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## NURSE PRACTITIONERS' EXPERIENCES WORKING WITH PATIENTS LIVING WITH MORBID OBESITY

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NURSE PRACTITIONERS' EXPERIENCES WORKING  
WITH PATIENTS LIVING WITH MORBID OBESITY

BY

SHARON A. MCLIMANS

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DOCTOR OF PHILOSOPHY DISSERTATION

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## ABSTRACT

Morbid obesity is recognized as a complex chronic medical disease which has been increasing at an alarming rate in the U.S. The etiologies of this disease involve a complex interplay of genetics, physiological, psychological, behavioral, socioeconomic, and environmental factors. Serious medical consequences are associated with morbid obesity including diabetes, hyperlipidemia, hypertension, cardiovascular disease, and increasing the risk of certain cancers. Research has shown individuals with morbid obesity have higher incidence of depression and are subjected to stigmatizing and biases across society including health care professionals. The monumental cost of health care associated with morbid obesity places enormous burden on our health care systems involving billions of dollars. Currently, 69% of nurse practitioners employed in the U.S. are working in primary care and are at the forefront in providing care for patients with morbid obesity. Little is known about the experiences of nurse practitioners caring for patients with morbid obesity in primary care. The aim of this inductive, qualitative descriptive research study was to explore the experiences of nurse practitioners providing care to patients with morbid obesity in the primary care setting. The research questions that guided this study were: What are the experiences of nurse practitioners working with patients who have morbid obesity? How do nurse practitioners describe their clinical practice with patients who have morbid obesity? What facilitators and barriers, if any, have nurse practitioners encountered in delivering care to patients who have morbid obesity? What recommendations do nurse practitioners have for working with patients who have morbid obesity? Data collection consisted of two semi-structured interviews with 10 nurse

practitioners with experiences providing care to patients with morbid obesity. The years of experience ranged from at least three years to over 15 years.

All of the nurse practitioners spoke of morbid obesity as a complicated, challenging, and time-consuming condition. The nurse practitioners' descriptions of their clinical practice involved their own personal experiences with weight, differences in their approach to addressing weight, and several specific components of care. Facilitators that helped the nurse practitioners were a patient's motivation, as well as access and usage of resources for delivery of care. Several barriers were found to impede the delivery of care by the nurse practitioners including difficulties experienced by patients adapting and maintaining positive lifestyle changes, traumatic events, co-morbidities, as well as social and physical determinants of health. Recommendations expressed by the nurse practitioners included having an open-minded, nonjudgmental attitude, open communication, establishing a trusting relationship with the patient, approaches to address the obesity, and close follow up clinical visits.

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As I reflect on the beginning to the final stage of this dissertation, many recollections come to mind. My earliest memory of wanting to pursue advance study was many years ago, however, as they say, life gets in the way. Pursuing a PhD is no small undertaking, it demands a great deal of commitment meeting the challenges that comes with the process. I am well aware I would not have been able to complete this program of study without the support of others who gave their time, thoughts, and encouragement along the way.

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## **DEDICATION**

To my husband and children, who stood by me, believed in me and told me I could do it.

And

in loving memory of my sister Cindy, who would have been so proud.

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# CHAPTER 1

## INTRODUCTION

Obesity has been identified as one of the ten most preventable health risks and its related disorders have been increasing world-wide (Wilbourn et al., 2005). Globally, the prevalence of obesity nearly tripled between 1975 and 2016 (World Health Organization [WHO], 2020). In the United States, more than one-third or one in three adults and 18.5% children are classified as obese (Center for Disease Control and Prevention [CDC], 2019). Between 2000 and 2010, the prevalence of morbid obesity increased by 70% and it was estimated that 15.5 million adults in the U.S. were living with this debilitating condition (Sturm & Hattori, 2013).

Literature on genetics, neurobiology, psychology, and environmental factors have contributed to the current knowledge of obesity including its causes, effects and treatment (Baumeister & Harter, 2007; Bell et al, 2005; Bray, 2004; de Assis et al., 2018; Herrera & Lindgren, 2010; Olander et al., 2013; Townshed & Lake, 2017; Wilborn et al., 2005).

The body mass index (BMI) is used to identify a person as having obesity and to determine the level of obesity. A BMI of  $\geq 30$  kg/m<sup>2</sup> identifies the person as having obesity whereas a BMI  $\geq 35$  kg/m<sup>2</sup> with one comorbidity or  $\geq 40$  kg/m<sup>2</sup> without a comorbidity classifies the person as having morbid obesity (CDC, 2017). Morbid obesity, at times referred to as extreme or severe obesity, has also been defined as being 100 pounds over the ideal body weight (MedlinePlus, 2020; Sturm & Hattori, 2013). Morbid obesity increases the risk for chronic debilitating diseases, such as diabetes, heart disease, obstructive sleep apnea, hypertension, stroke, and cancer

leading to detrimental effects on the person's health and quality of life (Hruby et al., 2016; Lerdal et al., 2017). The severity of these diseases increases the mortality rate for individuals with morbid obesity. It has been projected that the lifespan of the person with morbid obesity is shortened by 5-20 years (Abdelaal et al., 2017).

Patients with morbid obesity are often seen in the primary care setting where 69% of all nurse practitioners deliver primary care (American Association of Nurse Practitioners [AANP], 2020). In spite of this, research on how nurse practitioners manage the complexity of care for these patients is almost nonexistent. However, two interventional studies were found that focused on lifestyle and behavioral counseling in primary care as provided by nurse practitioners with patients including those with obesity and morbid obesity (Ritten et al., 2016; Thabault et al., 2016).

In terms of health providers in general, however, there is a small body of research that suggests that patients with all levels of obesity, including morbid obesity, are underdiagnosed (Bleich et al., 2011; Ma et al., 2009; Matter et al., 2017). Also, for those diagnosed there are inconsistencies in the implementation of established guidelines for managing their care (Farran et al., 2013; Leverence et al., 2007; Look et al., 2019). Documentation of an obesity diagnosis has been shown to be "one of the biggest predictors of weight-related counseling" (Bleich et al., 2011, p.123). Several possible reasons have been identified for these inconsistencies such as negative attitudes about weight, lack of reimbursement, time constraints, insufficient knowledge on obesity management, and lack of patient motivation (Aboueid et al., 2018; Bornhoeft, 2018; Ritten & LaManna, 2017).

As the number of individuals with morbid obesity steadily rises in the U.S., it is expected that there will be an increasing number of nurse practitioners and other health care providers who will be providing care for these individuals in primary care practices. Acknowledgement of morbid obesity as a chronic disease and implementation of effective strategies are of paramount importance in primary care as this condition may lead to life-threatening conditions and early mortality. Although the majority of nurse practitioners primarily practice in primary care, little is known about the management of patients with morbid obesity by nurse practitioners in primary care settings. An effort to address this gap was the impetus behind this study. There is a need to learn how nurse practitioners describe their practice and overall experience providing care to patients living with this complex disease.

### **Research Questions**

The aim of this study was to explore nurse practitioners' experiences working with patients living with morbid obesity. The following research questions were used to guide this study:

1. What have the overall experiences been like for nurse practitioners working with patients who have morbid obesity?
2. How do nurse practitioners describe their clinical practice, including one-on-one interactions, with patients who have morbid obesity?
3. What facilitators and barriers, if any, have nurse practitioners encountered in delivering care to patients who have morbid obesity?
4. What recommendations do nurse practitioners have for working with patients who have morbid obesity?

An inductive, descriptive qualitative research study, including semi-structured interviews with ten nurse practitioners in primary care who had worked with patients living with morbid obesity, was used to answer these questions.

### **Significance and Relevance to Nursing**

Exploring the experiences of nurse practitioners caring for patients with morbid obesity in the primary care setting yields rich information relating to the “approaches, interventions, and therapies that have significant purpose and rationality” (Kim, 2010, p. 191). What do nurse practitioners use in providing comprehensive care for these patients, what specific interventions do they utilize in their interaction with patients, and what therapies or treatments do they endorse in providing comprehensive care to patients with morbid obesity in primary care? Answers to these important questions will increase our understanding of nursing practice and contribute to the knowledge base within nursing science in the care of patients with morbid obesity.

The main concern for nursing is with assisting patients throughout their lifespan in terms of health and illness in various healthcare situations. Patients with morbid obesity present with a vast array of complex and interrelated factors requiring intervention and treatment modalities that integrate biological, psychological, and sociological aspects of the patient’s life, in other words, a holistic approach to care. Exploring nurse practitioners’ experiences, including what they think and do in providing care for patients with morbid obesity contributes to the advancement of knowledge within the discipline of nursing.

The following chapter includes a review of the literature related to obesity with an emphasis on morbid obesity and nurse practitioners caring for patients with morbid

obesity in primary care. The subsequent chapter covers the methodology used in designing, conducting and analyzing this study. The next chapter includes the presentation and discussion of findings. The final chapter begins with a summary of the study, followed by conclusions, limitations and implications.

## CHAPTER 2

### REVIEW OF LITERATURE

As noted earlier, morbid obesity is most often defined and perceived as a severe level of obesity. In line with this, most research dealing with the prevalence, contributing factors, consequences, and treatment of morbid obesity is dealt with under the general umbrella of obesity and far less frequently covered as a separate entity. Thus, the following review of the literature begins with an overview of what is known about obesity in general followed by what is known specifically about morbid obesity as a separate disease.

Obesity has been increasing steadily globally and within the United States for the past 40 years, and in 2006 was described as an epidemic in light of this proliferation (Bray & Bellanger, 2006). The World Health Organization identified obesity as the fifth leading risk factor for global deaths, with the highest occurrence in the regions of the Americas and the lowest in the region of Southeast Asia (WHO, 2018). In 2017-2018, the prevalence of obesity was 42.4% for adults aged 20 years and over in the United States, a tripling since the 1970's when the prevalence was 13.4% (CDC, 2020). According to the National Health and Nutrition Examination Survey in 2017-2018, the prevalence of obesity was highest among non-Hispanic black adults (49.6%), followed by Hispanic adults (44.8%), non-Hispanic white adults (42.2%), with the lowest prevalence (17.4%) among non-Hispanic Asian adults (CDC, 2020). More than one-third of adults and 18.5% children were classified as obese (National Institute of Diabetes and Digestive and Kidney Diseases, [NIDDKD], 2017).

Over the last 20 years, the U.S. population has shifted toward a higher weight distribution, with the fastest growing occurrence being in the morbidly obese class with an increase of a BMI > 40kg/m<sup>2</sup> by 50% and a BMI >50 kg/m<sup>2</sup> by 75%, or two and three-time faster rate, respectively (Strum, 2007). Currently, 9.2% of the population in the U.S. has been identified as having morbid obesity (CDC, 2020). Given these dramatic increases, morbid obesity has evolved as a healthcare challenge in the United States (Mattar et al., 2017).

Obesity is one of the greatest drivers of preventable chronic diseases and creates a significant financial burden on the U.S. healthcare system (Wilborn et al., 2005). According to the Centers for Disease Control and Prevention, the annual medical cost of obesity was \$147 billion dollars in 2008 and was among the highest of healthcare costs in the United States, with the greatest expenditure incurred by individuals with morbid obesity or who were 100 pounds or more overweight (CDC, 2017; Kelly, 2012). The healthcare costs for patients who are morbidly obese are estimated to be 81% higher than for healthy weight adults (Arterburn et al., 2005). In 2013, it was estimated \$69 billion was spent in the U. S. on health care as a result of severe obesity, 11% paid by Medicaid, 30% by Medicare and other federal plans, 27% by private insurance, and 30% out of pocket (Wang et al., 2015). Additionally, obesity and especially morbid obesity have profound detrimental effects on the individual's health and has significantly affected U.S. mortality levels over the past 30 years (Masters et al., 2013; Olshansky et al., 2005).

## **Images and Definitions of Obesity Overtime**

The first sculptural representation of the human body depicted as having excess weight was in 33,000 B.C., where the female body was portrayed as obese. According to Bray (1990) illustrations of “massive obesity [have been] identified in stone age carvings and described since the time of Galen and the Roman Empire [and] . . . framed in a manner which implied a moral weakness on the part of the overweight individual” (Bray, 1990). Both Hippocrates (466-355 BC) and Galen (131-201 AD), the ancient Greek physicians, had a clear understanding of the obesity, its consequences and medical treatment (Gonzalez-Gonzalez et al., 2008). Hippocrates wrote “corpulence is not only a disease itself, but the harbinger of others” (Haslam & James, 2005). Sushruta, an Indian surgeon who practiced medicine around 600 BC, described diabetes and its relation to obesity as the “passage of large amounts of urine, sweet in taste . . . honey like urine . . . primarily affects obese people who are sedentary . . . [and he] emphasized the role of physical activity in amelioration of diabetes (Dwivedi & Shridhar, 2007). Mohamed ibn Zakaria Al-Razi, a Persian physician (854-92 AD) documented in his book “An Encyclopedia of Medicine” case reports of patients with excessive obesity and the treatments “used, including diet, drugs, exercises, massage, hydrotherapy, and lifestyle changes” (Abdel-Halim, 2005, p. 204). Additionally, Ibn Sina (980-1037) who devoted a section of his “Canon in Medicine” to the drawbacks of excessive obesity, Ibn Hubal Al-Baghdady (1121-1213) who noted that hugely obese persons fell ill quickly, and Ibn el Nefis (1207-1288) who documented in “The Concise Book of Medicine” the association between excessive obesity and cardiovascular, cerebrovascular accidents, respiratory and

endocrine disorders . . . a constraint on the human being limiting his freedom of actions and constricting his pneuma (vitality) which may vanish . . . as air may not be able to reach it” (Abdel-Halim, 2005, p. 204).

The historical reference using the word obesity in the English language was first documented circa 1611 in a bilingual dictionary of French and English Tongues by Randle Cotgrave, an English lexicographer and was defined “as a condition characterized by the excessive accumulation and storage of fat in the body” (Merriam-Webster Dictionary, n.d.). Historically, the words fat and obese had negative inferences as cited in a 17<sup>th</sup> century Protestant denunciation of “the fatnesse of monks, and the obeseness of Abbotts” and Shakespeare’s description of the character of Sir Jack Falstaff, as ‘Fat Jack’, who is viewed as a merry comic character, enabling him to “play the fool . . . be laughed at by others” (Baldwin, 2010).

In sharp contrast, during the Renaissance period, 1600-1740, excess weight or obesity was seen as a symbol of success, wealth, and power as these individuals did not have to work in the fields. The famous painter Rubens regularly depicted in his paintings full-bodied women who would be considered obese by our current norms (Vari, 2017).

By the mid 1700s, obesity was becoming recognized once again as a disease. Bray (2004) cites Flemyng, a Scottish physician in 1760.

Corpulence, when in an extraordinary degree, may be reckoned a disease, as it in some measure obstructs the free exercise of the animal function; and has a tendency to shorten life, by paving the way to dangerous distempers.

Some fifty years later, in 1810, Wadd also labeled obesity as a disease stating:

If the increase of wealth and the refinement of modern times, have tended to banish plague and pestilence from our cities, they have probably introduced to us the whole train of nervous disorders, and increased the frequency of corpulence. It is undoubtedly a singular circumstance, that a disease which had been thought characteristic of the inhabitants of this island, should have been so little attended to (Bray, 2004, p.34).

Once again obesity was being associated with negative inferences of the individual's character. The person with obesity was viewed as lacking self-control, weak, lazy, "often equated with gluttony and sloth, and negative moral implications" (Bray, 2004, p. 34).

For most of the 1900s in the United States, obesity was not seen as a major problem since weights were below levels for maximum longevity and an increase in weight represented an increase in health (Fogel, 1994). In the early 1960's, the average adult male weighed 168 pounds compared to today's average weight of 180 pounds and the adult female's weight increased from 143 to 155 pounds. In the 1970's, 14% of the population was classified as obese compared to the prevalence of 42.4% in 2017-2018 (CDC, 2020). Since the 1980's, weights have continued to rise in the U.S. with Americans weighing more than what medical science has identified as optimal for good health (Cutler et al., 2003).

