of WLS success can assist with the development of proper patient satisfaction tools.

Implications for Policy Development

Findings from this study may influence revisions to MBSAQIP standard 5.1, which are based on expert opinion. Noting not only what specific content is taught to patients but also including details of exactly what about the topic is discussed may be necessary to standardize teaching. The review of literature and results from this study supports small groups to facilitate active patient participation. Additional requirements may be needed to emphasize the importance of teaching patients at hospital discharge.

Inclusion of clinical outcomes influenced by education and support programs may be called for to identify trends across multiple center programs. Linking education processes to

clinical outcomes may influence what healthcare payers will cover during the patient's WLS experience. Identification of bariatric-specific patient satisfaction indicators has the potential to impact pay for performance measures that drive financial reimbursement for care delivered.

Conclusions

Patient perceptions about WLS patient education practices and satisfaction with such services have been largely missing from the literature. Findings from the current study will help fill that previously identified knowledge gap. The structure and course offerings of WLS education and support sessions were vividly illustrated in *Programming and Tools* from a post-WLS perspective through detailed accounts about content, activities and ways programs were delivered in bariatric surgery education (RQ1 and RQ2). Patient attributes that supported learning were recognized as the level of client engagement was discussed through participant interviews. Participants described their overall WLS experience (RQ1), as they reflected on what they were like before and after WLS in *Updates and Upgrades* through their experienced transformations and ongoing challenges. Factors contributing to patient satisfaction and recommendations to improve the WLS education experience were answered in *Lessons Learned and Considerations for Future Versions* as participants shared what was helpful in their journey and what could be emphasized for future WLS patients.

Findings from this study offer a patient perspective about the WLS experience through the concept of discovering *A New Me Version 2.0*. The overall WLS experience typically begins with one event that stimulates obese patients to visit the weight loss center to consider WLS. The complexity of the WLS experience is realized as participants are exposed to variations of formalized education offered by the center based on their healthcare insurance requirements. Participant descriptions show education attempts to deliver a consistent message through

primarily structured large- and small-group sessions. However, WLS patients require more than a “one size fits all” type of education, as healthcare insurance requirements and personal patient needs differ. Personalized education may need to explore why obesity occurs, how new healthy habits are developed, and sticking to behavior changes for a lifetime after WLS. The use of various types of resource materials and support programs can support individualizing learning throughout the WLS patient experience. Weight loss surgery success is dependent upon client engagement in the educational process, commitment to the necessary lifestyle modifications post-WLS, and the amount of weight loss post-WLS. Most participants are satisfied with updated versions of themselves. Participants attribute satisfaction to the care received during their experiences from the center staff. Interview findings provide insight and recommendations to better the experience for future patients.

This study provides insight on WLS patient education practices and patient satisfaction with those services from a patient perspective. Obtaining feedback from WLS patients who have lived through the experience can inform weight management centers and elicit program enhancements. Recommendations that emerged through data analysis are applicable to patient care, patient education, educational research and policy development in the bariatric surgery specialty. Results from this study demonstrate healthcare providers can learn more about this phenomenon from former patients. Listening to their trials can lead to program enhancements that may positively effect clinical outcomes.

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Authors / Topics	Padawal et al (2013)	Eaton et al (2012)	Benson et al (2010)	Budak et al (2008)	Taddeucci et al (2007)	Madan & Tichansky (2005)	Giusti et al (2004)	Davidson & Callery (2000)	Horchner & Tuinebreijer (1999)
Bariatric Center Program requirements reviewed	--	X	--	--	X	X	--	X	--
Insurance approval process	--	X	--	--	X	--	--	--	--
Lifestyle Assessment (record eating, activity and emotional patterns)	X	--	--	--	--	--	--	--	--
Problem solving and relapse prevention	X	--	X	--	--	--	--	--	--
Nutritional considerations Preoperative (lower calories)	X	--	X	--	X	X	X	--	X
Nutritional considerations Postoperative (meal patterns, planning, portion sizes)	X	--	X	--	X	X	X	--	--
Exercise (benefits and barriers, levels of activity, individual goals set, strategies given)	X	--	X	--	--	X	--	--	--
Emotional eating (managing hunger and appetite and response to social pressures)	X	--	X	--	--	--	--	--	--
Psychological Implications (social expectations and stress management)	X	--	X	--	--	--	X	--	--

Authors / Topics	Padawal et al (2013)	Eaton et al (2012)	Benson et al (2010)	Budak et al (2008)	Taddeucci et al (2007)	Madan & Tichansky (2005)	Giusti et al (2004)	Davidson & Callery (2000)	Horchner & Tuinebreijer (1999)
Support group meetings	--	--	--	--	--	X	--	--	--
Program length (hours)	25	*	*	*	2.25	*	6	6	0.75
Time period education was delivered before WLS	Over 3-6 months	*	*	*	*	*	*	*	One week before
Key: X=element contained; --not present; *not specified outside of preoperative period SP=Surgery Preparation; I=Informational; +ARCC model level of evidence									

