

SECONDARY ANALYSIS OF THE EFFECTS OF MOBILITY ON BARIATRIC PATIENTS  
HAVING WEIGHT LOSS SURGERY

by

Danielle Williams

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by

Danielle Williams

Greenville, NC

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Approved by:

Janice A. Neil, PhD, RN, CNE

Baccalaureate Education, College of Nursing

### Abstract

Mobility typically becomes an issue in the elderly, people with injuries and severely obese individuals. Severely obese, bariatric patients were the focus of a study conducted by Roberson, Neil, Pories, & Rose (2016). A qualitative study was done using 24 patients to determine their reasons for seeking bariatric surgery. This qualitative descriptive secondary analysis was conducted using data from the original study and focused on the issues of mobility that were contained in the interviews as stated by each participant. Colaizzi's procedural steps of qualitative analysis was used for data analysis and four main themes were identified. The findings showed that lack of mobility impacts a patient's ability to exercise before weight loss surgery, and their lifestyle habits overall were altered. This impacts the field of nursing since the participants are a sample of the bariatric surgical patient population who can be found in a multitude of healthcare facilities throughout the nation. Nurses should be able to safely help patients move by including the use of specialty equipment based on their reported mobility level.

*Keywords:* Bariatric, mobility, secondary analysis, surgery

## Secondary Analysis of the Effects of Mobility on Bariatric Patients having Weight Loss Surgery

Individuals who carry a large amount of extra weight on their body can be negatively affected not only emotionally, but physically. Excessive adipose tissue decreases proper use of body mechanics, and often contributes to a decreased level of energy. Obesity can also lead to the development of comorbid conditions such as diabetes mellitus and heart disease (Ling, Kelechi, Mueller, Brotherton, & Smith, 2012). Losing weight or deciding to undergo surgery can have a large impact on an obese person's quality of life. Surgery may help manage or even cure diabetes and other comorbid conditions. The parent study to the analysis outlined the most common factors influencing a bariatric patient's decision to undergo weight loss surgery (Roberson, Neil, Pories, & Rose, 2016). Among these factors, there was a major area of concern about mobility for several of the participants. In the popular *The Learning Channel* (TLC) show, *My 600-lb Life*, several individuals expressed their disappointment in their loss of independence and mobility prior to surgery simply because they weighed an excessive amount. Mobility is also one of the biggest driving factors related to an individual's decision to schedule their first appointment to be evaluated for surgery (McAnally & Nowzaradan, 2016). Discovering more about the correlation between mobility and the path to weight loss surgery can lead to more effective patient care and education by nurses in any healthcare setting.

### **Background**

Morbid or severe obesity is defined as an individual with a body mass index (BMI) greater than  $40 \text{ kg/m}^2$  or  $35 \text{ kg/m}^2$  with co-morbid conditions (King et al., 2012). Physically, there are many negative impacts of excess weight on the body. Gait and ability to function were found to be more pathological than in individuals of average or healthy weight (Ling et al., 2012). It has been found that a weight loss of around 34% of the individual's start weight was

responsible for reducing the compressive force of the knees by 67% (DeVita, Rider, & Hortobagyi, 2016). This has also led to a smaller base of support and quicker gait (Ponta, Gozza, Giacinto, Gradaschi, & Adami, 2014).

Weight loss surgery involves a long decision making process that includes physical and psychological factors. There are a series of healthcare provider and specialty provider visits over several months and there is a possibility that a patient will be told to lose a certain amount of weight before they are considered for surgery. This will in turn lead to an even longer process before surgery happens. There is also a mental health consultation in case there are underlying issues that need treatment and to help with compliance post operationally. Following surgery, there will be a specific diet and exercise program prescribed to ensure that the weight is kept off. There will also be regular follow-up appointments to evaluate the progress and effectiveness of the surgery.

### **Study Design**

The secondary analysis is a qualitative descriptive design of 24 transcripts of a secondary dataset. The parent study was a primary qualitative descriptive study. The purpose of this study is to analyze the detrimental effects of decreased mobility and how they influence the decision to undergo bariatric surgery.

### **Literature Review**

While there are many physical differences before and after surgery, the patients' mobility as a reason to decide on weight loss surgery was not evident in the literature. This study was conducted as a descriptive qualitative analysis in an effort to provide insight into this phenomenon. The quantitative research on the mobility of bariatric patients focused on the mechanics of walking before and after surgery. There was a study that implemented a walking

test to compare the baseline speed and gait to the speed and gait of participants three months following surgery. This same study included research on the physical pain and the quality of life for these participants after surgery. They found that low back pain was reduced by 54% within three months following surgery. They also found that the reported knee pain decreased by 34% and the walking speed increased by 15% (Vincent, Ben-David, Conrad, Lamb, Seay, & Vincent, 2012). Another study used 3-D motion capture to analyze the walking kinetics of obese participants. They ultimately found that weight loss reduces the force on the knees, however if the individual walking speed and stride subsequently increases, there could still be a similar amount of force placed on the knees (DeVita, Rider, & Hortobagyi, 2016). The study most closely related to the ability of patients to function or carry out activities of daily living was conducted by asking participants to perform four physical tasks before surgery and then again about a year after the surgery. This group was compared to a group of average weight individuals performing the exact same activities. After a year, the obese group rather than the average weight group showed a change in how they carried out two of the activities. The research team concluded that the extra body mass forced participants to alter their posture and how they executed each task (Ponta et al., 2014). In an effort to bridge the gap between quantitative and qualitative research on mobility for this patient population, this study is aiming to provide an additional perspective.