Sometime in the mid 20<sup>th</sup> century the word obesity was repackaged by physicians to give a [medical label] for the excess body fat that increases the risk of ill-health. Although repackaging of the word allows for medical interpretation regarding

the consequences associated with it, it remains an offensive and condescending word. Baldwin (2010) argues repackaging of the word allows stigmatizing of those whom the term is applied in the same way as applying the words ‘stupid’ and ‘stupidity’ to persons with low IQ.

The term ‘morbid obesity’ was first coined in 1963 by Payne and DeWind, who were surgeons and early pioneers of weight loss surgery. The term appeared in the article “Clinical appraisal of jejunoileal shunt in patients with morbid obesity” published by the American Journal of Surgery in 1969. Scott and Law (1969) identified morbid obesity as:

Existing in any person whose weight has reached a level two or three times his ideal weight and who has maintained this level of obesity for five years or more despite efforts by himself, family, friends, and physicians to bring about effective and sustained reduction of weight to medically accepted standards.  
(Scott & Law, 1969, p. 246)

The current medical definition of obesity is based on an individual’s weight classification as identified by the body mass index (BMI) which is calculated by the individual’s weight in kilograms (kg) divided by the height in meters squared (m<sup>2</sup>). This computation using weight divided by height was developed in 1832 by a Belgium statistician, Adolphe Quetelet (Eknoyan, 2008). Quetelet published an essay known as the “average man” by quantifying the relationship between a person’s life course weight and height, also known as the Quetelet Index and is widely used indicator of obesity (Faerstein & Winkelstein, 2012). It was not originally intended to measure or determine body fat but rather was used as a basis for determining standard proportions

of the human build. Insurance companies started to use vague comparisons of height and weight among policy holders and associated excess weight with an increase in mortality (Eknayan, 2008).

A person is considered underweight if the BMI is  $\leq 18.5$  kg/m<sup>2</sup>, normal weight with a BMI 18.5-24.9 kg/m<sup>2</sup>, overweight with a BMI of 25-29.9 kg/m<sup>2</sup>, class 1 obesity with a BMI of 30-34.9 kg/m<sup>2</sup>, Class 2 obesity with a BMI of 35-39.9 kg/m<sup>2</sup>, and Class 3 obesity with a BMI of  $\geq 40$  kg/m<sup>2</sup> (NIH, 2000). Classification of weight based on the BMI is summarized in Table 1.

Table 1

Weight Classification Based on BMI

Classification	BMI
Underweight	$< 18.5$ kg/m <sup>2</sup>
Normal Weight	18.5-24.9 kg/m <sup>2</sup>
Overweight	25-29.9 kg/m <sup>2</sup>
Obesity (Class 1)	30-34.9 kg/m <sup>2</sup>
Obesity (Class 2)	35-39.9 kg/m <sup>2</sup>
Extreme Obesity (Class 3)	$\geq 40$ kg/m <sup>2</sup>

Note. Taken from NIH/NHLBI Obesity Education Initiative, 2000.

Current standards identify morbid obesity at a BMI  $\geq 35$  kg/m<sup>2</sup> in the presence of at least one comorbidity (Class 2) or a BMI of  $\geq 40$  kg/m<sup>2</sup> with or without a comorbidity (Class 3), or a body weight substantial enough to pose a significant risk to health (CDC, 2017).

The BMI has been criticized as an inaccurate representation of the person’s level of obesity as it does not consider the “relative proportions of the person’s bone, muscle, and fat in the body. Athletes and fit [individuals] may have very high BMI and be classified as overweight or obese” (Devlin, 2009). Other assessments such as waist size, indicating abdominal visceral obesity and waist-to-hip measurements are

more accurate in determining the person's risk for cardiovascular disease (Ashwell, 2017). Although the BMI is recognized as having limitations, it remains a widely used screening tool as it is readily available, inexpensive, easy to access and monitor, and gives information reflecting the general weight of the population.

### **Factors Contributing to Obesity and Morbid Obesity**

Obesity is a chronic progressive disease involving physiological, psychological, social, and environmental influences (National Heart, Lung, and Blood Institute [NHLBI], 2012). Genetic predisposition, physiological, psychological disorders and environmental (physical and social) factors have all been identified as contributing to obesity and morbid obesity (Bell et al., 2005; Bray, 2004; de Assis et al., 2018; Olander et al., 2013; Wilborn et al., 2005). This acceleration in which obesity has been increasing suggests that behavioral and environmental influences, rather than biological changes, have fueled the epidemic (Stein & Colditz, 2004). Researchers also have found an association between adverse childhood experiences (ACE), including child abuse, household dysfunction, and morbid obesity in adulthood (Ahima, 2011; Braun et al., 2014; Christiansen et al., 2012; Felitti et al., 1998).

### ***Genetic Factors***

By the early 1990s, researchers established that genetic predisposition had a role in the development of obesity. Stunkard et al. (1990) study on identical and fraternal twins raised separately or together showed “strong evidence of the influence of heredity on the body mass index” (p.1485). The pairs of adult identical twins raised in different families were similar to pairs raised together, leading researchers to claim

genetic factors appear to be major determinants of an individual's BMI. Research on monozygotic twins who were subjected to overfeeding demonstrated significant similarities in weight gain and fat distribution over specific areas of the body suggesting the influences of genetic factors on body weight (Bouchard et al., 1990). A study exploring the role of genetic factors and the family environment of adults adopted as children found a "clear relation between adoptee weight class and the BMI of biological parents whereas there was no apparent relation between the adoptee weight class and the adoptive parents" (Stunkard et al., 1986, p. 194). The researchers concluded that genetic influences are important factors of body weight and the family environment alone has little to no effect on body weight.

Further studies investigating the heritability of obesity have found both a monogenetic and polygenic basis contributing to obesity. Obesity stemming from a monogenic basis is the result of a mutation in the leptin/melancortin pathway which is responsible for inhibiting hunger and promoting satiety. Genetic alteration leading to the deficiency of leptin has been found to cause severe obesity in children (Huvenne & Dubern, 2014). At the same time, this condition is relatively rare, and most individuals who have a genetic predisposition for obesity have a polygenic basis. Research has shown that multiple gene variants are common which has a small effect in contributing to the susceptibility to gain weight and polygenetic variants for obesity in one individual are not likely to be the same in another individual (Huvenne & Dubern, 2014; Loos & Janssens, 2017).

Herrera and Lindgren (2010) in their publication on the genetics of obesity reported that although genetics may play a large part in susceptibility to obesity, it is

not responsible for the current prevalence of obesity. The researchers argued that changes in lifestyle have led to an “obesogenic environment” and the underlying genetic predisposition to obesity may be a contributing risk factor. In a similar vein, Hinney et al. (2010) reported that the origin of obesity may have its foundation in the gene-environment interaction based on the thrifty gene hypothesis. The thrifty gene theory implies that the adaptation of genes, evolving over time, results in an increase of energy deposition to maintain reproductive function during periods of famine. A food-abundant environment in combination with the genetic predisposition to obesity is speculated as being responsible for the increase in the prevalence of obesity. The researchers concluded that exposure to an obesogenic environment, lifestyle changes, and individual risk factors are necessary for the development of obesity (Herrera & Lindgren, 2010; Hinney et al., 2010). Bell et al. (2005) claimed individuals who are genetically susceptible to weight gain may have an exaggerated response and develop morbid obesity in an environment that is plentiful in calorie-dense foods and allows sedentary lifestyles. Furthermore, certain subgroups of populations such as “Pima Indians and Pacific Islanders . . . and a disproportionate level of obesity in African Americans and Hispanic-Americans compared with Caucasians” are populations who may be predisposed to having these genes (Bell et al., 2005, p. 221).

### ***Physiological Factors***

The fundamental cause of obesity is a chronic imbalance between the intake of energy and energy expended by the individual. This energy imbalance originates in the neuroendocrine circuit of the body involving the hormones leptin and ghrelin. These hormones signal the brain through different neurological pathways triggering

the hypothalamus to initiate different signaling cascades leading to changes in food intake (Klok et al., 2006). Variances in these hormones make it difficult for individuals to effectively regulate food intake and energy expenditure which promotes weight gain leading to obesity (Klok et al., 2006; Ramos-Lobo & Donato, 2017). Leptin is a hormone produced by the body's fat cells and operates on a negative feedback system which aides in the homeostasis of energy intake and expenditure in the individual. Interestingly, individuals with morbid obesity usually have high levels of leptin which should be conveying the message not to eat; however, the person becomes leptin resistant, which in turn, promotes obesity (Ramos-Lobo & Donato, 2017). Mechanisms which seem to cause leptin resistance include inflammatory processes, elevated free fatty acids, and initially high levels of leptin which interferes with the signaling process causing leptin resistance (Guyenet, 2017).

Ghrelin is a hormone known as the hunger hormone and its main function is to stimulate appetite and it has an essential part in regulating calorie intake and body fat levels (Klok et al., 2006). Levels of ghrelin have been found to be lower after eating in individuals with obesity verses individuals without obesity which leads to consuming a greater amount of food because they still have a sense of hunger even after consumption of a meal (Makris et al., 2017).

The hormone cortisol involved in the stress response has also been implicated in the development of obesity. Reaction to stressors causes a nonspecific stereotypical response to occur known as the general adaptation syndrome (GAS) involving the hypothalamus adrenal axis (HPA) system so homeostasis will be maintained (Adam & Epel, 2007). This biological process promotes increases in cortisol and insulin levels

within the body in response to the stressors, promoting increases in visceral adipose mass leading to obesity (Adam & Epel, 2007; Bose et al., 2009).

### ***Psychological Factors***

The relationship between psychological distress involving depression and anxiety with obesity have been studied and although depression and obesity are known to coexist, there does not appear to be a simple or single link between these disorders, or which disorder developed first. A “genetic vulnerability” has also been implied in the relational link between obesity and depression as both conditions share a common pathway of “serotonergic imbalance which may represent different expressions of the same disease” (Rosemond, 2004, p. 977). This is further complicated by a number of additional factors, such as sociodemographic, psychosocial, and genetic elements that may increase the occurrence of depression in individuals with obesity and vice versa (Faith et al., 2002). Individuals with obesity, and more profoundly with morbid obesity, experience a great deal of anguish, hardship, and overall difficulties in daily life which can lead to depressive symptoms (Wadden et al., 2001).

In Simon et al.’s (2008) study of middle-age women, the authors found that the relationship between obesity and depression was strong and consistent with the prevalence of depression being twice as great among women with a BMI > 30 kg/m<sup>2</sup> as compared to those with a BMI < 30 kg/m<sup>2</sup>. Furthermore, there was a bidirectional element involving the two conditions, with the severity of depressive symptoms strongly associated with a higher risk of obesity, and an increase in the BMI strongly associated with a higher risk of depression (Simon et al., 2008).

In Stunkard et al.'s (2003) study, the authors found that adolescents with major depression predicted a greater increase in BMI in adulthood than for individuals who had not been depressed. Interestingly, the relationship between obesity and depression increased among women of higher socioeconomic status (SES) while an inverse relationship between obesity and depression was noted among men, irrespective of SES (Stunkard et al., 2003). The association between obesity and psychological symptoms of depression and anxiety were statistically significant in a large cross-sectional survey study across 13 countries with the highest association among women with a BMI >35 kg/m<sup>2</sup> (Scott et al., 2008). Sociodemographic variables were considered important modulators as age and education had varying effects across the depressive and anxiety disorders. Interestingly, depression and anxiety were noted in women and not men (Scott et al., 2008). Similar findings were noted comparing women with a BMI > 40 kg/m<sup>2</sup> with women having a BMI < 40 kg/m<sup>2</sup>, with women with morbid obesity having significantly higher scores on the Beck Depression Inventory scale, and 15% of the women scoring in the severe range of depression, suggestive of a major depressive disorder (Wadden et al., 2001). Depression, including moderate to severe depression was noted in patients with morbid obesity who were attending cognitive behavioral therapy (Marzocchi et al., 2008). The authors noted that the depression may have been the result of comorbidities, especially chronic illness that are frequently associated with the obesity, and/or the women's overall poor health-related quality of life.

### ***Physical and Social Environmental Factors***

Research has shown a positive association between obesity and the environment, including physical and social components of a community, socioeconomic status, employment, education, and stressors within the environment. The built environment refers to the surroundings which are human-made or modified as compared to naturally occurring aspects of the environment that are external to the individual (Papass et al., 2007). Environments that shelter lower-income populations lack easy accessibility to grocery stores and the neighborhoods may be unsafe for outside physical activity which may contribute to the development of obesity. Factors within the social environment such as super-size portions of calorie-dense foods, increased availability of commercially prepared foods, and proliferation of fast-food restaurants have also been implicated in advancing the prevalence of obesity (Faith & Kral, 2006; Papass et al., 2007).

Data published by the Centers for Disease Control and Prevention showed that the prevalence of obesity decreased with increased levels of income and education among adult women (but not men) in the United States from 2011 to 2014 (CDC, 2017). This finding was not consistent across race, as non-Hispanic Black men had a higher prevalence of obesity in the highest income group than in the lowest income group. White women with the highest income had the lowest prevalence of obesity, and no difference was seen between the highest and lowest income groups of Black women. In general, the prevalence of obesity was lowest among college graduates, although no difference was seen in non-Hispanic Asian men and women by education. This collection of data illustrates the complexities of obesity associated with education and income, and its differences by sex, race/Hispanic origin (CDC, 2017).

Research using data from the National Health and Nutrition Examination Survey (NHANES) in the United States and the Health Survey for England during the years of 2011-2014 found morbid obesity was associated with lower socioeconomic status among men and women in both countries, and the prevalence was twice that in the United States (Booth et al., 2017). Interestingly, morbid obesity was less strongly correlated with socioeconomic status in the United States than in England, which the researchers suggested means morbid obesity may have increased in all but the highest socioeconomic groups (Booth et al., 2017). In an epidemiological study, researchers found that individuals who were morbidly obese tended to have lower levels of education, income, and physical activity and higher consumption of red meat, processed animal products, and sweetened beverages, and consumed lower amounts of less-energy dense foods as such as fresh fruits, nuts, cereal, and dairy products than people with normal weight (Chang et al., 2017).

Newton et al. (2017) published a meta-analysis research from developed or upper-middle income countries between 1990 and 2015 in which the authors reported finding an inverse relationship between obesity and the life-course socioeconomic status of women. The average BMI was higher among women who had a lower socioeconomic status life course compared to women who had a higher socioeconomic status life course. No association was found between obesity and lower life-course socioeconomic status in men. Other researchers have found a reverse causality or a bidirectional relationship between obesity and socioeconomic status and have suggested that people with obesity may have lower-income jobs due to labor-market

discrimination and public stigmatization (Kim & von dem Knesebeck, 2018; Stunkard & Sorenson, 1993).

There has been some research demonstrating that individuals exposed to repeated stressors in the environment may develop disordered eating patterns demonstrated by compulsive overeating and binge eating leading to obesity (Scott et al., 2012, Yau & Potenza, 2013). Comfort foods that are convenient and highly palatable may provide solace to individuals who seek these foods in response to stress. This type of stress-eating becomes a maladaptive coping mechanism in an attempt to alleviate the stress and regain homeostasis (Yau & Potenza, 2013).

### ***Adverse childhood events (ACE)***

There has been research on adverse childhood experiences (ACE) and its role in the development of morbid obesity. In 1998, a groundbreaking study known as the Adverse Childhood Experiences study spearheaded by Dr. Vincent Felitti of Kaiser Permanente and the Centers for Disease Control and Prevention was published (Felitti et al., 1998). The principal aim of the study was to assess the relationship and long-term impact of adverse childhood experiences and its relationship to health-risk behaviors and diseases as the leading causes of death in adults. This was the first study of its kind to examine the cumulative effect of multiple adverse childhood exposures including abuse and household dysfunction, rather than focusing on one type of abuse. The need to assess for household dysfunction such as spousal abuse, criminal activity, alcoholism, and drug abuse is necessary as they may co-occur with physical, verbal, and/or sexual child abuse. Together these occurrences are known as adverse childhood experiences (ACE), and the cumulative effect of ACE demonstrate

a strong association in the development of health-associated behaviors known to cause diseases and early mortality in the adult (Felitti et al., 1998).