Appendix B

Patient Satisfaction Studies

Authors/ Topics	Fischer et al. (2014)	Peacock & Zizzi (2012)	Rochin (2012)	Pfeil (2011)	Reavey (2011)	Goldstein & Hadidi (2010)
Level of Evidence ⁺	IV	IV	n/a	I	I	IV
Study design	Cohort, prospective	Cohort, retrospective	Quality Improvement Project	Review	Systematic Review	Cohort, prospective
Sample (<i>n</i>)	248	380	--	--	132	27
Patient Satisfaction focus	Pre-WLS patient expectations	Post-WLS patient satisfaction with behavior services	Patient satisfaction differences between WLS and non-WLS patients	Adolescent WLS patients	WLS Patient-reported outcome measures for plastic surgery	Pre-WLS education and postoperative hospital satisfaction
Key: --information unknown/data not present; ⁺ ARCC model level of evidence						

Appendix C

Letter of Invitation to Participate in a Study on WLS

May 1, 2015

Dear Patient,

Since you had weight loss surgery, **you are invited to participate in a research study**. If you decide to participate, you will be asked to share your weight loss surgery experiences. Your study participation can help healthcare workers understand more about education practices and satisfaction within weight loss surgery. It is hoped that the information collected will help the researcher learn more about patient education practices and satisfaction associated with the in weight loss surgery experience.

You may be able to help if you:

- are 18 years of age or older,
- had weight loss surgery 12-18 months ago,
- do not have a living partner who also had weight loss surgery,
- are able to speak and understand English, and
- are ready to talk about your WLS experience(s).

There are no known risks of study participation. If you feel uncomfortable at any time you may stop participating. By joining this study, you may benefit in understanding your weight loss surgery experience better.

If you agree to join the study, you will be asked to meet with the researcher for about one hour. This meeting will be spoken in English and will be audio recorded. The study will begin May 2015 and end in about 12 months. The researcher will meet with you at a mutually agreed upon place. Information you share will be kept private. Your responses will be recorded using of a made-up name (pseudonym). Information will not be linked to your true identity. Information gathered in this study will be presented all together. Private information will be kept in locked files, or on a password-protected electronic files.

If you are interested in joining this study, please call (610)533-4252 or email grollerk@moravian.edu. The researcher will answer your questions and confirm your eligibility. A consent form will be reviewed prior to scheduling the meeting. The consent form will need to be signed at the meeting.

Thank you for your time and consideration.
Sincerely,

Karen Groller, MSN, RN-BC, CMSRN (Researcher)
Doctoral Candidate, University of Kansas School of Nursing
Instructor of Nursing, Moravian College

This study has received approval from the St. Luke's Hospital and Health Network Institutional Review Board and the Human Subjects Committee at the University of Kansas Medical Center (SLHN2015-37). If you have any questions about your rights as a research subject, or if you want to talk with someone who is not involved in the study, you may call the St. Luke's University Hospital and Health Network Institutional Review Board at (484)526-4669. You may also write the SLUHHN Institutional Review Board, attention: Manny Changalis, at 801 Ostrum Street, Bethlehem, PA 18015.

Appendix D

Script for Recruitment Phone Call

<i>Scenario-calling potential participant</i>	<i>Hello I am Karen Groller. May I please speak to (Mr/s)___?</i>
<i>When desired person gets on the phone</i>	<p><i>Hello (Mr/s)____. I am Karen Groller from Moravian College. I am calling you about a study I am doing with St. Luke's Weight Management Center.</i></p> <p><i>Did you receive a letter in the mail about this study?</i></p> <p><i>Joining the research study is completely voluntary. If it is alright with you, I'd like to take about 10 minutes to explain the basis idea of the study and see if you would be interested in taking part. Is now a good time?</i></p> <p><i>*If yes, continue.</i></p> <p><i>*If no with can you call back later-Is there another time I can call you back? Great, I will call you then on____(date/time). Thank you.</i></p> <p><i>*If no with immediate refusal to participate-Ok, Thank you for your time.</i></p> <p>END CALL</p>
<i>If desired person is not available</i>	<p><i>Is there a better day and time to reach (Mr/s)___?</i></p> <p><i>Note days and times. _____</i></p> <p><i>Thank you. I will try to call back then.</i></p>
<i>Scenario-Describing project</i>	
	<p><i>I appreciate you time. First I'd like to tell you more about the study. As I explain the basic idea of the study please feel free to stop me at anytime with questions. As I said the research study is looking for patients to share their weight loss surgery experiences. If you decide to join this study you will help healthcare workers understand more about WLS patient education experience, satisfaction with education provided as well as with the total WLS experience.</i></p> <p>Give basic explanation of what study participation would entail, including time commitment and essential procedures.</p> <p><i>Now that you have a basic idea of what joining the study would look like, what questions do you have?</i></p>
<i>Patient not interested</i>	<i>Ok, thank you for your time. END CALL</i>
<i>Patient interested</i>	<p><i>I have several really quick questions I'd like to ask you that will help me figure out if the study would be an option for you.</i></p> <p>REVIEW ELIGIBILITY CRITERIA FOR STUDY (refer to Demographic sheet-section A)</p> <p>*if participant meets study criteria-confirm contact information and schedule interview-Great. Thank you for helping with this study. I look forward to meeting you on _____(date/time).</p> <p>*if participant does not meet study criteria-Thank you for taking the time to speak with me today. Unfortunately, you are unable to help with this study due to your responses. Thank you for your time.</p>

Appendix E
Demographic Sheet

SECTION A: Completed by the student researcher prior to scheduling the interview.