### **Methods**

An exempt Institutional Review Board (IRB) request was obtained before conducting this research. The first step in this project was learning how to conduct a secondary analysis. Next, Colaizzi's procedural steps of qualitative analysis were used to find the themes embedded in the patient transcripts.

Colaizzi's method is made up of seven basic steps for guiding the analysis of qualitative studies (Shosha, 2012). The first step is to read each transcript and get an overall idea of the content. Next, the statements that pertain to the analysis need to be identified and third, there should be a meaning derived from them. Fourth, themes are created and all of the statements are put in their respective groups. The last three steps are to create an overall description of the phenomenon, identify the structure of the phenomenon, and validate the findings from the research participants (Shosha, 2012). Since this study is a secondary analysis of a previous dataset, the final step does not apply. The sample consisted of 24 adults with an average age of 45, an average BMI of 51.7 kg/m<sup>2</sup>, and an average weight of around 310 pounds. There were 22 female participants and the other two were male.

The data used for the analysis is from the transcripts of the 24 interviews conducted in the parent study. The research team initially identified every sentence that mentioned anything related to mobility, and then grouped similar statements together. From there, four themes emerged from the grouping of statements. Finally, the team described the phenomenon as a whole and created a research poster to finalize the results.

### **Results/Findings**

The analysis resulted in the formation of four major themes to encompass the bariatric patient experience. The first theme was "getting up and down" which means that patients had trouble changing positions. One patient stated that "...the physical part of it I started to notice it was a lot harder for me to get up and down off the ground." Another statement talks about using bariatric surgery to help them stand up and ultimately accomplish tasks on their own.

The next theme is "walking back and forth" which is another way of saying that walking was often impaired, even for short distances. One patient discussed how they used to have to

walk back and forth to take care of their daughter's premature baby and they ended up reaching a point where they couldn't make the walk anymore. Another participant stated that "I couldn't walk; I was having to use a walker to walk." The type of walker created for this patient population is called a Bariatric Heavy-Duty Rollator. Those that didn't use walkers would state that they weren't able to walk down the hall in their house and not get hurt. This would create even more problems depending on the severity of injuries.

The third theme identified in the patient transcripts was "difficulty functioning". This is also known as finding that the basic functions of life were difficult for the participants. This is a theme that is used to encompass activities of daily living as well as those things that patients want to do for fun. Patients stated that they couldn't bathe themselves and they missed taking care of themselves. "In the bathroom, I just felt my hygiene, and all these things built into 'I'm gonna die'." They lost hope and, at times, felt like they were going to die.

The final theme was "slowing you down" meaning that severe obesity caused a decrease in energy. There were also several statements about the pain that would develop, especially in joints like the knee. One patient stated that a problem for them was "...being able to have the energy I need because being overweight really slows you down." Patients also weren't able to exercise in order to try to lose the weight without needing surgery. The patients with children and grandchildren would also talk about how they weren't able to walk with them or keep up with them and that caused them to feel disconnected.

The results led to new knowledge on the bariatric surgery process from the patient's point of view. It has also led to further discussion on ways to improve the quality of life for these patients or at least provide them with some attainable means of assistance.

## **Conclusions**

The decision to undergo bariatric surgery is multi-faceted, but the ability to move and function is one of the more prominent factors in a patient's final decision. The alternative to weight loss surgery is exercise and several patients stated that they were in a lot of pain or did not have their full range of motion. This creates a snowball effect where they aren't able to perform exercises in order to get the weight off without needing surgery. Patients stated that they missed the little things in life that they used to be able to do without even thinking about it. Now, they have less energy and less freedom in what they can do.

Qualitative research is known for being the type of research that unveils the human experience. Unless we are living this reality, we may not know what kind of limitations there are on the physical movement of bariatric patients. This research is a way of advocating for the patients and finding out what we can do to help in the professional setting.

### **Nursing Implications**

Bariatric patients are one of the many patient populations that nurses will encounter in their careers. Keeping that in mind, nurses need to provide relevant education to those with excess weight and mobility issues. In order to do that, they need to know that mobility is important for patients to try to maintain in order to be able to care for themselves. In addition to education, nurses are a vital part of the transition and follow-through steps that make up bariatric surgery. When patients have to move with assistance, nurses should know exactly what equipment is necessary and how to use it. The equipment would also need to be available in healthcare facilities. Nurses will have a better understanding of the physical limitations that patients experience through continued research and by interacting with these patients to understand their personal experiences.

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