The ACE questionnaire consisted of 17 questions involving seven categories of adverse childhood exposure (Appendix A). This included three categories of childhood abuse, classified as physical, verbal or sexual abuse; and four categories of household dysfunction categorized as having lived with someone with substance abuse, mental illness/suicide attempts, mother/stepmother treated violently, and criminal behavior or incarceration of a household member. An individual's ACE score was derived based on the number of adverse experiences the individual was exposed to, a score of 0 indicated no ACE exposure and a score of 7 signified exposure to all categories. In Wave 2 of the study, three additional ACEs were included: parental separation/divorce, physical neglect, and emotional neglect for a total of 10 categories.

More than half (52%) of the study participants experienced  $\geq 1$  category of ACE, and 6.2% reported  $\geq 4$  categories of adverse childhood exposures. Positive responses for the 17 questions ranged from 3.0% for a participant's mother/stepmother treated violently to 23.5% for living with an alcoholic. The most prevalent affirmative responses to childhood abuse included being touched or fondled in a sexual way (19.3%), followed by verbal abuse (10%), and physical abuse (9.6%).

The results of the ACE study showed that the number of adverse childhood experiences and its influence on both the prevalence and risk of harmful behaviors was "robust and cumulative" (Felitti et al., 1998, p. 251). Risky behaviors such as smoking, overeating, physical inactivity, suicide attempts, alcoholism, drug use, and

sexual relations with 50 or more partners supported negative health consequences leading to morbidity and early mortality in adulthood (Felitti et al., 1998).

Since the ACE study, researchers have found a positive correlation between negative childhood experiences and morbid obesity, in addition to other co-morbidities including poor psychological and emotional well-being (Aaron & Hughes, 2007; Bellis et al., 2014; Richardson et al., 2014). Prospective longitudinal studies following children and adolescents showed a greater incidence of severe obesity in adulthood with reported or previously documented occurrences of childhood abuse (Noll et al., 2007; Richardson et al., 2014, Williamson et al., 2002). Individuals who experienced a greater number and more frequency of childhood adversities involving emotional abuse, physical abuse, sexual abuse, sexual harassment, bullying, and domestic violence reported poorer health outcomes including obesity (Almuneef et al., 2016; Bellis et al., 2014; Campbell et al., 2016; Dube et al., 2010; Wadden et al., 2006). Further research is needed in understanding the mechanisms by which child abuse leads to maintenance of adult obesity and appropriate clinical management relating to the complexities associated with this disease.

### **Consequences of Obesity and Morbid Obesity**

Obesity is a chronic condition which has deleterious effects on the individual's health and well-being. Obesity increases the risk of developing chronic diseases such as diabetes, hypertension, coronary heart disease, gallbladder disease, liver disease, and certain types of cancer (Abdelaal et al., 2017; Lerdal et al., 2017). Diseases previously associated with adults such as Type 2 diabetes and cardiovascular disease are now being seen in children with obesity (Ahima, 2011). An analysis of the

NHANES survey between the years 1999 and 2004 showed the prevalence of hypertension, diabetes, dyslipidemia, and metabolic syndrome increased with a rise in body mass index (Nguyen et al., 2008). A large, pooled analysis of 20 prospective studies during the years of 1976-2009 showed substantially elevated rates of total mortality in participants in the Class III obesity range with a BMI of 40.0-59.9 kg/m<sup>2</sup> compared to those in the normal weight range with a BMI of 18.5-24.9 kg/m<sup>2</sup> (Kitahara et al., 2014). The majority of the excess rates of total mortality were predominantly due to heart disease and diabetes and the accumulated excess risk resulted in major reduction in life expectancy after the age of 40 years that were comparable to those of cigarette smoking (Kitahara et al., 2014). A systematic literature review of all-cause mortality based on the BMI found Grade 2 (BMI 35.0 – 39.9 kg/m<sup>2</sup>) and grade 3 (BMI  $\geq$ 40 kg/m<sup>2</sup>) obesity were associated with an all-cause higher mortality, however, Grade 1 obesity (BMI 30.0-34.9 kg/m<sup>2</sup>) was not, and BMIs in the overweight category was associated with lower all-cause mortality (Flegal et al., 2013). The increased risk and predominance of these chronic diseases are threatening the life expectancy of Americans and increasing the mortality rate of the morbidly obese to almost double that of normal-weight individuals (Strum & Hattori, 2013).

Morbid obesity is associated with higher rates of depression, low self-esteem, social isolation and overall reduced health-related quality of life compared to normal weight individuals (Christiansen et al., 2012; Lee et al., 2012). Individuals with morbid obesity have a negative public image and are perceived as lazy, lacking self-discipline, and being less competent than normal-weight counterparts, which in turn affects wages, promotions, and disciplinary actions (Howard et al., 2008; Megias,

2018). Discriminatory attitudes and behaviors against obese individuals in employment, education, and healthcare have also been reported. For example, in one study the authors reported:

[Twenty-eight percent] of teachers said becoming obese is the worst thing that can happen to a person; 24% of nurses said they were repulsed by obese persons; and controlling for income and grades, parents provided less college support for their overweight children than for their thin children. (Puhl & Brownell, 2001, p. 788)

Stigma and bias towards individuals with morbid obesity are common which has profound effects on the person's quality of life. Sobal and Stunkard (1989) called obesity "the last socially acceptable form of prejudice" resulting in tremendous life challenges faced by individuals afflicted with this condition (p. 417).

### **Experience of Living with Morbid Obesity**

A review of the lay literature provides a broader prospective and deeper understanding of morbid obesity than the scientific literature just reviewed. In the lay literature, a fuller picture is revealed of the person's experiences living with morbid obesity. The internet is a conduit for rich sources of information and provides an opportunity for individuals to "talk" freely, in most cases anonymously, on such a sensitive topic as morbid obesity. An internet exploration was conducted using the search engine google with the term's morbid obesity, living experiences of the morbidly obese, and daily life with morbid obesity. This search generated articles, blogs, and YouTube videos of individuals expressing their views of what it is like to be morbidly obese.

The issues discussed by individuals with morbid obesity were numerous and highly individualized. However, there were similarities of topics throughout many of these discussions. Individuals expressed feelings of shame, guilt, and disgust, as well as blaming themselves for their obesity. Several individuals discussed events that occurred in their lives which may have started the road toward obesity such as divorce, death of a loved one, childhood neglect, and physical, psychological, and sexual abuse (Anonymous, 2016; Boogledown550, 2011; Cocogirl, 2015).

Chronic pain and difficulty walking associated with the excess weight was another subject spoken about by individuals with morbid obesity and how it negatively affects their life because they are unable to do normal activities. The subject of chairs as not being large enough, the fear of breaking them, checking for measurement of seats on airplanes and seatbelt extenders were cited in many of the dialogues. Difficulties in maintaining personal hygiene due to excessive sweating and toileting was also a common topic discussed by the bloggers (Posnanski, 2014; TinierTim, 2012; 3 Fat Chicks on a diet, 2011).

Body image and not wanting to see themselves was another frequently mentioned subject. For some individuals this meant being unable to look at themselves in a mirror for many years (Living~400lbs, 2008; Robson, 2015). The subject of dying was mentioned by these individuals, with one man reporting that dying worries him, but it is more about his family dealing with his death rather than himself dying (Robson, 2015).

Many other subjects were discussed by bloggers such as being unattractive to and judged by other people, treated with disrespect, and receiving cruel comments.

Many individuals suffered from depression, anxiety, and social isolation, and found themselves eating for comfort (Posnanski, 2014; Robson, 2015; TinierTim, 2012; Waterland, 2012).

### **Treatment of Morbid Obesity**

Numerous national guidelines related to the treatment of obesity, including morbid obesity have been appearing since the end of the 1990's. In 1998, the National Institutes of Health (NIH) published clinical guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults (NIH, 2000). The U.S. Preventive Task Force, in 2003, recommended that primary care practitioners (PCPs) screen all adults for obesity and offer behavioral interventions and intensive counseling to affected individuals (Wadden et al., 2013). The American Medical Association classified obesity as a disease in 2013, and various medical organizations published treatment guidelines on the management of overweight and obesity in adults including the American Heart Association, American College of Cardiology, the Obesity Society (Jenson et al., 2014), the Obesity Medical Association (Obesity Medicine Association, 2019), and the American Association of Clinical Endocrinologists and American College of Endocrinology (Garvey et al., 2016). There has been a 20.9% increase of adults recommended for weight-loss treatment due to newer guidelines which differ from previous 1998 guidelines by recommending treatment based on one rather than two risk factors. Based on these current recommendations, 64.5 % of adults in the United States (non-pregnant, non-institutionalized) are candidates for weight-loss treatment, 53.4% are eligible for

pharmacology treatment with lifestyle changes, and 14.7% are eligible for bariatric surgery (Stevens et al., 2015).

The current standards of practice for weight loss recommend the use of nutritional therapy, physical exercise, behavioral change, and pharmacotherapy in conjunction with positive lifestyle changes. However, for individuals with BMI  $\geq 40$  kg/m<sup>2</sup> or BMI  $\geq 35$  kg/m<sup>2</sup> who have not responded to behavioral treatment, with or without pharmacotherapy, it is recommended that referral for evaluation for bariatric surgery may be beneficial to achieve weight loss (Garvey et al., 2016; Jenson et al., 2014).

The first intestinal resection for the treatment of weight loss was conducted in the early 1950's by Dr. Victor Henrikson of Sweden, and Dr. Richard Varco of the University of Minnesota has been credited with performing the first jejunoileal bypass for obesity (Buchwald, 2008). The outcomes of the first clinical program on intestinal bypass surgery for the management of morbidly obese patients who were 100 pounds above average body weight was published in 1963 by surgeons Payne, DeWind and Commons (Buchwald, 2008).

The first laparoscopic gastric bypass surgery was performed in 1994 and led to a dramatic increase in bariatric surgeries (Faria, 2017). By 1998, 13,000 weight-loss surgeries had been performed in the United States, and recent statistics show an increase from 158,000 in 2011 to 228,000 in 2017 (American Society for Metabolic & Bariatric Surgery [ASMBS], 2018). Although bariatric surgery is viewed as an option for individuals with morbid obesity, it is not without its risks, complications, and sometimes failure. Furthermore, as the prevalence of morbid obesity continues to

increase, bariatric surgery is only a temporary and palliative measure from a population perspective, as it cannot keep up with the fast-growing rate of morbid obesity in the United States (Sturm, 2007).

### ***Nurse Practitioners Caring for Patients with Morbid Obesity in Primary Care***

As noted previously, individuals with morbid obesity have a higher incidence of obesity-related conditions, such as hypertension, hyperlipidemia, diabetes, cardiovascular disease, and are at higher risk for certain cancers, including those of the esophagus, breast, liver, pancreas, uterus, ovaries, and kidneys (CDC, 2017). The complexity of morbid obesity relating to biological, psychosocial, and environmental factors, and the mounting demands of primary care practices, present many challenges for nurse practitioners and other primary care providers who provide care to these patients.

The growth of nurse practitioners has significantly increased over the past 20 years in the United States, and the Bureau of Labor Statistics predicted a 31% job growth for nurse practitioners during the next 10 years (Foster, 2018). As of this writing, there are approximately 234,000 nurse practitioners licensed in the United States, with 86.6% certified in an area of primary care, and 69% of all nurse practitioners delivering primary care (American Association of Nurse Practitioners, 2020). Based on these numbers, it is reasonable to conclude a significant number of individuals with morbid obesity are seen by nurse practitioners within the primary care setting.

Surprisingly, there is almost a total lack of research on how nurse practitioners manage patients with morbid obesity in primary care. On the other hand, there are

some relevant and important research studies that highlight (1) the general under diagnosis and under treatment of obesity, including morbid obesity, in primary care and (2) certain aspects in the management of obesity that include nurse practitioners with other health care providers collectively.

A number of researchers have identified that obesity, including morbid obesity, has not been sufficiently diagnosed and/or treated in the primary care setting. In regard to diagnosis, Ma et al. (2009) examined the rate of obesity screening and diagnosis using a nationally represented sample of patients over the age 18 who visited physicians' offices and hospital outpatient departments. The researchers found that only 29% of patients who met the criteria of obesity had a documented diagnosis of obesity on their problem list and the higher the BMI the more likely a documented diagnosis of obesity. Nineteen percent of patients with a BMI between 30.0-34.9 kg/m<sup>2</sup>, 32 % of patients with a BMI of 35.0-39.9 kg/m<sup>2</sup> and 50% of patients with a BMI of 40 kg/m<sup>2</sup> or greater had a documented obesity diagnosis (Ma et al., 2009). In a similar vein, Matter et al. (2017) review of electronic medical records found 52% of patients met the criteria for obesity and only 5.6% of these records had documentation of obesity on the patient's problem list, however, morbid obesity and the cumulative number of comorbidities were significantly associated with an obesity diagnosis.

In regard to both diagnosis and treatment, Bleich et al. (2011) examined data obtained from the National Ambulatory Medical Care Survey (NAMCS) of patient visits reported by physicians. They found that only one-third of the patients who met the criteria for obesity received a diagnosis. Patients who were adults between the ages of 18-29, female, having Class II or class III obesity, living in the Midwest U.S.,

and who had been seen by a cardiologist or other internal medical specialist were most likely to receive an obesity diagnosis. Additionally, the presence of an obesity diagnosis was the largest predictor of patients receiving weight loss counseling (Bleich et al., 2011). Ciciurkaite et al. (2019) also examined data from the National Ambulatory Medical Care Survey (NAMCS) over a time period from 1996-2014 for documentation of diagnosis and treatment of obesity in physician office visits. Obesity and morbid obesity identified by patient's BMI were both included in this study. The authors found that obesity was underdiagnosed and undertreated based on two outcome measures: prescription of weight loss medications and diet and exercise counseling.

In regard to weight reduction, Wadden et al. (2013) evaluated three intervention studies of the Practice-based Opportunities for Weight Reduction (POWER), which included POWER-UP, Be Fit, Be Well, and the POWER Hopkins' treatment modalities in weight management in primary care. Participants had a BMI of 30 to 50 kg/m<sup>2</sup> (mean BMI  $38.5 \pm 4.7$  kg/m<sup>2</sup>) with at least 2 criteria of metabolic syndrome. The researchers found a statistically significant weight loss in patients with treatment modalities of the POWER-UP's brief enhanced lifestyle counseling approach and POWER Hopkins' remote support intervention. The study provided a template for these two effective interventions that may be implemented within primary care in the management of patients with obesity.

The above studies reported on primary care occurring in physicians' offices, hospital outpatient departments, and primary care practices. It is unknown to what extent, if any, nurse practitioners were part of the work force in these settings.

Therefore, the practices of nurse practitioners for obesity screening, diagnosis and interventions for weight management cannot be determined from these studies.

There were several studies on clinical practice patterns of health care providers including attitudes, practice patterns, and challenges providing weight management in primary care that did include nurse practitioners. These challenges included time constraints of the clinical visit, insufficient knowledge in obesity management, lack of counseling skills and behavioral training to facilitate positive lifestyle changes in management of the patient with obesity (Aboueid et al., 2018; Blackburn et al., 2015; Bornhoeft, 2018; Hayes et al., 2017). Health care providers were identified as physicians, nurse practitioners, and physician's assistants in these studies. None of the studies segregated nurse practitioners from other primary care health providers nor was there a distinction between obesity and morbid obesity in any of these studies (Aboueid et al., 2018; Blackburn et al., 2015; Bornhoeft, 2018; Hayes et al., 2017). There were two web-based self-report surveys by health care professionals on beliefs and practices of obesity counseling, pharmacotherapy, referral to bariatric surgery, and coding where nurse practitioners were segregated from physicians (Pettrin et al., 2016, 2017). However, the participants worked in a variety of practice settings including individual, group, or hospital practice and it could not be determined where the nurse practitioners practiced.

Researchers in two of these studies described the challenges providers had in conceptualizing obesity as a chronic medical disease due to the lack of addressing obesity with patients in a consistent proactive manner verses treatment of obesity-related conditions (Blackburn et al., 2015; Hayes et al., 2017). There was concern

among health care providers of alienating the patient with discussions of weight that may be detrimental to provider-patient relationship (Blackburn et al., 2015).