Interview Case Number: _____ Date of Contact: _____

Gender: M F

Age: _____ (> 18 years*)

When did you have your weight loss surgery? _____

(WLS must be within past 12-18 months*)

Do you live with a (partner/significant other/family member) who also had WLS?

 Yes No*

Willing to share his/her WLS experience: Yes* No

Participant speak and understand English: Yes* No

 English first language: Yes No, first language learned _____

*Participants must meet all inclusion criteria (items denoted with an *) before an interview is scheduled.*

Enroll in Study: () Yes, meets inclusion criteria () No, not eligible

Participant Contact Information:

 Name _____

 Phone _____

 Email _____

Interview Information:

 Date _____

 Time _____

 Location _____

Appendix F

Semi-Structured Interview Guide

Please share with me what you remember about your WLS experience.

- (+) Response: So it sounds like you were (very) satisfied, can you tell me what helped you get to that (feel that way)?
- (-) Response: So it sounds like you were not satisfied, what could have made it a positive experience?

Think about the preparation you received for surgery.

- What ways were you prepared?
- Were there things you would like to know that they didn't tell you?
- Where did you find answers about those things?

Tell me about your surgery. How did that go?

- What went as expected and/or not so well?

So tell me about the education you received before and after WLS.

- Probe (if needed) on:
 - What kind of education did you receive? When? (timing and delivery)
 - What did the education sessions look like? What was discussed during the sessions? (curriculum)
 - How was the education provided? How were you taught the WLS information? Who taught you? (teaching methods, educators)
 - Did you search for information on your own? Where did you find this information?
- What was helpful to you? What information was not helpful? Why?

If you were able to change the WLS experience for future patients what would you change?

- Consider communication, setting, care delivery, timing, priorities, etc.

If you were in charge of the way information is given to future WLS patients how would you do it?

- Would there be anything you would do more or less of?

Overall how satisfied were you with the experience of WLS education?

Note for each question on this guide I may use the following probes to gain information of different topics by participants.

- Now you mentioned.... tell me more about that
- Why? Or Why not?

Appendix G

Informed Consent Form

RESEARCH CONSENT FORM**PRINCIPAL INVESTIGATOR:** Karen Groller MSN, RN-BC, CMSRN**TITLE:** Patient Descriptions about Weight Loss Surgery Education Practices**TELEPHONE:** (610)533-4252**IRB CONTROL #:** SLHN2015-37**SPONSOR:** Maher El Chaar MD, FACS, FASMBS

You are being asked to join a research study. You are being asked to take part in this study because you have had weight loss surgery (WLS). You do not have to participate in this research study. The main purpose of research is to create new knowledge for the benefit of future patients and society in general. Research studies may or may not benefit the people who participate.

Research is voluntary, and you may change your mind at any time. There will be no penalty to you if you decide not to participate, or if you start the study and decide to stop early. Either way, you can still get medical care and services or future employment at St. Luke's University Hospital and Health Network (SLUHN) or the University of Kansas Medical Center (KUMC).

This consent form explains what you have to do if you are in the study. It also describes the possible risks and benefits. Please read the form carefully and ask as many questions as you need to, before deciding about this research.

You can ask questions now or anytime during the study. The researcher will tell you if she receives any new information that might cause you to change your mind about participating.

This research study will take place at St. Luke's Hospital and Health Network (SLUHHN) with Karen Diane Groller, principal investigator and doctoral student at the University of Kansas Medical Center, as the researcher. About 10-20 people will be in the study.

BACKGROUND**PURPOSE**

By doing this study, the researcher hopes to learn from patients about their WLS experience, specifically about the education received before and after surgery, and recommendations to improve the experience for future patients.

PROCEDURES

If you are eligible and decide to participate in this study, your participation will consist of an interview lasting approximately one hour and possibly another hour for a follow-up contact. Your participation will involve:

- An interview with the researcher at a mutually agreed upon time and location. During the interview you will be asked questions about your WLS experience, the education received before and after surgery, and satisfaction with your WLS experience.

- A follow-up interview may be asked of you to review information you previously provided or seek additional information.
- Interviews will be audio recorded by the researcher and transcribed by a medical transcriptionist. Your true identity will be held in confidence by using a fictitious name (pseudonym).
- Audio recordings will be destroyed after the analysis of the data is completed.
- Transcriptions from each recorded interview will be maintained in a secured file with the researcher for 10 years as required by the research review boards and then destroyed.
- You will be asked a short series of questions regarding your demographic information such as gender, age, ethnic background, date/timeframe of WLS, and estimated time spent in weight loss surgery education sessions.

RISKS

You may feel uncomfortable discussing your experiences or become embarrassed by some of the questions the researcher asks you. If at any point you are not comfortable or embarrassed you are free not to answer any questions. You may skip a question or stop participating in the study all together.

The treatment of your information will be kept confidential. You are free to give only the information you choose. There is a small risk that if people other than the researcher obtained your information they could misuse it. In order to minimize these risks, your information will be kept confidential as noted in this form. There may be other risks of the study that are not yet known.

NEW FINDINGS STATEMENT

You will be told about anything new that might change your decision to be in this study. You may be asked to sign a new consent form if this occurs.

BENEFITS

You may or may not directly benefit from participating in this research study. The researcher hopes that the information from this research study may be helpful in the understanding and improvement of the WLS experience, specifically the education, for future patients.

ALTERNATIVES

Participation in this study is voluntary. Deciding not to participate will have no effect on your relationship with the researcher or services you receive at St. Luke's University Hospital Network (SLUHN) and/or the University of Kansas Medical Center. Not participating will also have no effect on current or future employment with SLUHN and/or KUMC.

HIPAA AUTHORIZATION: PROTECTION OF PRIVACY AND CONFIDENTIALITY (IDENTITY)

Federal regulations require that certain information about individuals be kept confidential. This information is called "protected health information" (PHI). PHI includes information that identifies you personally such as name, address and social security number, or any medical or mental health record, or test result, that may have this sort of information on it. The laws state

that you may see and review your SLUHHN medical records at any time. However, in a research study, you may not see the study results or other data about the study until after the research is completed unless the study doctor decides otherwise.

If you join this study, the following individuals or entities may have access to your PHI and by law must protect it. These include investigators listed on this consent form and other personnel of SLUHHN involved in this specific study, including the Institutional Review Board (IRB), and your health insurance company (if necessary for billing for standard medical care). It may also be provided to other people or groups at the University of Kansas Medical Center (KUMC).

The following information will be provided to the study sponsor and other entities noted above:

- Aggregate data will be shared through common themes and codes. Participant quotes exemplifying themes and codes will be used and addressed by pseudonym.
- Demographic data such as gender, race, age, employment status, and timeframe since WLS procedure will be used to describe participants enrolled in the study.
- It may be necessary to share the recording of the participant's interview to obtain verbatim transcription and correct interpretation of the collected data. It may also be necessary for paper copies of the participant's interview to be shared amongst the research team for correct data analysis.

If you develop an illness or injury during the course of your participation in this study, other PHI about treating and following the condition may be generated and disclosed as it relates to this study. Your PHI may be used until the end of the research study.

You may quit the study and revoke permission to use and share your PHI at any time by contacting the principal investigator, in writing, at: Karen Diane Groller, Moravian College Nursing Department, 1200 Main St., Bethlehem, PA 18018 or through e-mail at: grollerk@moravian.edu. If you quit the study further collection of PHI will be stopped, but PHI that has already been collected may still be used.

The information from this study may be published in scientific journals or presented at scientific meetings but you will not be personally identified in these publications and presentations.

After your information is shared with others, like the sponsor, it may no longer be protected by the Privacy Rule. The people who receive this information could use it in ways not discussed in this form and could disclose it to others. The sponsor will use and disclose information about you only for research or regulatory purposes or to prepare research publications. In addition to using it for this study, the sponsor may reanalyze the study data at a later date or combine your information with information from other studies for research purposes not directly related to this study. When using the information in these ways, the sponsor may share it with other researchers, its business partners, or companies hired to provide research-related services. However, your name will never appear in any sponsor forms, reports, databases, or publications, or in any future disclosures by the sponsor.

COSTS

There is no cost for being in the study.

PAYMENT TO PARTICIPANTS

There is no payment for this study.

IN THE EVENT OF INJURY

If you have a serious side effect or other problem during this study, you should immediately contact Karen Groller (Principal Investigator) at (610)-533-4252. A member of the research team will decide what type of treatment, if any, is best for you at that time.

If you have a bodily injury as a result of participating in this study, treatment will be provided for you at the usual charge. Treatment may include first aid, emergency care and follow-up care, as needed. Claims will be submitted to your health insurance policy, your government program, or other third party, but you will be billed for the costs that are not covered by the insurance. You do not give up any legal rights by verbally agreeing to participate in the study.

INSTITUTIONAL DISCLAIMER STATEMENT

If you think you have been harmed as a result of participating in research at SLUHHN, you should contact Manny Changalis, IRB Vice Chairman, by mail at 801 Ostrum St., Bethlehem, PA 18018 or by phone (484)526-4669. Under certain conditions, Kansas state law or the Kansas Tort Claims Act may allow for payment to persons who are injured in research at KUMC.

CONFIDENTIALITY

The researchers will protect your information, as required by law. Absolute confidentiality cannot be guaranteed because persons outside the study team may need to look at your study records. The researcher may publish the results of the study. If she does, she will only discuss group results. Your name will not be used in any publication or presentation about the study.

PARTICIPANT RIGHTS AND WITHDRAWAL FROM THE STUDY

You may stop being in the study at any time. Your decision to stop will not prevent you from getting treatment, services or employment at SLUHHN or KUMC. The entire study may be discontinued for any reason without your consent by the investigator conducting the study.