Additionally, other researchers identified the lack of organizational support in placing value on the importance of obesity management, lack of standardized approach, and uncertainty of specific roles within the primary care team relating to obesity management (Bornhoeft, 2018; Hayes et al., 2017).

Granara and Laurent's (2017) published a survey on provider practice patterns relating to pharmacotherapy. The authors reported that a high percentage of primary care providers did not prescribe weight loss medications and had a negative perception of these medications. They also identified a difference between physicians and advanced practice clinicians, which included nurse practitioners and physician assistants, prescribing patterns. Advanced practice clinicians had a more positive impression of pharmacotherapy and prescribed more frequently than physicians for short-term (<3 months) treatment, however, no difference was seen in long-term (>3 months) treatment. Major barriers to prescribing weight loss medication included concerns related to potentially adverse effects, interactions with other medications, and insurance reimbursement. Additionally, the authors identified the difference in prescription patterns in terms of the patient's obesity status, with providers more likely to have prescribed if the patient had two comorbidities or was identified as having severe obesity.

In two studies, researchers evaluated weight management interventions between nurse practitioners and physicians in primary care (Magee et al, 2012; ter

Borghet et al., 2011). Magee et al. (2012) evaluated the frequency of weight loss interventions for patients who were overweight or obese between two nurse practitioners and six physicians in a single-family practice setting. Patients in the study had mean BMI 32.6 kg/m<sup>2</sup> and 29% of the patients had one comorbidity, 20% had two or more comorbidities, and 51% did not have any comorbidities. There was no delineation between obesity and morbid obesity identified in the study. The researchers found weight-related intervention rates delivered by the nurse practitioners were much greater than physicians, 61.1% versus 7.8% respectively. In the second study, ter Bogt et al. (2011) focused on the prevention of weight regain through lifestyle interventions between nurse practitioners and physicians. Participants had a BMI of 25 kg/m<sup>2</sup> to 40 kg/m<sup>2</sup> thereby being overweight, obese, or morbid obesity. The nurse practitioner-led lifestyle behavioral interventions guided by standardized computer software program, known as the Groningen Overweight and Lifestyle (GOAL), were compared to the physicians' usual weight-managed care. After one year, there was a significant increase in walking activity of the nurse practitioner-led intervention group than in the general practitioner group, there was no significant difference in weight change (ter Bogt et al., 2011a). After 3 years, there was a significant positive influence on fasting blood glucose levels with the nurse practitioner-led intervention, there was no significant differences in weight change, waist circumference, blood pressure, and lipid levels between the two groups (ter Bogt et al., 2011b).

In a qualitative study involving nurse practitioners and practice nurses in the United Kingdom, Philips et al. (2014) focused on the challenges of managing obesity.

Five of the 18 participants were nurse practitioners. The author found that the nurses addressed weight with patients who were seen in chronic disease clinics or presenting with co-morbidities, including patients with morbid obesity, however, the nurses were inconsistent in addressing weight with healthy overweight patients. Reasons given for this inconsistency were time constraints, an inability to relate a presenting problem with weight, and concern over undermining the relationship with the patient. Since the analysis was completed on the nurses as a single aggregate, it is unknown if there were any differences between the practice nurses and nurse practitioners in the study.

In regard to nurse practitioners only, a systematic review of the literature was conducted by Hyder (2019) to assess the practice patterns of nurse practitioners related to weight management in primary care. Hyder found that approaches to weight management were inconsistent and under-utilized. Recently, a cross-sectional survey study among Florida nurse practitioners was conducted to evaluate the nurse practitioner's perceptions and practice patterns of weight management and identify factors influencing the implementation of these practices in primary care. The researchers found that "higher self-efficacy and perceived skill accounted for a significant amount of the variance in the weight management practices" among the nurse practitioners (Hyder & Edwards, 2020, p.133). In both of these reports, no distinction was made between obesity in general and morbid obesity. In contrast, two studies included patients whose BMI and/or associated comorbidities identified them as having morbid obesity (Ritten et al., 2016; Thabault et al., 2016). Both studies included one nurse practitioner who implemented behavioral interventions with patients with obesity and morbid obesity over a 12-week time period. Ritten et al.

(2016) study included sixteen patients with a BMI range 35 to 68.4 kg/m<sup>2</sup> with a mean BMI of 42.3 kg/m<sup>2</sup> who received pre-planned behavioral interventions over several visits by the nurse practitioner. Results of the study found the participants had improved awareness of health promoting behaviors, a lower diastolic blood pressure, and a lower BMI, although the change in BMI was not statistically significant.

Thabault et al. (2016) followed 36 patients with an average BMI for males 36.8 kg/m<sup>2</sup> and females 37.9 kg/m<sup>2</sup> with 89% of patients having at minimal one obesity-related comorbidity such as hypertension, diabetes, and hypercholesterolemia. The nurse practitioner delivered an intensive behavioral therapy session on diet, physical activity, goal setting, journaling of diet and activity, usage of a pedometer, and motivational interviewing was utilized to support behavior for positive lifestyle changes. The findings of the study showed an average weight loss of 10.77 pounds in study participants, however, there was not a statistically change in blood pressure.

Clearly there is a need for an exploratory study of the experiences of nurse practitioners, including their thoughts and practices as well as the barriers and facilitators they have encountered in managing patients with morbid obesity. The following study was designed to address this need.

## **CHAPTER 3**

### **METHODOLOGY**

The primary aim of this study was to gain an understanding of the experiences of nurse practitioners in providing primary care to adults who have morbid obesity.

The specific research questions were:

1. What have the overall experiences been like for nurse practitioners working with patients who have morbid obesity?
2. How do nurse practitioners describe their clinical practice, including one-on-one interactions, with patients who have morbid obesity?
3. What facilitators and barriers, if any, have nurse practitioners encountered in delivering care to patients who have morbid obesity?
4. What recommendations do nurse practitioners have for working with patients who have morbid obesity?

#### **Study Design**

An inductive qualitative descriptive design utilizing semi-structured interviews was conducted with 10 nurse practitioners who provided primary care of individuals living with morbid obesity. Qualitative description based on the tenets of naturalistic inquiry, is particularly indicated when information that is required comes directly from those experiencing the phenomena that is being studied (Sandelowski, 2000). The use of semi-structured interviews provided the researcher with the opportunity to gain a richer and deeper understanding of the phenomena being studied (Sauro, 2015). In this context, exploring the nurse practitioners' experiences caring for individuals living with morbid obesity was consistent with this type of qualitative approach.

## **Participants**

Although many professional healthcare workers have contact with individuals with morbid obesity such as registered nurses and medical assistants, the aim of this study was to explore the experiences of nurse practitioners caring for patients with morbid obesity. Nurse practitioners are educated differently, and their scope of practice is broader than other healthcare professionals, especially within the discipline of primary care. Nurse practitioners who are licensed to practice in the state of Rhode Island have full prescriptive and independent privileges to practice within primary care without oversight of other professionals unless required for specific practices or on a consultant basis.

In Rhode Island, there are over 1,700 licensed nurse practitioners, with 1,454 practitioners in adult/gerontology and family/individual health specialties (State of Rhode Island Department of Health, 2021). Rhode Island has the 28<sup>th</sup> highest obesity rate in the United States, and the adult obesity rate increased from 16.9% in 2000 to 30% in 2018 (State of Obesity, 2019). Based on these numbers, it is expected that a significant number of individuals with morbid obesity are seen by nurse practitioners within the primary care setting in Rhode Island. Additionally, Rhode Island is the location of the author's home which provided an advantage in meeting with the study participants.

Purposive sampling was used to identify participants who had direct and personal knowledge of the phenomenon being studied and able to provide “information-rich” cases (Kuzal, 1999; Sandelowski, 2000). This is consistent with qualitative research where:

Participants are chosen not to represent others [as in quantitative research], but for their likelihood of having information on the phenomenon of interest . . . as depth of enquiry is important, qualitative studies should not be judged by sample size. (McCrae & Purssell, 2016, p. 2285)

Based on these criteria, nurse practitioners employed within the primary care setting and who have managed patients with morbid obesity were best suited to participate in this qualitative study by providing an in-depth description of their experiences working with patients with morbid obesity.

Ten nurse practitioners participated in this study. All of the nurse practitioners met the inclusion criteria which included providing primary care to patients with morbid obesity within the last year, fluency in English, and age of 18 years or older. One nurse practitioner recently moved to a neighboring state to practice; however, still met the inclusion criteria by having practiced within the last year in Rhode Island. Exclusion criteria for this study were nurse practitioners who were not working in primary care in Rhode Island or did not provide care to patients with morbid obesity within the past year since they may have difficulty in recall.

In order to justify the sample size, the aspect of data saturation was considered. Data saturation is commonly used in qualitative research and occurs when no new information is observed in the data (Guest et al., 2006). Researchers have showed the number of interviews, which demonstrated 80% to 90% of data saturation generally occurs within 5 to 16 interviews, and even sooner among homogeneous groups (Guest et al., 2006; Namey et al., 2016). Kuzel (1999) said, “experience has shown that 5 to 8 data sources or sampling units will often suffice for a homogenous sample” to achieve

saturation (p. 420). In this study, it was after 6 to 8 interviews were completed and initially analyzed that data related to the research questions were becoming repetitive. It was decided to continue with two additional participants to ensure accuracy in the recognition of the repetitiveness.

### **Recruitment**

Following approval from the University of Rhode Island Review Board (Appendix B), the researcher identified potential participants by contacting individuals who were known from professional working environments, met the inclusion criteria and might be interested in participating in this study. One nurse practitioner in the study was referred to the researcher by a previous participant as the nurse practitioner expressed interest in the study and met the inclusion criteria. An electronic letter containing information describing the purpose of the study was sent to each nurse practitioner (Appendix C). The researcher contacted each participant by email or telephone to schedule a date and time for the interview. At that time, each nurse practitioner was given information on the study, an informed consent was obtained informing them of the purpose of the study, potential risks, and the voluntary nature of the study with the ability to stop participating at any time during the process of the interviews (Appendix D).

### **Data Collection**

Initially, the informed consent and demographic information and other characteristics of the nurse practitioners were collected at the time of the interview. The demographic questionnaire included information in age, gender, race, education, years of practice, and length of time on current position (Appendix E). The interviews

began with an open, collegial conversation of current work situations and at times, personal information of what was occurring in the nurse practitioner's life. These measures helped to put the nurse practitioner and also the researcher at ease to ensure a comfortable dialogue. A series of two semi-structured, open ended interviews were conducted with each participant. The interviews provided the avenue for nurse practitioners to describe their overall experiences and offer detailed accounts of working with patients who have morbid obesity. The semi-structured interview was viewed as an effective means in providing rich data of the experiences of the practitioner while also not "imposing any a priori categorization that may limit the field of inquiry" (Fontana & Frey, 1994, p. 366). The questions asked in the interview were aimed at drawing out the overall experiences of the nurse practitioners through the use of open-ended questions and using probes to elicit as much information and details possible (Appendix F).

Each nurse practitioner was asked interview questions relating to each research question using the interview guide. The main and first interview question in regard to each research question was open-ended with the aim of eliciting a broad array of information from the nurse practitioners. These were followed by probes for clarifying or expanding on the nurse practitioner's response. For the first research question, the nurse practitioner was asked to reflect on her clinical practice and describe her experiences, including overall impressions, thoughts, beliefs about patients with morbid obesity. When not covered fully, probes were used to illicit the nurse practitioner's feelings when first meeting or working with a patient with morbid obesity, such as feelings of frustration or disgust, and her view of the patient in

relation to normal weight patients. In the first interview question pertaining to the second research question, the nurse practitioner was asked about the approach she used in practice with patients who had morbid obesity. For more detail, the practitioner was asked to walk through how she approached the patient in terms of his or her weight, including the first meeting with a new patient. Follow up probes were used to clarify when and how the practitioner approached or discussed the subject of weight and if she viewed morbid obesity as a separate disease. For the third research question, the nurse practitioner was asked if she noted any facilitators and barriers that helped or hindered her in delivering care to patients with morbid obesity. To add specificity, the practitioner was asked to talk about a patient who was successful or not successful with weight loss, and what enablers and obstacles she felt contributed to the success or lack of success. The last research question was related to recommendations the nurse practitioner had for other nurse practitioners interested in caring for patients with morbid obesity. During the interviews, many of the responses from the nurse practitioners regarding their general experiences also related to their direct patient care and to facilitators and barriers. Some of the responses were broad or not in alignment with the research question and specific probes were used to bring back focus on the topic. Few of the nurse practitioners gave straightforward answers describing their care to patients, and probes also were used to further investigate their experiences.

Acquiring trust and establishing rapport with the nurse practitioners were found to be important elements in the interview approach. This is consistent with Fontana and Frey's (1994) view that by gaining the trust of the study participants (nurse practitioners), one can be successful in obtaining information concerning the

phenomena of interest and potentially “open doors for more informed research” (p. 367). The use of open-ended questions framed in a warm and welcoming manner allowed for a broad range of responses from the nurse practitioners.

The first interview occurred in a private room of a local coffee shop where no other individuals were present, which was conducive for dialog and maintaining privacy. The next two nurse practitioners reported scheduling conflicts and requested the interviews take place by telephone. All other interviews were conducted by telephone as a consequence of the pandemic affecting the United States and in accordance with directives from the university to stop in-person research. The telephone interviews were conducted in a private room of the researcher’s home. It is recognized in-person interviewing has the advantage of allowing the researcher to observe non-verbal cues of the study participants, the surroundings, and other contextual data which may have enhanced the richness of the data. At the same time, researchers have shown that interviews by telephone are less intrusive, have more privacy, minimize power-dynamics between the interviewee and the interviewer, and allow for easier scheduling for the interviewee (Drabble et al., 2016). This was also found to be the case in this study as most of the nurse practitioners worked fulltime jobs, and several of them had small children in which telephone interviewing allowed for easier accessibility to the participants. A pilot study of an in-person interview with a nurse practitioner with young children proved challenging in trying to maintain the flow of conversation relating to the interview questions. Musselwhite et al. (2007) found interviews by phone to be an effective means for conducting in-depth interviews for nursing qualitative research. Similar to Musselwhite et al. (2007) discussion, the

telephone interviews in this study were detailed and comprehensive, while also saving travel time, and were less distracting than in-person interviews.

Each of the interviews was audio recorded and professionally transcribed with identifying markers removed. Interviews that are properly audio recorded have shown to demonstrate high fidelity with regards to data collection (Rudestam & Newton, 2015). Notes were taken during the interview of any apparent auditory effects such as hesitation responses, communication difficulties, or moments of uncertainty regarding the questions asked. A nurse practitioner's hesitancy to respond to initially designated open-ended questions was particularly important. Overall, the responses from the nurse practitioners were fluent when giving personal accounts and interactions with patients who had morbid obesity. One nurse practitioner was reserved in her responses, giving few-word answers despite the use of additional probes to elicit more information. It appeared as though this nurse practitioner was less interested and engaged than some of the nurse practitioners in the study. The durations of the interviews with the nurse practitioners varied, ranging from 30 minutes to an hour. The second interview was usually, but not always, shorter in length and was used to ask any questions that had not been addressed fully in the initial interview or needed further clarification.

All identifiable parameters of the nurse practitioners were extinguished at the time of data collection and each was assigned a pseudonym to protect confidentiality. After each interview, the audio recording was transcribed professionally, and a copy of the interview transcript was sent to the nurse practitioner to review for accuracy. Additionally, notes and beginning analysis of the data were organized by a system

proposed by Schatzman and Strass (1973) as observational, theoretical and methodological notes. The observational notes included the transcript of the interview and notes on the general impression of the interview. These observational notes were meant to have as little interpretation as possible. Theoretical notes consisted of an interpretative view of the data reflecting different points as a transcript was read and re-read several times. Methodological notes consisted of observations the researcher identified during the interviews that needed modification for further interviews. The transcripts of the first two interviews were reviewed by two professors of the dissertation committee that led to further discussions on rephrasing of the interview question related to facilitators and barriers. The question was rephrased to focus on a particular patient the nurse practitioner had worked with to elicit a deeper, more detailed account of their experiences. A summary profile of each nurse practitioner was written in addition to the observational, theoretical, and methodological notes. These summaries provided a description of the nurse practitioners as to who they were in terms of age, marital status, work history, and any other unique features pertaining to the individual. All notes, transcripts, and profiles of each nurse practitioner who participated in the study were submitted and reviewed with the major professor and inside member of the dissertation committee. All documentation regarding data collection including notes, recordings, and transcripts were kept strictly confidential and are maintained in a locked file in the student researcher's private office and the researcher's personal computer (password sensitive).