To discontinue participation in the study please contact:

Contact information for questions about your rights as a research participant	St. Luke's Hospital and Health Network Institutional Review Board	<u>Address:</u> Manny Changalis, IRB Vice Chairman 801 Ostrum St, Bethlehem, PA 18015 <u>Phone:</u> (484)526-4669
For questions, concerns or complaints about the research, or if you suspect a research-related injury	The Principal Investigator, Karen Groller	<u>Address:</u> Karen Groller, Principal Investigator Moravian College Nursing Department 1200 Main St., Bethlehem, PA 18018 <u>Phone:</u> (610)533-4252 <u>Email:</u> grollerk@moravian.edu

CONSENT

Karen Diane Groller has given you information about this research study. She has explained what will be done and how long it will take. She explained any inconvenience, discomfort or risks that may be experienced during this study. By signing this form, you say that you freely and voluntarily consent to participate in this research study. You have read the information and had your questions answered.

You will be given a signed copy of the consent form to keep for your records.

Print Participant's Name

Signature of Participant

Time

Date

Print Name of Person Obtaining Consent

Signature of Person Obtaining Consent

Date

Appendix H

Study Log

Case #	Participant pseudonym	Interview Date/ Time	Interview Location	Interview Length	Artifacts	Issues Encountered (date/issue)
1	Misty	5/29/2015 1000	College library	1:56:15	Cigna Portion Plate; Bariatric Surgery Card	none
2	Jenna	6/1/2015 1800	Participant's home	0:49:56	BariBook	none
3	Sara	5/29/2015 1400	College library	1:47:33	none	none
4	Nick	6/2/2015 0900	College library	1:21:58	none	none
5	Breanna	6/14/2015 1700	Participant's home	1:25:07	bariatric card; protein hot chocolate recipe	7.5.2015- transcription as was not completed as verbatim by transcriptionist. Redone.
6	Ann	6/16/2015 1800	College Office	1:23:45	none	
7	Tiffany	6/11/2015 1000	College library	0:55:45	none	Re: demographic form-hours of education pre-WLS are zero yet 38 hours of education was identified and discussed by participant during interview as pre-WLS education.

Case #	Participant pseudonym	Interview Date/ Time	Interview Location	Interview Length	Artifacts	Issues Encountered (date/issue)
8	Hunter	6/23/2015 1000	Public library	1:25:50	none	none
9	Roberto	6/29/2015 1800	College office	1:47:12	Mobile apps- Journal app, MyFitnessPal, MyJournal (no spaces), Bariatric Center app and webpage	6/29-edu sessions pre-post WLS are not counted as events but rather hours
10	Gardena	6/26/2015- 1400	College office	1:24:05	none	none
11	Rocky	8/5/2015- 1330	Participant's home	1:02:32	looked at before and after pictures	none

Appendix I

Description and Exemplars of Themes and Subthemes Comprising *A New Me-Version 2.0***THEME 1: Programming and Tools**

<i>Subtheme</i>	<i>Description</i>	<i>Examples</i>
Catalyst for change	WLS is a <i>tool</i> that provides an opportunity to be <i>accountable</i> in rewiring their life with lifestyle changes	<p>“just kind of learning to take control, take responsibility and acknowledge that my weight is something that, you know.....that I can control. And needing the tools, and that’s what weight loss surgery is. It’s a tool. It’s not an instant fix, and I know that everybody probably says that to you. And it truly is. You have to make the life changes. Because otherwise it doesn’t work.”—Sarah</p> <p>“That it was not...it wasn’t a magic bullet. That it was something that was going to be an ongoing process. That ah basically...I kind of...I guess my husband thinks of it as, he’s a techy, so he said it’s like you’re rewiring your life. And to me, that’s a really good way to describe what happened.”—Sarah</p> <p>“you can’t take a 310 pound person and say well just exercise, when you barely can breathe doing anything and you have no motivation. You’re exhausted. You’re just defeated before you even start. So I empathize with people that are heavy that just feel...-where do I start? because they can’t even...they want to exercise, they want to do right, but they just don’t...don’t have the tools.” Gardena</p> <p>“If you just have surgery and you don't do the rest of it, you might as well not have the surgery which means you're going to probably die. Unless you want to have the surgery and then recognize that that's not working for you either. I mean, that's going to have an effect. It's just, you know, if you really want to make a radical change, you have to make the radical change and do the other things”—Nick</p> <p>“is a tool to get you on track to change your lifestyle. But my mind is going...I’m trying to get it back, was going back to my old self of thinking oh I could two of these...two...like last week I was in Indiana. I said oh I can have two hot dogs, guess what, I ate a half, I couldn’t eat no more, but I ordered two, because I’m thinking like I ate before. Before I could eat four hot dogs, give me two hot dogs. I ate a half of the hot dog, I was done.”—Rocky</p>

<i>Subtheme</i>	<i>Description</i>	<i>Examples</i>
WLS Education programs	<p>Introduces preoperative education programs by describing how content was taught and delivered to participants by educators.</p> <ul style="list-style-type: none"> • Informational session • Consultation • Six months of weigh-ins • Surgery preparation class 	<p><u>Informational session:</u> “session to give you all the information of, what happens, different kinds of surgery, exactly why they do it, and so on and so forth. So just got all that information. Had them check my insurance...and started the process.” –Jenna</p> <p><u>Consultation:</u> “at the very first meeting, the consultation. I got the book.” –Misty</p> <p><u>Six months of weigh-ins:</u> “I needed to have six months of education before I could have the surgery, according to my insurance...interestingly enough, that meant coming in and getting weighed...Nobody talked to me, nobody said anything. I just got weighed. I thought, wow. [LAUGHTER] But, I figured, I mean, I figured that’s the procedure. But also, those are the times when I felt like the counseling would have been good. You know, to hear. Maybe we should talk about something, you know. But there was really no counseling and it was just really weighing in...there were times in the six months leading up to it that I was struggling...I would go down the first month and I would be up, and then I was up again, and then I was down. They said, oh, you’re going to be fine. You got six months and you only have to lose 13 pounds.” – Ann</p> <p>“my insurance required six months of weigh-ins and counseling and talking to somebody and it's to make sure that you are serious about it, which I think is a good idea for anyone and people who are a little more obese than I would, they need to lose, to prove it, a certain amount of weight, but I don't know if I should say that, but if I would have lost then I might not have qualified. –Breanna</p> <p><u>Surgery preparation class:</u> “they actually sat down with us a final time. Went over the different procedures. Each individual person with the...and they went over the specifics more of each procedure and the dynamics of what to expect. And we checked- Into the hospital for the surgery. Because that was where I learned the whole the procedure...that was very eye opening *laughing* and educational as far as the actual procedure and the specifics of exactly” –Roberto</p>

<i>Subtheme</i>	<i>Description</i>	<i>Examples</i>
WLS Support programs	<p>Introduces support programs by describing how content was taught and delivered by educators according to operative stage.</p> <ul style="list-style-type: none"> • Support group meeting (pre-/postoperative stage) • Pep rally (postoperative stage) • Nine month meeting (postoperative stage) 	<p><u>Support group:</u> “‘And you heard a lot of, well the before and after pictures and you try to pick people out and they tell you, you know, what to expect and where it is.’” –Misty</p> <p>“‘it really is motivational to be there, especially if you're somebody starting to gain weight again. I think the idea of the support group is to keep the weight off.’” –Breanna</p> <p><u>Pep Rallies:</u> “‘This is, this is the way it is, and then this is the reality, you know. This is really how it should be, but then this is the reality of, you know...it’s a lot harder than it looks... I think they should be told about it (Pep Rally) and saying, like, this is real people. Again, that mileage may vary and you really should know what the mileage could be. You know, it’s not just the highway. It’s the city driving.’” –Sarah</p> <p><u>Nine month meeting:</u> “‘they (center) have like an anniversary where all the people who had the surgery the same month you did they all get together.’” –Gardena</p>
Resource Materials	<p>Describes types of resources given and used by patients throughout their WLS journey.</p> <p><u>Center materials:</u> Pamphlets Bari-Bible (<i>My Weight is Over: What You Need to Know About Bariatric Surgery</i>) Social media (Facebook® and forum)</p>	<p><u>Center Materials:</u> “‘I try to use it as a guideline, but I don't use any of it. Matter of fact I threw away my book.’” –Misty</p> <p>“‘there’s a part in the book about that stuff (emotional eating). Nobody really ever went over it. It was, like, read this on your own.’” –Ann</p> <p>“‘The book was, was almost like the bible for me early on. It is one of the reasons why I was able to organize the information in my way cause I can read that. I actually think they should publish it. It was literally that good.’” –Nick</p>

<i>Subtheme</i>	<i>Description</i>	<i>Examples</i>
Resource Materials (continued)	<p><u>Individual materials:</u></p> <p>Computerized internet searches- google®</p> <p>Mobile Apps- Fitbit®, Pinterest®, MyJournal®</p> <p>Social Media (Facebook®)</p> <p>Portion plate</p>	<p><u>Individual Materials:</u></p> <p>“My girlfriend gave me a plate that actually has lines from Cigna, that designates and it has pictures of what the portions should be...I use it everyday. I think it's the greatest thing.”—Misty</p> <p>“But every time I make a journal entry, the first thing I'll do before I start that is I'll step on the scale and see what my weight is and I'll start the journal entry with what my current weight is and what I'm feeling because of it, or where I'm at with it, and what my feelings are.”—Roberto</p>
Client Engagement	<p>Explains <i>level of patient participation</i> in the WLS learning experience.</p> <ul style="list-style-type: none"> • WLS process • Resource materials • Education sessions • Support group • Social media 	<p><u>WLS process:</u></p> <p>“I invested the time and the research up front, putting forth a plan, and looking at Okay, how easy can we make it?”—Nick</p> <p><u>Resource materials:</u></p> <p>“I did all the lessons in the book.”—Jenna</p> <p>“Um, that book is intimidating. There's a lot of information and a lot of things in there. I didn't do half the lessons. I just couldn't, it's just too much information to absorb on your own. And I, I just, I didn't do it.”—Misty</p> <p><u>Education sessions:</u></p> <p>“I think as a coach she (Terri) did a great job but the group sessions, I'm not a group session guy.”—Nick</p> <p><u>Support group:</u></p> <p>“I'd like to get more involved, I just...I don't know what's holding me back. Because you can be a greeter and stuff like that. So I don't know what's holding me back.”—Tiffany</p> <p><u>Social Media:</u></p> <p>“you can call the office and speak to anybody at any time. If you want to speak to the, you know, to the psychologist, you can speak to them.”—Gardena</p>