## **Insiderness**

Inside research refers to research in which the researcher conducts studies with groups, communities, and populations in which he or she is also a member (Kanuha, 2000). For this study, the researcher was considered to have “insiderness” as she previously was a primary care provider and knew many of the nurse practitioners in the study and had familiarity with the setting in which many of them practice. However, at the time of the study, the researcher was no longer practicing in primary care and subsequently had less knowledge of the current environment where the nurse practitioners practiced which may have reduced the effects of insiderness. Conducting this research as an insider allowed for relatively easy access to potential study participants as the researcher was known to most of them. The researcher shared the same language and professional background, thus requiring less time in building rapport and trust for the researcher-participant relationship (Asselin, 2003). Having similar central knowledge allowed for more in-depth questioning related to the nurse practitioner’s experiences with patients who have morbid obesity. As Asselin (2003) pointed out, there are caveats to insiderness as the nurse practitioners may have responded to the research questions in a way that they thought the researcher wanted to hear, or they may have been somewhat restrained as they may have been concerned about being judged. On the other hand, by knowing the researcher, the nurse practitioners seemed to be comfortable expressing their experiences in an open and straightforward manner. Every effort was made to establish a nonjudgmental and supportive dialogue with the nurse practitioners in order to provide an opportunity for them to be open and willing to share their experiences.

Although these features of insiderness were beneficial, there were potential implications for data collection and content analysis that may have threatened the credibility of the study. To safeguard against potential bias, the researcher acknowledged her familiarity with the study participants and practiced reflexivity throughout the research process. Asselin (2003) characterized reflexivity as an iterative journey of self-reflection in which the researcher identifies his or her thoughts and beliefs, and responses to these thoughts. By practicing reflexivity, the researcher is able to reflect on the data including predetermined thoughts of the phenomenon under study throughout the research. In this study, the researcher maintained a reflexivity journal throughout the study as experiences, thoughts, and biases arose.

### **Data Analysis**

Inductive content analysis based on organizing methods of immersion and crystallization was used as the primary analytic approach for the study. Immersion and crystallization are viewed as iterative activities that provides the researcher “a means to move from research question, the generated text, and/or field experience, and the raw field data to interpretations reported in the write-up” (Borken, 1999, p.180). Data analysis occurred in three phases beginning with the first study participant.

Phase 1 began with the transcription of each interview which was provided through a professional transcription service within 1-2 days of the recorded interviews. The return time of the transcript was usually within 24 hours. Confidentiality was protected by removing names, places of employment or other information that may have served as identifiers from the transcripts. Each nurse practitioner was referred to by the pseudonym that was previously selected. Each transcript was read completely

while listening to the audio-recording of the interview to confirm accuracy of the data. Each nurse practitioner received a copy of her interview transcript to ensure accuracy and to provide an opportunity to modify, clarify, or expand on any information provided in the interview. One nurse practitioner requested removal of a personal item that was inadvertently transcribed, and it was immediately deleted from the transcript. All other nurse practitioners reported the transcripts to be accurate without any changes to be made. Each transcript was re-read in its entirety several times to increase familiarity of the data (immersion), and impressions and insights were gathered from the data (crystallization). It was during this phase that the nurse practitioners' conceptualization of morbid obesity as a risk factor for or increasing the severity of another chronic disease rather than a separate disease began to emerge.

After the immersion/crystallization process, each transcript and the interview notes were read and re-read sequentially as they related to each research question. Crabtree and Miller (1999) referred to this as "segment[ing] the data by identifying the information most pertinent to each research question" (p. 135). A general descriptive overview was generated of the nurse practitioner's experiences working with patients who are morbidly obese (Research Question 1). Next, a descriptive summary of how the nurse practitioner described her clinical practice with patients who had morbid obesity was developed (Research Question 2). For the next research question, an inventory of and categories for grouping the facilitators and barriers the nurse practitioners encountered while caring for patients with morbid obesity were created (Research Question 3). Lastly, recommendations provided by the nurse practitioners were identified and grouped into categories (Research Question 4).

Phase 2 of the data analysis began after the second interview with each of the nurse practitioners was completed. The analysis in this phase consisted of the same sequence of steps as identified in Phase 1. Particular attention was paid to any additional information or information that supported or contradicted data from the first interview. Phase 1 and 2 were repeated with each subsequent nurse practitioner.

Phase 3 of the data analysis began following completion of analysis of all data provided by the nurse practitioners (Phase 1 and 2). Phase 3 consisted of a cross-interview analysis that compared and contrasted the interview texts for similarities and differences among the nurse practitioners. The identification and application of codes and labeling of categories that reflected patterns from the data were conducted. The commonalities were grouped, and considered in relation to one another, including determining if there was a hierarchy or some other order among them. Distinct differences or outliers were noted in this step of the analysis and possible explanations for these outliers were considered and documented. The results of the study findings are presented in Chapter IV of this dissertation.

### **Trustworthiness**

In qualitative inquiry, the researcher bears the responsibility of employing a number of approaches to address credibility of the findings. Trustworthiness is at the heart of qualitative research critique and it is appraised through distinct definitive principles (Beck, 2009). These principles or criteria were originally described by Lincoln and Guba (1985) and include establishing credibility, transferability, dependability, and confirmability.

Credibility refers to the believability of the study or the confidence in the truth of the findings of a particular inquiry (Lincoln & Guba, 1985). This can be achieved by employing activities that increase the probability of true and credible findings. In this study, a second follow up interview was conducted to discuss the findings of the initial interview in order to ensure accuracy.

Transferability refers to the probability that the findings of the study have meaning to others in similar situations. In this study, transferability was achieved by providing information on the selection and characteristics of the study participants, how the data were collected and how they were analyzed. Verbatim quotations from each nurse practitioner contributed to the truthfulness of this qualitative study.

Dependability refers to the process of replication of the study to allow future researchers to conduct a similar study. Malterud (2001) claimed that a personal approach may include elements that can be transferred to contexts beyond the one where it was first designed. To ensure the criteria of dependability, a complete and detailed documentation of the study design, sampling procedures, location of the study, data collection, data analysis, and write-up of the data were provided to ensure transparency of all the procedural steps taken in this study. All original notes, summary profiles, recordings, and transcripts were given to and reviewed by the two core members of the dissertation committee who were proficient in qualitative research.

Confirmability refers to the potential for agreement between two or more independent people about the study's accuracy, relevance or meaning (Polit & Beck, 2010). An external audit requiring both the establishment of an audit trail and

carrying out of an audit by a competent external auditor ensures this criterion (Lincoln & Guba, 1985). The standard of confirmability was maintained as the researcher reviewed all procedural steps outlined in the study including detailed descriptions of data collection, review of transcripts, data analysis, interpretation of the data and raised any concerns for potential biases in meetings with two core members of the dissertation committee.

## CHAPTER 4

### FINDINGS

As noted earlier, the primary aim of this study was to explore the experiences of nurse practitioners working within primary care with patients who have morbid obesity in order to gain greater insight and understanding of these experiences. The specific research questions in this study were:

1. What have the overall experiences been like for nurse practitioners working with patients who have morbid obesity?
2. How do nurse practitioners describe their clinical practice, including one-on-one interactions, with patients who have morbid obesity?
3. What facilitators and barriers, if any, have nurse practitioners encountered in delivering care to patients who have morbid obesity?
4. What recommendations do nurse practitioners have for working with patients who have morbid obesity?

#### **Characteristics of the Study Participants**

The study participants were 10 nurse practitioners licensed in the state of Rhode Island who had provided primary care to patients, including patients with morbid obesity. Demographics of the study participants are presented in Table 2. All of the participants were female ranging in age from 25 to over 65, seven of whom self-identified as Caucasian, two African Americans and one Hispanic. All had master's degrees with three also obtaining doctoral degrees in nursing practice (DNP). Their years of experience as a nurse practitioner ranged from less than five to more than fifteen. All but one of the nurse practitioners practiced in community health care

centers which predominantly served individuals from low socioeconomic backgrounds who may or may not have medical insurance. The remaining nurse practitioner had worked in a private primary care practice in a more affluent community. The volume of patients with morbid obesity reported from the nurse practitioners working in the community clinics ranged from a “few to six on my caseload”, “25%”, “many”, “very large part of my patient population”, and “most of my patients.” The nurse practitioner who was employed in private practice worked with three people with morbid obesity.

In the remainder of this chapter, the findings will be presented in relation to each research question, followed by a discussion of these findings. An overview of the participants’ general experiences is presented, followed by the participants’ descriptions of their clinical practices, identification of facilitators and barriers, and lastly, any recommendations participants may have for caring for patients with morbid obesity.

Table 2

Characteristics of Study Participants

Gender	Male	0
	Female	10
Age	25-34	4
	35-44	4
	45-54	0
	55-64	1
	> 65	1
Race/Ethnicity	White/Caucasian	7

	African American	2
	Hispanic	1
Highest Level of Education	Master's Degree	7
	DNP	3
Experience as N.P. (years)	< 5	3
	5-10	3
	10-15	2
	> 15	2
Place of Employment	Private practice	1
	Community health center	9

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**Research Question One: The Overall Experiences of Nurse Practitioners Working with Patients with Morbid Obesity**

The nurse practitioners in this study acknowledged morbid obesity as a separate condition but approached it mainly in light of each patient's presenting condition. They dealt with morbid obesity as a component influencing or associated with other morbidities, for example, diabetes or hypertension, rather than a separate disease entity. When talking specifically about morbid obesity, the nurse practitioners spoke of it as complicated, challenging, and time consuming.

In the first interview, the nurse practitioners were asked what their general or overall experience had been like working with patients who were morbidly obese. It had been assumed that the nurse practitioners would be oriented to morbid obesity as a specific disease entity with experiences managing this condition in primary care. This assumption was quickly called into question with the first participant as she hesitated in responding. The interview question was rephrased several times with additional

probes in this and the following interviews in an attempt to clarify the question.

Illustrations of this rephrasing as well as probes included, (1) What is your general feeling or your general thoughts on this population? (2) What is your general impression of the patients that you had? (3) Is there anything that comes to mind when you see someone with morbid obesity? (4) What is like for you?

For these practitioners, the experience of working with patients with morbid obesity was intimately linked within the context of another condition and rarely as the presenting condition. As one nurse practitioner commented, seeing patients with a body mass index of 40 “does not trigger any conscious thoughts or feelings . . . I feel a little bit desensitized to people who are in the 40s . . . it’s almost like a normalized thing.” All of the nurse practitioners with the exception of one acknowledged morbid obesity as a separate disease; however, the majority of them did not approach the obesity specifically as a separate condition during the clinical visit, but rather linked it with another condition. One nurse practitioner expressed it this way, “there’s a lot of patients with other healthcare needs that we address, but not just weight management, no.” Another participant conveyed, “I do not see hardly any patients that I can’t piggy-back that [morbid obesity] with a medical disorder.” As noted earlier only one participant did not consider morbid obesity as a separate disease, but explicitly identified it being associated with other co-morbidities. She went on to say, however, that she had one patient who had an eating disorder and was unable to stop eating and, in that case, she saw it as a disease.

The nurse practitioners linked morbid obesity with both physical and psychological co-morbidities, as well as seeing psychological factors as possibly

influencing the occurrence of morbid obesity and at times psychological morbidity becoming a consequence of the morbid obesity. A predominant response among the participants relating to their overall experiences caring for patients with morbid obesity was focused on the physical co-morbidities associated with this condition such as diabetes, hypertension, chronic pain, and worsening of functional status due to the excess weight. Mary expressed, “Immediately, I start thinking hyperlipidemia, diabetes, hypertension . . . depression.” Similar thoughts occurred to Beth: “I mean, honestly, when you’re thinking about obesity and BMI, you might touch upon it with their diabetes and hypertension. You looked to see what’s happened, what psy background has happened in their life?” Ann commented on patients with morbid obesity, “. . . as maybe they’re unhealthier or at risk for diseases that normal weight patients aren’t.” Sally spoke about how she initially cares for patients concerning their comorbidities: “Typically, I try to . . . start with their diabetes or their blood pressure or their kidney disease.”

Theresa talked about a young male patient with morbid obesity she had seen in her practice, “He came in because of his hypertension. And so, as we started talking, . . . looking at what are the factors that caused [the] hypertension besides eating a lot of sodium and fast food.” Evelyn also spoke of a patient with morbid obesity exhibiting hypertension:

Her blood pressure was slightly elevated, above 140. I used that as [an] opportunity to say, because of the weight it will put a lot of pressure and weight on your heart. If you work on getting off some weight, you might see that your blood pressure will start to get better.

All of the participants mentioned some type of psychological disorder associated with patients who have morbid obesity. When asked about their initial thoughts when first meeting a patient with morbid obesity, four of the participants voiced similar concerns regarding the patient's psychological background and what has led them to the condition. Ann began asking herself, "What has led this person to become like this?" while Liz wondered, "What kind of lifestyle, or childhood, . . . if they were taught any healthy lifestyles, . . . asking them about diet, exercise, any trauma history, [or] depression." Evelyn asked the patient, "How did you get to this point?"

Mary spoke of the relationship between childhood experiences, trauma, and obesity, as well as depression playing a large part among patients with morbid obesity. "They need to feel better . . . feeling better means to overeat and fill their stomach, and get their comfort, that's something they're either not getting now or didn't get when they were younger."

Theresa commented, "I think that's probably [depression and anxiety] an underlying cause of a lot of obesity is, it's not just a disease, it is, but a symptom of whatever else is going on." Additionally, Joy's view on patients with morbid obesity was from an addiction perspective, ". . . some people use drugs, some people use alcohol, some people cope efficiently, but some people use food, morbid obesity or obesity in general . . . as medicating some pain."

Both Sally and Evelyn expressed a psychological element paralleling obesity. Sally explained, "[obesity] just becomes . . . a mental health deterrent. It becomes . . . a depressive agent. It wrecks people inside and out." Evelyn remarked that people

with morbid obesity have co-morbidities of depression and anxiety, as well as eating disorders:

Meaning that it's not just that they are hungry [and] that's why they are eating their food, but they're just eating it to . . . get some satisfaction, and sometimes it can also be oral fixation, just to have something in your mouth, eating, eating, eating.

Liz further commented, "that there's more underlying issues they need to change and get counseling on before they can really make changes." For Beth, it was "to make us happy, we eat."

Several participants spoke of morbid obesity as complicated, challenging, and a time-consuming condition. Factors perceived to be associated with or impacting the complexity of the condition included physical, psychological, and sociocultural influences. Diabetes and hypertension were major physical co-morbidities associated with the obesity, in addition to depression and anxiety observed with the condition. The patients' financial limitations, lack of education, and cultural influences regarding dietary factors further complicated the management of the condition.

The care of the patient with morbid obesity was considered challenging and time consuming with reference to strategies addressing the condition. The patient's socioeconomic status was considered a challenging circumstance in their care for many of these nurse practitioners. Mary explained, "they're not the patients that go to a nine to five job, that have the resources, that have the support, they're not. So, there is so much involved with it . . . it's an all-encompassing thing." Liz commented that it was challenging, as many of her patients have limited resources relating to finances

and access to food and are without transportation to see nutritionists in the community. Caring for patients with morbid obesity was described by another participant as, “it’s a lot of work with this population.”

Patients with morbid obesity was considered time consuming in that they required multiple clinical visits to address their needs as a patient through education and counseling. As one nurse practitioner commented, “it takes a lot of time . . . it’s challenging, and it’s time consuming.” Additionally, patients are referred to other ancillary personal, such as diabetic nurse educators and on-site pharmacists for supplemental counseling regarding their disease. Other ancillary services included nutritional counseling, physical therapy, weight-loss clinics, social service assistance, and community resources.