THEME 2: Updates and Upgrades

<i>Subtheme</i>	<i>Description</i>	<i>Examples</i>
Holistic Transformations	<i>Self-reflections</i> on life <i>before and after WLS</i> are given in <i>physical, mental</i> and <i>social</i> contexts.	<p><u>Physical:</u> “certain little things that you don’t realize until you’ve lost the weight that you can do that you couldn’t do.”—Tiffany</p> <p>“you’re not just turning your body from a size 28 to a size 14. It’s like... remodeling yourself. Like, you know, the 2.0. You know, like, this is the big me and this is the small me.”—Sarah</p> <p>“I was on a mild blood pressure and a mild cholesterol pill. I’m totally off of all that stuff and my numbers are good and so on and so forth.”—Jenna</p> <p><u>Mental:</u> “even though you’ve had the surgery, your desire for food never goes away. You just have to learn to deal with it...a different way.” Gardena</p> <p>“I go to the gym. I go, I try to refocus myself. Um, it's difficult, it's difficult, because I can see bad habits and I try not to give in to the bad habits. Especially if I'm upset, I go for Swedish Fish, or I'll go for, go for M&M's ...” Misty</p> <p>“It is this journey to self-love, to self-respect...it’s about yourself. Finding who you are and taking proud ownership of it.”—Sarah</p> <p>“I eat because I love food. I LOVE food, you know what I’m saying and I eat sometimes because of boredom. If I’m sitting here doing nothing, oh I’m going to have...popcorn.”—Rocky</p> <p>“even to- today I get...a little discomfort feeling, but not...not like it was before. You don’t have that rock feeling now. You get a feeling (sigh), it’s enough. It’s a stop signal, you’re done. You’ve got to... pay attention to how you feel while you’re eating, you can’t just shovel it in.”—Hunter</p> <p><u>Social:</u> “where people who knew me thin, I found myself not going to things cause I didn't want them to see me again fat. Like, the guy I got back with, he knew me thin...he called...and asked me out to dinner I don't think I would have met him if I were still heavy.”—Breanna</p>

<i>Subtheme</i>	<i>Description</i>	<i>Examples</i>
Establishing Habits	<p>WLS rules to follow</p> <p>Daily struggles shared in establishing habitual routines from each operative phase (forgiveness for mistakes)</p>	<p>WLS rules: “The portions, the size of your meal, your protein. You’re not eating...it’s called a 30/60 rule, you can’t drink 30 minutes before or 60 minutes after you eat and that’s forever, the rest of your life. Just foods that you shouldn’t...carbonated beverages are a no.”—Gardena</p> <p>“we’re going to decrease the size of this pouch, but if you don’t change your behaviors, the size of the pouch today is going to be a big pouch tomorrow if you don’t change the behaviors, so I get, I got that.”—Nick</p> <p>Daily struggles: “It’s hard work...it’s not something that you just put under the carpet, you gotta work at it every day.”—Tiffany</p> <p>“Even today, those habits are hard when you see something you know you like...it’s a constant struggle every day.” —Hunter</p>

THEME 3: Lessons Learned and Considerations for Future Versions

<i>Subtheme</i>	<i>Description</i>	<i>Examples</i>
My Impressions	<p>Remarks of satisfaction or dissatisfaction are shared. WLS success and factors contributing to WLS patient satisfaction is described.</p>	<p>“I couldn’t be more satisfied with where I’m at...Very satisfied with it (WLS education experience). Looking back now I would like to have had some of the stuff a little bit sooner in the process. But I don’t know if that’s something that necessarily is the fault of the staff, or the process, or just something that I was missing in the beginning. But seeing where I’m at now and continuing with reading over that book and-and everything else, I just feel like some of it might have been missing before the surgery that I wish I would have had.”—Roberto</p> <p>“A lot of it depends on how you define success. And you know, by the numbers, I’m not a, quote-unquote success, because I’ve only lost X percentage of my body weight, where, I’m supposed to lose this. I’m probably at 50 or 60% of what I should have lost. But, oh, my God. My life is so much better now. You know?”—Sarah</p>

<i>Subtheme</i>	<i>Description</i>	<i>Examples</i>
What to teach me	Provides <i>patient perspective of important content to teach and long-term learning needs</i>	<p>“I don’t know what they could have cut out that would not have been important. For you to make your decision and get prepared. It is an abrupt lifestyle change. Very different from the grazing, eating, no exercise, all the things that I...it’s a big change.”—Gardena</p> <p>“I don't think it’s so much what they didn't tell me...I think it can be a lot simpler. I think a lot of people get overwhelmed, I think a lot of people are trying, I mean I know people that were talking in those meetings, and in these the ones that are successful, they're saying I constantly read labels, and it's like, "Oh my God, I mean, it's like, their lives now ... " That's one of the reasons why I wanted to take some time and think about this.”—Nick</p> <p>“Interestingly enough, that was six months before I had surgery...that dietary stuff. There could have been more of that closer to when I actually had the surgery because six months passed...from the time that I had seen the social worker and the dietician.”—Ann</p> <p>“Have something in line of what does weight loss surgery and the effects it would have on a males body...what we can expect from male perspective.”—Hunter</p>
How to teach me	Describes how and where patients would like to learn	<p>“Cut out the lessons because I can tell you, the people I've talked to, they didn't do the lessons.”—Misty</p> <p>“There is a benefit to people. Because sometimes in a group, you hear something that someone says and you identify with that. Like, you know, I never thought about that, but I do that, too. Or, nah, that’s not the way I am. I do this. So, yeah, I feel like a group, a small group, could be helpful.”—Ann</p> <p>“The support group meetings are wonderful. They just need to have more of them in other locations.”—Breanna</p>

* Extraneous words, such as repeating words, um, ahs and likes, have been removed from exemplars to ease reading.