### **Research Question Two: Description of Clinical Practice**

The aim of the second research question was to obtain from the nurse practitioners detailed descriptions of their clinical practice with patients who are morbidly obese. To address this research question, the nurse practitioners were asked: Can you describe the process or approach you use with patients who have morbid obesity? Can you walk me through a visit with the patient? In responding, the nurse practitioners spoke of personal experiences with weight, their initial meetings with patients and diverse ways they first approached the issue of excess weight as what they considered as major components in the care they provided patients.

### ***Role of the Nurse Practitioner’s Personal Experiences***

Nine of the 10 nurse practitioners self-identified as either being overweight or obese. Three spoke extensively of their personal experiences with weight and how

these experiences have been influential in their approach to caring for patients with morbid obesity. For example, Mary spoke of being overweight for 30 years and understands the struggles of trying to lose weight and “how it affects everything.” She spoke of a weight-loss program she had attended that included restriction of food, reliance on nutritional shakes, and group counseling in terms of weight management, stating, “It changed the way I think, and it change[d] the way I deal with my patients.” She emphasized that the interventions she practices with her patients are based on adopting healthier lifestyles rather than solely on weight. As she put it, “the goal is not to be a size four, . . . the goal is to be healthy.”

Sally considered herself obese and felt this is a “connecting point” with patients and will “sometimes bring into light my own experiences” in her dealings with patients with morbid obesity. She spoke extensively of herself and also discussed her sister who is overweight and has been recently diagnosed with Type 2 diabetes. Sally commented on life events, like the death of her mother when she and her sister were in their 20s, and although a positive event, the birth of her children. She attributes these events to her own struggle with her weight and recently switched to a primary care provider who is more open to having a conversation on treating her obesity with pharmacotherapy.

Lauren described herself as an “obese person” and her personal life experiences influenced her approach and treatment of patients with morbid obesity. She explained:

A huge part of, I guess anybody, is their previous life experience, and my experience being somebody who lives in a bigger body is that I understand, not all, but I understand some of that prejudice and things they feel.

She spoke of being privileged for having had a good family and friends growing up and that she was not teased about her weight as a teenager. She commented that in some ways her weight was not a barrier for her; however, she acknowledged being obese is a barrier for many people. She described her own feelings of being uncomfortable with a new medical provider and understood the bias and other issues people with morbid obesity experience.

Two other nurse practitioners spoke of being overweight, although not as extensively, and how these experiences enabled them to understand the struggles the patient with morbid obesity experiences. Beth spoke of how her patients were more receptive to weight-loss advice as they saw her as someone who understood their struggles and where they were coming from. She remarked, patients do not see her as “threatening” or “punitive.” As she put it, “Hey, she’s like me, . . . she totally gets where I’m coming from.” She went on to say, “a patient takes me more seriously . . . because I understand where they’re coming from having a weight problem . . . how tough this is.”

Theresa described her own personal struggles with certain food issues and identifies with the patient relating to these struggles. She discusses with the patient her experiences of “things that’ve worked, things that have not worked” and recognizes “this is not something easy to deal with, but it’s something we can all make a change in.” Theresa also spoke of her primary care physician not addressing the

subject of weight when “I knew I was overweight, . . . and [he] never mentioned it . . . I thought, well, if he doesn’t think it’s important then I’m not going to do anything. I can stay this weight forever.”

While Joy also identified herself as being overweight, she did not comment on her personal experiences with weight, but rather her personal experiences working with patients who have addictions. Joy had vast experience working with patients with dependency on alcohol or drugs and she commented, “this experience just helped me start to look at things differently.” She viewed patients with morbid obesity as having an addiction to food and are “medicating some pain” and “people do what they have to do to get what they need.”

Other factors, such as patient receptiveness, physical co-morbidities, psychological conditions, and social circumstances, were seen as impacting the delivery of care to patients with morbid obesity. However, the personal experiences of the nurse practitioners emerged as a meaningful finding in how it influenced the approach used to address the subject of weight with patients with morbid obesity.

### ***Initial meeting with the patient***

All of the nurse practitioners recognized that the patient’s obesity was a problem that needed to be addressed in their practice; however, six nurse practitioners noted that they do not comment on weight at their first meeting with the patient. Additionally, half of the nurse practitioners expressed the importance of building a relationship with the patient before discussing weight. Evelyn commented, “Of course, when you meet the patient for the first time, when they join the practice, that is not the time to bring up such topics.” Joe remarked, “I don’t meet somebody right

from the beginning and talked about . . . [the]need to lose this much weight. [You] build a relationship.” Lauren further added to this sentiment by explaining:

I do not talk about weight at first . . . unless the patient brings their weight up to me, then I will talk about it during that first visit. But otherwise, I leave that as something for us to talk about once we have built a relationship and there’s some trust there.

Ann and Theresa had a similar position in terms of refraining from discussing weight when first meeting a patient with morbid obesity. Ann explained, “I feel like the first time I meet them; I don’t always mention their weight.” Theresa remarked that weight was not the “first thing I would ever say to somebody . . . first meeting them.” Four of the nurse practitioners pointed out that if the patient initiated the topic of weight, they would address it at that first meeting.

### ***Approach to Weight Discussion***

Two distinct methods of approach emerged from the data relating to the nurse practitioners’ communication with respect to the subject of weight. These two approaches were identified as indirect and direct approaches. The nurse practitioners who employed an indirect approach mentioned or discussed weight in the context of other conditions or co-morbidities. Nurse practitioners who used a direct approach discussed the subject of weight as a separate entity from other co-morbidities.

**Indirect Approach.** Although all except one of the nurse practitioners acknowledged morbid obesity as a distinct disease, several of them did not address the obesity as a separate entity. Seven of the practitioners approached the topic of weight indirectly, meaning they interweaved the subject of weight in relation to other existing

co-morbidities or conditions. All seven of these nurse practitioners identified themselves as either overweight or obese, and five of them expressed their personal experiences with weight affected the way they approached the patient. The rationale for the indirect approach was expressed as not wanting to appear “judgmental” or “embarrassing the patient” and in turn making the patient “feel bad about themselves.” By using this method, the nurse practitioner is less likely to appear accusatory toward the patient for the obesity and more focus is placed on the co-morbidity associated with the obesity. As Mary explained:

I’m very careful because I notice a lot of my patients have a traumatic history with people addressing weight in the past . . . that it’s brought up to them almost insulting. . . if I were to say, Oh, you’re obese, let’s talk about that. It would almost be a feeling like an attack.

She also avoided the word morbid during interactions with the patient as she stated the word “morbid makes them feel worse.”

Sally, who worked in a community health clinic serving a low-income population remarked:

If you address it [obesity] so directly . . . this is the reason you have X, Y, and Z, it’s rarely in my setting, to end well. It may be easier to approach it that way in other settings, but in my setting . . . it’s not going to work.

Sally also spoke of personal encounters with healthcare professionals relating to her own obesity, “In my own personal experience, I’d rather you not attack it like that, because it feels bad.”

Beth had similar sentiments by not approaching the patient directly regarding their weight. She explained that addressing obesity directly conveys to the patient, “Whatever you’re doing, you’re doing in life is wrong. And because you’re overweight, it’s contributing to all your chronic medical conditions.” She believes addressing obesity so directly is punitive and does not motivate the patient to lose weight.

When utilizing this indirect approach, the participants found ways of interconnecting the obesity with other factors during the clinical visit. For example, Mary described her interaction with a patient, “I will find a way to weave it through family history . . . your dad has diabetes, I notice you’re a few pounds up from your ideal weight, let’s screen you for diabetes . . . that’s how we talk about it.” Both Joe and Liz also addressed weight within the context of an associated co-morbidity, or a disorder linked to weight such as joint pain, diabetes, or hypertension. Liz stated she does not mention the subject of weight directly to her patients with morbid obesity, but rather merges diet and exercise with other morbidities. She explained, “I don’t want them to think I’m cold and don’t understand where they’re coming from or not compassionate.”

Ann reported discussing weight with her patients in the context of another co-morbidity. If the patient does not have a co-morbidity, she will address the obesity separately as putting the patient at risk for other diseases, although this is not discussed upon first meeting the patient but rather at their annual physical exam.

Lauren, who identified herself as an obese person, spoke of “not wanting anybody to feel shamed or judged” and remarked that most people in this category

know the risks associated with their weight. Lauren also participated in a size-inclusive program at her clinic where a strict approach of not referring to the subject of weight or obesity is employed. She described the program as providing healthcare to people “without focus on body size and . . . not relating health issues specifically to weight. . . not focusing on weight as the sole problem.” She explained, “there are other ways to approach helping them become healthier without putting emphasis on their weight, which could be counteractive.” Lauren focused on promoting lifestyle changes such as incorporating exercise, reading of food labels, understanding portions, and the nutritional content of foods, as well as the need to refrain from alcohol and drugs. She saw these healthier lifestyle changes as improving the patient’s health, such as reduction in blood pressure or improvement in blood sugar, which “in turn will likely cause weight loss, but still not giving weight loss as the prescription.”

**Direct Approach.** Three of the nurse practitioners utilized the direct approach when addressing the topic of weight with a patient with morbid obesity, albeit in a gentle, nonjudgmental manner. Although the nurse practitioners were similar in addressing weight directly, their rationale for this approach differed among them. Theresa, who had struggled with personal weight issues, explained, “where I’ve been in my life, I feel like it’s really important for providers to just address it.” She commented that many providers may not bring up the topic of weight as they feel it will not make a difference with patients. From the perspective of primary care providers having the opportunity to address and manage obesity, Theresa claimed, “I don’t think you can give up like that . . . you never know when that seed is planted and when that person is going to turn a corner.”

Joy's view of patients with morbid obesity is from an addiction perspective, similar to drug and alcohol addiction, and she approaches it from the Alcoholics Anonymous (AA) standpoint. She explained, "the thing about substance abuse is . . . if you say something direct, either they're going to hear it, or they won't because of whatever is protecting them. So, I've always thought direct is fine. . . you have to address it. And, whether people accept it or not, they make that choice." She also spoke of "plucking out the root" of the underlying issue or event that may have contributed to the obesity.

Evelyn believed it is necessary to ask the patient with morbid obesity about their weight as she stated, "I am willing to help . . . so I need all the information, and the patient has to be willing to accept you're the help." Evelyn pointed out the subject of weight is addressed after a relationship is established and you gain the trust of the patient. She also mentioned, "sometimes, you may have to address the weight in terms of other co-morbidities so the patient does not feel you are judging them, or a patient saying, 'not everybody can be like you.'"

Joy and Theresa employed the method of motivational interviewing as a tool by asking patients to explore ways they would be able to incorporate changes toward attaining a healthy lifestyle. Examples of this technique are illustrated by the following questions expressed by the nurse practitioners to their patients: "What are your thoughts about your weight?" "Is this a problem for you?" "When did the weight gain happen?" "Have you ever thought about anything with your weight?" "Have you ever seen it to be an issue for you?" "Is this something you ever thought about?" "Do you think you might want to do something about your weight?" "Have

you ever done anything?” This method of interviewing encourages the patient “to open up” and explore what he or she can do to make changes toward a healthier lifestyle. Evelyn did not use the term motivational interviewing in her approach, but rather asked questions of the patients on “how did they reach this point with their weight” and “how long have they had the obesity?”

### ***Components of Care***

Eight distinct components of care emerged from the nurse practitioners’ descriptions of managing patients with morbid obesity. These components were identified as providing education and counseling, assessing readiness, viewing the patient holistically, providing encouragement and support, considering weight-loss medications, increasing frequency of contact, referral to other health professionals, and considering referrals for weight loss surgery.

**Providing Education and Counseling.** A primary finding among all of the nurse practitioners was the implementation of teaching and counseling of patients with morbid obesity. The nurse practitioners inquired about the patient’s lifestyle, diet, physical activity, types of food and drink being consumed, and if experiencing any pain which may be preventing them from exercising. The nurse practitioners provided education on how to read food labels, explained the language used in food labeling, portion size, and classification of food nutrients. Other types of instruction included the development of a grocery list of healthy foods if others shopped for the patient, printouts of pictures, and diets in a language specific to the patient. As Evelyn explained, “You have to let them know . . . all of this information, and you talk to them to make changes, lifestyle modifications . . . education, education, education.”

Sally discussed spending extra time with patients with complex issues and commented, “education is a big part of what I do” and believes nurse practitioners are better at approaching obesity with education because “we have learned to counsel and teach.”

Theresa and Mary spoke of on-line applications that aid in weight management such as on-line support groups and free tools for dietary management including nutritional and caloric content of foods, analysis of what patients are eating, and use of pedometers. As mentioned previously, Theresa and Joy employed the technique of motivational interviewing with the patient. They ask patients what their food triggers are, what do they like to eat, and what do they feel they could change in their life with regards to food and exercise. Joe and Liz provided written information on dietary changes for weight management in a language specific to the patient. Joe utilized pictures of what the patient’s plate should look like when eating a healthy diet. Liz printed out specific instructions, educational forms, or handouts documented in layman’s terms of dietary guidance such as examples of healthy snacks.

The nurse practitioners discussed the importance of connections with other people who are experiencing the same issues or have similar goals as patients with morbid obesity. Sally, Mary, and Theresa recommended on-line community support groups, overeaters anonymous, or Weight Watchers, although it was noted that Weight Watchers may be too expensive for some patients to take part in. Four of the nurse practitioners recommended focusing on small manageable goals rather than on the overwhelming objective of losing large amounts of weight. For example, Theresa relays to her patients, “If you could lose 5 pounds, it helps your knees, you don’t have

to lose 100 pounds.” Other small but realistic goals were discussed by the nurse practitioners such as “increasing water intake” and “decreased soda.” Mary explained, “Instead of setting goals on the scale, we’re setting goals in life . . . it’s more lifestyle that we’re trying to do, as opposed to what the number is on the scale.” Lastly, three of the nurse practitioners recommended that patients keep a journal of all the foods they eat so that it may be reviewed during their visits and appropriate recommendations made.

**Assessing Readiness.** Five of the nurse practitioners spoke of waiting for the patient to be ready to engage in lifestyle changes that would promote weight loss. Mary explained, “meet them where they’re at, because some people might not be ready . . . if you’re not ready, we’ll talk about it.” Joy remarked that, “You can say a lot of things to people, but if they’re not ready to hear you, you’re not going to hurt them, and they won’t hear you.” Interactions of a similar nature were mentioned by other nurse practitioners by asking patients if they “are ready” to incorporate healthier changes into their life. Joy commented on the weight leading to problems with their health and tells patients, “when you’re ready to think about things, then there are things we can do or people that could help you.”

Theresa spoke of a patient who was 33 years old with morbid obesity and expressed to him that he had the:

Potential now to change things . . . by losing 10 pounds . . . over time. It doesn’t have to be today. It’s got to be things that you think you can change, because it can’t be what I’m telling you to do.

Evelyn summarized her thoughts on the readiness of the patient to make changes by stating:

[The patient] has to be willing to accept the help. . . because if you give them any recommendations, they may not be committed to it. If the patient says, ‘I am not ready,’ she tells them to let her know when they are ready, and we’ll revisit the topic. The patient has to be willing to do this journey with you. The ones that are willing to at least try, I feel that they help me a lot to want to help them. They have to have that willingness because they are the one that is going to do this. You can’t just come up with a plan for them and then say, “Here’s paper of what you need to do . . . No, they have to want to accept the help.

Joe commented, “the power comes from the person” and the patient has to be “motivated” to make behavioral changes for weight loss to occur. Mary also said, “A few patients get really motivated and really involved, [and] I get really motivated and involved with them too. I feel like I’m walking this path next to them.”

**Viewing the Patient Holistically.** Eight of the nurse practitioners voiced similar sentiments about having a holistic view of the patient with morbid obesity that involved determinants other than physical morbidities which entailed a broader treatment approach to weight management. Sally expressed it this way:

This is [an] example of the fundamental difference between MDs, NPs, and DOs, in that we [NPs] are considering the entire person versus just the medical problem. You lose the patient when focusing on [the] medical problem and not the whole patient.

Mary spoke of the psychological component of patients with morbid obesity as she said, “looking beyond the weight and calories . . . making sure they’re psychologically okay, what going on, why have they gained weight, what has happened?” Joy remarked, “I think in order to deal with these really difficult problems, you have to become more holistic. I think people have to do it differently and think as well. They have to think of it differently.”

Ann commented, “Many times I don’t think it’s their fault 100% . . . there’s genetics, the way that you are brought up . . . and with psychiatric conditions as well.”

Joe remarked:

Knowing the background of people . . . where they come from, how they grew up, how much money they have . . . knowing that aspect of the person has helped me with my treatments and how I coach.

Theresa noted the significance of “looking at different aspects of [obesity] . . . family, cultural, environment, and social determinants as money, finance, education, and food access . . . [the] whole lifestyle has to get looked at.”

Seven of the nurse practitioners said it’s important to examine the financial piece of lifestyle changes in terms of affording healthier food options and allowing gym memberships, especially if living in a neighborhood in which it is unsafe to walk. As an example, Evelyn remarked, “you have to dig deep” looking into the financial aspect of a patient being able to afford healthy food, stating, “they really want to eat healthy, but they can’t afford it.” Beth commented, “you look at their income, . . . if they’re on food stamps . . . what psych background has happened in their life . . . all of

these things keep going.” Liz claimed, “there’s limited resources . . . healthy food is more expensive.”

**Providing Encouragement and Support.** Nine participants gave examples of how they provided encouragement and support as part of the care of the patient with morbid obesity. Mary illustrated this by saying, “I feel as an NP, we’re really good cheerleaders, and that’s what some people need.” Theresa says to her patient, “This is an important issue for you, I want you to do well.”

Lauren participated at her clinic’s size-inclusive program. In this program, patients of all sizes are made to feel comfortable coming seeking care, and to “remove barriers for care . . . access for people who are very obese or trying to remove those stigma barriers for people who are scared to come for care.”

Joy, who viewed patients with morbid obesity from an addiction stance, understood “this isn’t a choice. It’s an absolute need that has to be fulfilled. I can help them find people who can help them.” Sally says, “many providers . . . go into the idea of treating it [obesity], that it’s easy peasy lifestyle changes that just not everyone feels . . . we have to be very cognizant of that.”

Beth demonstrated her support of patients with morbid obesity by trying other avenues in obtaining services for a patient whose insurance did not cover nutritional counseling. Beth circumvented this obstacle by referring the patient to a hospital weight-loss program for bariatric surgery. She stated that she was not recommending surgery but rather, attempting to obtain nutritional services for her patient within the insurance parameters. She remarked, “I understand where they’re coming from

having a weight problem . . . understand what they've gone through, than someone [who] has never experienced it and how tough it is.”

Joe spoke of conveying to the patient “you care about their health. . . [and] not give up on them.” Liz provides encouragement and remarked, “Let them know that you're really pushing for them to be healthier and make lifestyle changes.”

Evelyn believed it was the responsibility of the provider to support and encourage patients by providing positive feedback and “let them be part of their treatment plan.” She spoke of a patient who was discouraged as she only lost three pounds over 3 months and said it is “your responsibility” to encourage the patient and say, “if you are not doing this maybe you will have put on more pounds, that three pounds is taking a little bit of weight off your knees, off your back.” She emphasized a great deal of talking and encouragement with the patient at every visit.

**Considering Weight Loss Medications.** Eight nurse practitioners discussed the use of weight loss medications for obesity treatment in their practice. Four nurse practitioners spoke of the financial limitations of patients being able to afford these medications or lack of insurance coverage prohibited their use. Three nurse practitioners spoke of patients who were not successful with weight-loss drugs or gained weight once the patients stopped taking the medications. Two nurse practitioners were very open to prescribing weight-loss medications for patients who have not been successful in losing weight with diet and exercise.

Lauren discussed a patient who had been prescribed phentermine from a previous provider and was not successful on this drug. Lauren explained, “she would come in for weight checks but was not consistently losing weight, so I didn't feel the

benefit outweighed the risk.” She also spoke of another patient for whom she prescribed the weight loss medication Contrave. In a telephone conference, the patient said that the medication was helpful with weight loss; however, the patient had not been in for a clinic visit where her weight would have been checked. Additionally, this medication is not an option for many patients due to the expense. Lauren believes weight loss medications may not be the best modality initially as patients require education before pharmacotherapy is implemented. She remarked that, “people believe the pill is just going to make them lose weight and [they] don’t have to make any dietary changes.” Lauren also required that a patient have nutritional counseling prior to prescribing any weight loss medication.

Ann reported she was a “little bit more open” to prescribing weight loss medications after attending a conference on obesity where the guidelines were reviewed for the treatment of obesity in primary care. However, the drug phentermine, which is used as a weight loss medication, is also classified as a controlled substance and there was hesitancy on prescribing a controlled substance in community health. Although she stated she saw success with a co-worker using weight-loss medication, she has not seen any success with her patients. Ann remarked she had patients that were previously prescribed medications from another provider and some patients did lose weight, but “once the medication was stopped, they gained it all back.”

Liz spoke of a patient who was taking a weight-loss medication, Alli, and remarked, “he did well but then once he stopped taking it, he gained the weight back.” She also said that she had one or two patients taking the medication phentermine, but

their weight plateaued, and they did not continue the medication for very long. Beth had prescribed the weight loss drug, phentermine, as the patient's insurance will pay for this, but has not prescribed the newer available medication, Contrave, as it is not covered by insurance.

Sally is aware pharmacotherapy is part of the recommended guidelines for obesity management but says "there is not organizational support" to use these medications where she works. She says medications for weight loss are not used by many providers at her clinic, nor is the topic of obesity discussed at staff meetings. She stated weight-loss medications may be "uncomfortable for certain providers" and not offering weight-loss medications as an available option is "part of the problem." She was very adamant regarding the necessity of prescribing weight-loss medications or as she put it, "medication assisted therapy for morbid obesity." Sally spoke of medication-assisted therapy for opiate and smoking addiction while "nothing else" is offered to patients with obesity.

Theresa approached the use of medication for weight management from a different perspective. She has prescribed the antidepressant, Wellbutrin, to combat the depression that may be associated with obesity, rather than a medication specifically designed for weight loss. She explained if people are "depressed or anxious or stressed, they eat." Therefore, she treats the underlying reason that may be contributing to their obesity. Interestingly, the weight loss medication Contrave has a component of the antidepressant Bupropion, the generic name for Wellbutrin.

**Increasing Frequency of Contact.** Six of the nurse practitioners commented on seeing the patient more frequently to support them in achieving their lifestyle goals.

Joe spoke of a patient who she saw every 2 weeks for weight checks and diet review, and the patient was successful at losing weight. She also commented that there is not close enough follow-up by providers “after we recommend all these changes” during the visit to see if the patient is adhering to the recommendations discussed at the visit. Joe also pointed out another perspective, “some of them [patients] don’t really want to see you until their next physical . . . because they don’t want to hear it.”

Both Ann and Liz were willing to see patients every 3 months for weight management with diet and exercise, and monthly or every other month if the patient is on a weight-loss medication. Ann also commented on having the clinical “visit be related only to obesity; we don’t necessarily do that. It’s kind of secondary to other things.” Sally and Liz relayed outreaching patients by telephone as being effective method in following up with patients, especially if they were unable to make clinic visits due to transportation issues.

Evelyn claimed patients follow recommendations for a while and then tend to “relapse,” and it’s important for the patient to have frequent follow-up visits “at least every month or every 2 weeks to see what is and what is not working.” She emphasized the importance of “keep[ing] an eye on the patient [and] to stay in touch, they feel connected with you.”

**Referring to other Health Professionals.** All of the nurse practitioners spoke of referring patients to other health professionals or clinical staff for nutritional counseling and education to help in the care of patients with chronic diseases such as diabetes and hypertension. Clinical staff included nurse educators employed at the clinic for diabetic education, independent nutritionists for dietary counseling, and on-

site pharmacists who counseled patients on medications used to manage their disease. Mary spoke of the pharmacist on staff at her clinic making a positive impact on her patients' health: "my patients who have an A1C constantly at 14 to 15, [now] down to seven and eight . . . meets with them every other week and makes them feel better and work on their weight." Three participants referred patients to a hospital-based weight-loss program with a team that focuses on weight management. As Liz explained, "almost everyone that works there has been through that program or some sort of weight-loss program, so they know and understand how they're feeling."

Beth commented that obesity is multifactorial in its etiology and it takes a multidisciplinary approach in its treatment. As she explained, "I don't think just having it on the physician or NP you're going to make changes, as it is a multidisciplinary approach . . . seeing the patient more holistically and treating them more holistically." Both Liz and Evelyn recommended or referred patients to behavioral counseling. As Liz explained, "some people need counseling for mental health issues before a patient can really make changes."

Although nutritional referral was a common practice among the nurse practitioners, two of them expressed concern over the quality or type of nutritional counseling. Theresa noted that incorporating the pyramid recommendations of carbohydrates "is not necessarily [a] good thing" and the necessity to find the "right diet" that is appropriate for the patient. Joy spoke of reviewing the recommendations made by nutritionists for patients and commented, "they are always the same" without regard to patient preferences or affordability of the food.

**Considering Referrals for Weight-Loss Surgery.** Eight of the nurse practitioners discussed referring patients with morbid obesity for weight-loss surgery. A surprising finding of the study was that six of the nurse practitioners did not refer their patients with morbid obesity initially for weight-loss surgery. The nurse practitioners commented that many of the patients they had seen in practice regained all or most of their pre-surgical weight. Mary summarized her feelings by stating:

I am not someone who jumps to gastric bypass. I feel like too many people are jumping to it, they think it's going to fix it, it works for a year and then they gain it all back. And I see that so often, they're not fixing the underlying problems with why they're obese in the beginning . . . if you're still depressed and you're still dealing with what happened to you when you were 12, that's not going to help now.

Mary also spoke of participating in a weight-loss program which advocated the use of nutrition shakes in place of food and counseling for food addiction. She went on to say, "it blew my mind as a medical professional how psychological weight loss is, and weight gain is . . . it was 85% psychological."

Beth commented that if her patient's BMI is in the 50s, she will discuss weight-loss surgery. However:

I don't push bariatric surgery on a lot of my patients . . . because I don't think that is the clear-cut answer . . . those are few and far between . . . just going for bypass surgery is not the be-all-end-all. We know people do gain weight afterwards.

Joy commented on her thoughts with regards to bariatric surgery:

If you don't figure out what was the root of all of this, the surgery's not going to do it . . . It will force you to modify your eating behaviors because you'll be sick if you don't. And you lose weight . . . until everything's healed, and we know they've regained their weight. They may not go back . . . not everyone. They may not regain all of it, but they'll regain a good part of it. I think nobody's dealt with what eating does for the pain that they're having. And it's got to be either spiritual or emotional pain.

Joy also emphasized what she felt was an important point for health professionals as she asked the question, "Why aren't we trying to figure out why the patient needs the weight-loss surgery in the first place?" Lauren provided insight into her thoughts on weight-loss surgery by saying:

A lot of patients don't realize how hard it is after the fact, and that it's not magic that is just going to make the weight fall off of them . . . people have a hard time with the dietary requirements restrictions and might go back to old, potentially not healthy habits and choices, and then end up feeling really ill . . . have initial weight loss but then end up putting it back on because they're not sustaining the changes.

She also spoke of patients who have kept the weight off from gastric bypass surgery for 5-10 years and others who struggle intermittently with some weight gained back but not to where they were before the surgery.

Liz explained that she had been referring patients to a specific office for weight-loss surgery but does not do so any longer as she said, "some of the surgeries did not go well." Liz currently refers patients with morbid obesity to a hospital-based

weight-loss clinic where the patient undergoes an extensive process before surgery is offered. She encouraged her patients to obtain nutritional counseling before considering surgery. Liz mentioned she had five patients in her practice who had gastric bypass surgery, and all have regained the weight. Although the patients never told her why they regained the weight, Liz said they all had depression.

Ann refers patients for weight-loss surgery if they attempted to lose weight and were unsuccessful, for medical indications, and after they had seen a nutritionist for counseling. She also saw success with weight-loss surgery with one patient who lost 200 pounds and was able to stop taking medications for hypertension and diabetes. Joe said she will not offer a referral for weight-loss surgery if the patient does not show commitment to losing weight on their own through diet and exercise.

Many of the interventions described by the nurse practitioners are reflected in the current guidelines established by the American Heart Association, the American College of Cardiology, and The Obesity Society, however, half of the nurse practitioners were not aware of these guidelines. Out of the five nurse practitioners who were aware of the guidelines, two were professors teaching in the nurse practitioner program, two had attended outside conferences on obesity, and one had done independent research on the guidelines. None of the nurse practitioners reported obesity management training in their formal education as nurse practitioners.

### **Research Question Three: Facilitators and Barriers to Nurse Practitioners' Delivery of Care**

#### ***Facilitators***

The aim of the third research question was to identify facilitators and barriers that nurse practitioners encountered while caring for patients with morbid obesity. To address this question, the participants were first asked, "Can you identify any facilitators that have helped the patient address their weight?" Later, the same question was asked in relation to barriers.

After the initial three interviews, it was clear the nurse practitioners were focusing on facilitators that helped the patient versus those that helped the nurse practitioner in the care of the patient with morbid obesity. To identify factors that may have helped the nurse practitioner in their delivery of care, the question was rephrased to "Has anything helped you as a nurse practitioner, or in your practice, that has helped in the delivery of care to the patient with morbid obesity?" Many of the responses were repetitive of the nurse practitioner's description of practice. To gain further information on facilitators encountered, the nurse practitioners were asked, "Can you tell me about any patients or a specific patient that you have seen progress in terms of morbid obesity?" Most of the nurse practitioners responded to this question with specific patients in their practice who they noted as having progressed with their weight management and what factors facilitated this.

Two major facilitators were shown to support the nurse practitioner's efforts in the delivery of comprehensive weight-management strategies to patients with morbid obesity. These facilitators were identified as patient motivation, and resources for

technical support together with services of other ancillary personnel including nurse educators, pharmacists, nutritionists, and weight-loss clinics.

**Patient Motivation.** Patient motivation was seen as a facilitator for the delivery of care by several of the nurse practitioners. As the patient became motivated and showed investment in his or her care, this motivated the nurse practitioner to continue efforts in promoting weight management strategies. Mary spoke of a particular patient:

He lost 100 pounds through exercise and dietary changes. . . .and he's kept it off now. I think he has probably gained maybe 10 lbs. back, but he is at 2 years in, and I've been working with him, seeing him monthly for this, so that's a very positive. . . it just makes you feel good. That you're able to help people . . . you're able to see that their chronic problems, their chronic sciatic and knee pain is going away, and their lipids are better, and their sugars are better . . . it's so nice to see that change in the patients.

Other examples of how patient's motivation in adopting healthy lifestyle changes helped the nurse practitioners were given. Beth commented on a patient who had lost 70 pounds in less than a year by incorporating a healthy diet and exercise program, "[She] goes to the gym five days a week, she found the motivation based on improving her body image, [wanting] to be healthy for herself and her children." Beth also spoke of a patient whose BMI was in the 60s and suffered from knee as well as back issues and used crutches to walk. The patient was determined to take off the weight herself and the nurse practitioner "commended" the patient for this motivation. In turn, the nurse practitioner was motivated to find ways where the patient could

receive nutritional services as her primary insurance declined to cover services through a professional nutritionist as the patient did not have diabetes. Although the patient did not intend to have weight-loss surgery, the nurse practitioner referred her to a hospital-based program associated with bariatric surgery so the patient could receive the nutritional services.

Joe commented on the motivation to change behavior by stating, “there has to be something that tells you inside yourself that I need to make this change for myself. I want to feel better. I want to be more healthy.” She spoke of a patient who had requested a referral to be evaluated for bariatric surgery. Before the patient could be referred, she was required to follow a specific diet demonstrating her commitment to weight loss. The patient lost 20 pounds and there was “improvement in her mood, walking, and joint pain.” Joe saw the patient every 2 weeks where she and the patient celebrated “anything positive” during those visits illustrating the close partnership between the patient and the nurse practitioner as the patient adapted to a healthier lifestyle.