Appendix J

Chapter and Lesson Content of *My Weight is Over:**What You Need to Know About Bariatric Surgery Book*Chapter Content:

1. *Introduction*-Welcome, contact information and information on types of weight loss surgery procedures
2. *Pre-Operative Lesson Plans*-Introduction of pre-surgery goals, healthy diet information is introduced with emphasis on ChooseMyPlate.gov, how to measure portion sizes and read food labels. Details on the macronutrients of carbohydrates, fiber, fats, and protein are given. Role of cholesterol is stated. Benefits to exercise with consideration to frequency and intensity are discussed. The walking program is introduced. Patients are encouraged to stop use of tobacco products through explained health benefits and risks. Lessons one through six are presented.
3. *Nutrition*-Contains information on needing to lose a minimum of 5% of his or her total body weight pre-surgery. The pre-operative diet is reinforced with specific dietary requirements two weeks prior to surgery. Postoperative diet progression (liquid, blenderized, soft and regular foods) are explained. Postoperative WLS nutrition rules are presented with examples of lean protein sources and meal portion sizes.
4. *Vitamins*-Recommended doses of vitamin supplements are given based on WLS procedure. Health role of each supplement is explained.
5. *Hospital Stay*-Preoperative WLS instructions for day of surgery are presented. Expected course of events during the hospital visit are stated.

6. *Going Home*-Immediate postoperative WLS activity restrictions are stated. Anticipated side effects and signs and symptoms of WLS complications are provided.
7. *Emotions*-Changes in feeling and mood are identified. The transfer of the previous food addiction to another addiction is warned. Sources that can provide emotional eating support are provided.
8. *Exercise*-Different types of aerobic and strength-training exercises are explained with recommended frequency and intensity.
9. *Miscellaneous*-Section contains food diary entry, various surgical consent forms, and times for support group and nine month postoperative session.
10. *Notes*-Blank pages for patient to write down questions or information learned.

Book Lessons (Monthly self-evaluation of each lesson is expected):

1. Begin lifestyle changes by monitoring dietary intake through measuring portions, decreasing consumption of high calorie/sugar foods, drinking water. Add more movement into your day. Stop using tobacco products.
2. Continue to follow lesson plan one. Read food labels, start journaling food intake, stop drinking 30 minutes before you eat, drink more water daily, start walking plan.
3. Continue to follow lesson plans one and two. Stop eating between meals, choose “good” carbohydrates, not drinking 30 minutes before eating or while eating, drink more water, and continue walking plan.
4. Continue to follow lesson plans one through three. Start to not drink fluids 30 minutes before eating or while eating or one hour post meal. Increase daily water consumption to four glasses.

5. Continue to follow lesson plans one through four. Stop consuming foods high in calories and sugar. Eliminate carbonated drinks. Stop using straws. Continue to increase daily water consumption to at least five glasses.
6. Continue to follow lesson plans one through five. Start to make protein 50% of your meal. Start taking vitamins. Stop all grazing or mindless eating. Continue to increase daily water consumption to at least six glasses. Review information in “Countdown to Surgery” (in Chapter 3).

Appendix K

Former Patient Recommendations For Educational Improvements

Recommendations for “Bari-Bible” improvements:

- Provide start-up guide to state how book should be used and facilitate navigation
- Remove lap-band[®] procedure if it is not offered at weight management center
- Include section in book to record:
 - Date and bodyweight at weigh-in
 - Exercise
 - Diary of feelings (particularly to foods)
 - Section for questions and answers to be recorded
- Simplify nutrition information:
 - Focus on two things pre-WLS. Becoming unaddicted to sugar and restricting water intake (limit before/after meals and eliminate during meals)
 - Include more examples of diet transition
 - How to prepare foods and quantity to eat
 - Include more detail on foods that are high sources of protein and potassium

Former patient recommendations for improving WLS education experience:

General Considerations

- Provide option for online or classroom-based education
- Provide more post-WLS programs
- Weight management center needs more dietitians at more locations
- Curriculum should include:

- Gender and age-specific considerations particularly in sexuality discussions and identity changes
- Details regarding negative realities of WLS

Informational Education Session

- Have former patients present to share inspirational stories to potential patients
- Offer session twice a month and have consult scheduled within two weeks of informational education session

Consultation/Surgery Preparation Class

- Emphasize feelings of fullness (slight discomfort when pouch nears full)
- Reinforce dietary information closer to date of surgery
- Encourage successful post-WLS patient participation to motivate pre-WLS patients
- Give portion-plates

Six Months of Weigh-ins

- Review patient progress and provide constructive feedback at weigh-ins to elicit change
- Discuss more about struggling to make healthier choices and transitions
- Discuss plan to change behaviors, particularly emotional eating, how to make changes
- Encourage food diary
- Maximize time to provide individual education