Sally commented on a patient who was successful with a 40-pound weight loss after the patient received a diagnosis of elevated hemoglobin A1C and diabetes. The patient did not believe in medication and approached the weight loss through diet and exercise. Sally further commented that the patient was “motivated as [she] had two small children and wanted to be healthy for them.” Liz mentioned one of her patients lost weight after being diagnosed with diabetes mellitus and was prescribed insulin. This diagnosis motivated the patient to make progressive lifestyle changes and so he was able to stop most of his medications.

**Access and Usage of Resources.** The second facilitator supporting the nurse practitioners' delivery of care to patients with morbid obesity was the access and usage of resources by way of technical applications and referral to other professional personnel for supplementary education and counseling on dietary and disease management. Technical resources included on-line weight management programs, phone applications for tracking of food and physical activity, and the use of a pedometer. Theresa said, "there's a lot of online things now I've referred people to . . . people can plug in [the] food they are eating and . . . get a complete analysis of what they are eating." Liz commented, "writing down specific instructions or printing out instructions is helpful" for patients to follow. Mary referred patients to a free, on-line resource called Sparkspeople, which is a program similar to Weight Watchers where the patient has access to recipes, caloric breakdowns, fitness and exercise information, as well as community support. Mary, Liz, and Evelyn recommended that patients keep a food journal which was a simple yet effective method of reviewing the patient's diet and providing opportunities for discussion and education.

These methods provided the patient with tangible tools to guide their nutritional choices, track their physical activity, and set specific goals. This concrete view of the patient's progress provided opportunities for the nurse practitioner and patient to discuss the progress or changes that may need to be employed for the patient to succeed with his or her specific goals.

As mentioned previously under components of care, referral to ancillary support staff was a consistent method used by all of the nurse practitioners to facilitate delivery of care to patients with morbid obesity. While patients

received counseling from the nurse practitioners with regards to diet, physical activity, and goal setting, the support of other professionals, including nutritionists, pharmacists, nurse educators, and social service personnel aided the nurse practitioner in providing comprehensive care to the patient with morbid obesity. The availability of these services afforded a multi-discipline approach which allowed different aspects of the patient's disease to be addressed providing a more successful outcome for the patient. For example, one nurse practitioner spoke of these services as being instrumental in the successful management of the patient's diabetes by reducing his hemoglobin A1C through dietary and medication management which had a positive impact on the patient's weight. Social services offered support for patients to access financial and food resources, health insurance, and community services such as reduced or free access to health clubs which further supported patients in their efforts to make positive lifestyle changes.

### ***Barriers***

As with the discussion of facilitators, the nurse practitioners focused initially on barriers the patient faced rather than the nurse practitioner in terms of weight management. In an effort to elicit any factors that hindered the nurse practitioner in their delivery of care to patients the question was rephrased to, "Have you encountered any barriers as a nurse practitioner, or in your practice, in the delivery of care to the patient with morbid obesity?" Several barriers of care were cited by the nurse practitioners that the patient encountered, and minimal barriers were cited relating to themselves or to the clinic where they treated patients. Overall, the nurse practitioners

felt they did a good job in their delivery of care, although several of them noted time constraints of the clinical visit as a barrier.

A predominant barrier mentioned by the nurse practitioners was the difficulty patients encountered incorporating and maintaining positive lifestyle-related changes such as a healthy diet and regular physical exercise in their life. Additionally, the complex etiology of morbid obesity and the patient's challenging life circumstances hindered efforts in the management of the disease. Medical and psychological co-morbidities, traumatic life events, effects of psychiatric medications, and environmental factors created enormous challenges for delivery of the plan of care for the patient with morbid obesity.

**Difficulty in Adapting and Maintaining Positive Lifestyle Changes.** The nurse practitioners reported patients had difficulty in making positive lifestyle changes and maintaining those changes necessary for weight loss. Theresa commented, "it's really hard to make those changes . . . some people are never going to change . . . but you have to keep trying." Mary expressed:

Almost every single one of the patients who has asked for help and you give them ideas, and you give them the resources, and you follow up, and they haven't lost anything, or they've gained weight. . . they're frustrated, because . . . I feel sometimes they just want to do the same that they're always had and have a different result. It's challenging because I feel their pain and I know how hard it is so I'm very sympathetic to them.

Sally expressed, "not every single person can make every change that we as providers think is appropriate . . . they have kids, they're single parents, they're

recently released from jail.” Three of the participants spoke of patients who enjoyed eating and found food as a source of comfort.

Evelyn spoke of patients with morbid obesity as having the tendency to “relapse” and lose their motivation to continue with these lifestyle changes. She described one patient as saying, “I can’t do this anymore. I’ve been doing it for 3 months. I’ve only lost three pounds.” Joe also mentioned this tendency to relapse when describing a patient who had been successful in weight loss after being hospitalized with a serious illness. She described the patient as being a “different person” after this event in adapting to positive changes on her health. However, Joe indicated the patient has “gone backwards again” and resorted to previous unhealthy behaviors which impeded any weight loss. Additionally, one nurse practitioner, Ann, reported she did not have any experience with patients who had morbid obesity and who had been successful in losing weight with diet and exercise.

**Traumatic events.** Three nurse practitioners spoke of previous traumatic events in the patient’s life that may have contributed to the obesity. Mary commented that when she sees a patient with morbid obesity, she considers not only the physical co-morbidities that are commonly associated with the obesity, but also “What type of childhood traumas led them to this?” Joy similarly remarked that when she sees someone with morbid obesity, she thinks “What happened to them? What was the incident?” and says she “understands they have deeper issues.” Liz said when she first meets a patient with morbid obesity, she asks about their diet, exercise, any trauma history, and depression. When asked why she inquired about trauma history she said, “A lot of times people that are overweight have a lot of mental health issues.”

One nurse practitioner spoke of the personal trauma she incurred by her mother dying when she was young and on having children was a life-changing event. She explained, “I was happy, I was healthy, I was thinner, I was better, and I could easily focus on my weight when I didn’t have kids and my mom didn’t die.”

**Co-morbidities.** The nurse practitioners commented on assessing the patient’s physical health such as evaluating for thyroid disorders, hormonal issues, and diabetes which may be affecting the patient’s weight. Abnormal sleep patterns, inflammatory conditions, ingestion of inflammatory foods, and pain limiting the patient’s physical activity were mentioned as possibly contributing to the obesity. An additional factor cited was the side effect of weight gain from psychiatric medications the patients were taking. Joy spoke of having had patients who have gained weight while taking psychiatric medications and remarked that psychiatric clinicians have observed “people gain 80 pounds” while taking psychiatric medications. Both Mary and Beth spoke of the propensity of psychiatric medications to cause significant weight gain in patients while taking these medications.

Several nurse practitioners spoke of psychological issues seen in some patients with morbid obesity. Depression, anxiety, PTSD, and mood disorders were the psychological conditions cited by the nurse practitioners, although it is not known if the patients with morbid obesity had a documented formal diagnosis of a psychological disorder. An illustration of this view was reflected in the comments made by some of the participants. Mary said:

Be it the fact that maybe they don’t have a lot of money and they are depressed over that, and they are just buying what they can, which might not be a lot of

very healthy foods, and then overeating on that because they feel bad. Or they are depressed and they're anxious and they are drinking too much alcohol, which has a lot of empty calories in it. Depression is a big one, it's really big.

Sally commented:

I don't know if it's purely coincidental, but it certainly seems like the majority of the patients with morbid obesity have co-morbid mental health issues.

Anxiety is big, PTSD is big . . . we see depression, we have a very significant amount of mood disorders.

Theresa spoke of individuals with morbid obesity as having co-existing issues such as depression or anxiety "that is self-treated in some ways by eating . . . when you're depressed . . . stressed and anxious, they eat." Evelyn commented that morbid obesity "is not a chronic medical condition on its own . . . people that get this morbidly obese do have some form of psychiatric issues, mental illness . . . depression, anxiety, sometimes it's obsessive disorder, eating disorder too." Liz remarked, "At least half, if not more of them, that are overweight or morbidly obese have some sort of, either they admit or they don't, depression or anxiety." And lastly, Lauren noted, "There is so much mental stigma that goes against people who are morbidly obese, that it would be hard to find somebody who didn't have a history or current depression."

**Social and Physical Determinants of Health.** Social and physical determinants of health that were identified included the patient's level of health literacy, financial status and culture, as well as the safety of the neighborhood in which one lives were cited as factors influencing the care delivery to a number of

patients with morbid obesity. Sally spoke of the patient's lack of education with regards to healthy food choices, or as she stated, "a disconnect" around food substances of sugar and sodium and the effects of these substances on the patient's disease process of diabetes and hypertension. Beth discussed patients who "don't fully understand" the breakdown of food and portion size in healthy eating. Theresa mentioned the importance of patients learning healthier approaches to eating meals. An example of this was shared cooking classes for diabetic patients, where Hispanic men would say, "You can't [eat] ten tacos in a meal. You just can't do it." Evelyn commented on taking the time to teach patients to read labels and understand the ingredients in the food and drink, such as defining sodium as meaning salt.

Several of the nurse practitioners cited limited financial resources of patients which restricted their ability to consume healthier foods. Evelyn spoke of the limited budget people have on food stamps and Social Security: "Most of them can't afford to eat healthy. The money, the income they have, they have to spread it out based on what they have. How many of these patients can afford to eat veggies and fruit?" Sally commented, "my patients . . . are aware of their situation but do not feel socioeconomically able to help themselves. I can't afford it. It's too expensive to eat healthy." She also mentioned effective weight-loss programs such as Weight Watchers as being too expensive for her patients to afford. Beth, Mary, Liz, and Lauren also spoke of the patient's limited resources to afford healthy foods and memberships to health clubs, and how these factors impacted the care of the patient with morbid obesity.

The lack of transportation and the physical environment where the patient resided impacting the ability to access healthy food were seen as barriers in the delivery of care to patients with morbid obesity. Theresa explained, “You can walk across the street to Cumberland Farms and get a bag of chips, but you cannot walk to Shaw’s and get vegetables.” Liz remarked, “We do have the farmers’ market, so that’s helpful, but it still can be expensive for people that are on a very limited budget . . . it’s challenging, and some people don’t drive.” Another barrier mentioned was the convenience of low-cost fast foods. Ann explained, “People . . . just work more than 60 hours a week [and] don’t have time to cook. They just eat out at McDonald’s all the time.” Two of the nurse practitioners spoke of patients who have concerns over the safety of their neighborhoods which prevents them from going outdoors for physical activity.

Socialization with family and friends was also seen as a barrier, with Joe commenting on a particular patient, “She [would] have a celebration . . . with her friends . . . so they would get together, and then she’ll eat whatever.” Joe further explained:

A lot of these families. . . enable a lot of the behaviors as well. You can tell a family . . . [the patient] . . . has to do this, this, and that . . . and they’re the ones who are going to be bringing them in Chinese [food].”

Lauren also spoke of people socializing with a focus on food, “Let’s go get drinks and appetizers. . . a lot of social things revolve around food and so that’s a hard thing to change for anybody.”

Cultural influences were cited by three of the nurse practitioners as being influential in the delivery of care to the patient with obesity. Mary spoke of the cultural generational aspect of obesity, “Grandma was obese, and mom was obese, and aunt was obese, and they all had diabetes, and that’s just what it is, that’s just it.” Joe and Theresa commented on the high caloric foods eaten consistently in particular cultures and the difficulty of changing this. As Joe explained, “That’s what they know, that’s what they eat.”

**Time Constraints.** The time limitation of the clinical visit and lack of scheduled follow-up appointments were cited as barriers to the delivery of care to patients with morbid obesity. There was not enough time to address the obesity in addition to the other medical co-morbidities the patient may have within the time frame allowed. Beth explained:

You’re only given 20 minutes and they have so many other comorbidities that you have to talk about . . . when you’re thinking about obesity and BMI, you might touch upon it with their diabetes and their hypertension. I can only do so much in 20 minutes.

Sally referred to the time constraints by commenting on the limited education she can provide in a 20-minute visit, “the reality is . . . it’s pretty minor . . . what I can tell them in 20 minutes.” Joe spoke of the lack of follow-up with patients after the clinical visit to check on the patient’s progress relating to the recommendations made during that visit, “We don’t call and follow up or see how the patient is doing with whatever suggestions . . . or recommendations you made. Maybe there’s not much time. People are seeing how many

patients a day, you know?” Ann noted the lack of follow-up on patients with morbid obesity and recommended clinical visits that could be focused only on obesity management.

#### **Research Question Four: Recommendations**

The last research question asked in this study was, “What recommendations do nurse practitioners have for working with patients who have morbid obesity?” Most of the nurse practitioners responded with recommendations that reflected what they knew and did in practice, as well as what they perceived as effective and important interventions in their delivery of care to patients with morbid obesity. The responses of the nurse practitioners were grouped into three clusters that were related to: (a) attitude, (b) relationship, and (c) practice. The following provides a summary of these groupings.

##### ***Attitude***

Several nurse practitioners recommended having a non-judgmental, open-minded, and non-accusatory attitude when caring for patients with morbid obesity. These attitudes were mentioned as well in the nurse practitioners’ descriptions of care, which gives further support for the importance these nurse practitioners placed on these attitudes in caring for patients with morbid obesity. The nurse practitioners recommended having an awareness of one’s own biases. This was illustrated by Lauren who said, “Be aware of your own bias, [as] unchecked biases can make people feel like they’re not worthy of care.” Other nurse practitioners expressed similar sentiments in their recommendations. Joe stated, “Do away with our own biases and own judgement.” Ann recommended, “Try not to have preconceived judgements

about the patient.” Evelyn further supported this advice by recommending, “The way you advocate and treat the patient, you have to let them have that sense of, okay, I can talk to this person without her judging me.”

Additionally, the nurse practitioners’ recommendations included an attitude of being open-minded and non-accusatory toward the patient with morbid obesity. Ann advised other nurse practitioners to “be open to treating the patient,” and Joe recommended nurse practitioners “look at obesity from the patient’s point of view.” Liz commented on this attitude by stating, “Take into consideration, everybody’s coming from a different background and just be really open-minded.”

The nurse practitioners identified specific attitudes that were unacceptable involving blaming and embarrassing the patient with morbid obesity. Mary recommended communicating with the patient “in a way that is not accusatory . . . never make them feel embarrassed.” Joe advised nurse practitioners to “not blame the patient” and Theresa stated, “never shame the person.”

### ***Relational***

Several of the nurse practitioners offered recommendations relating to the relationship between the nurse practitioner and the patient. The building of trust was an important element in establishing a relationship with the patient and was viewed by several of the nurse practitioners as being essential when discussing the subject of weight. These elements were also reflected in the nurse practitioners’ general experiences and clinical practice with patients with morbid obesity. Beth spoke of knowing your patient and recommended, “building a rapport with your patients and then they trust you, because they’re not going to trust you right off the bat.” Theresa

recommended, “establishing a great relationship with your patient,” and Evelyn advised, “gain the trust of the patient and build a relationship with the patient.”

Other recommendations offered by the nurse practitioners stressed communication and need for support. Mary emphasized the importance of communicating with patients in a supportive manner regarding the subject of weight as she recommended, “get the point across . . . help and support them.” Liz also spoke of communicating with the patient while demonstrating patience, as well as encouragement: “Try to let them [patients] know that you’re really pushing for them to be healthier and make lifestyle changes.” Recommendations offered by Joe for nurse practitioners providing care to patients with morbid obesity were:

Be more empathetic about their situation . . . it’s a long process and some people might get there, and some may never get there, but at least they know you’re trying, and you care about their health . . . and not give up on them.

### ***Practice***

The nurse practitioners offered several recommendations to others that were drawn from their clinical practice caring for patients with morbid obesity. The recommendations offered by the nurse practitioners reflected their own approach to patients with morbid obesity. Sally advised that nurse practitioners should not ignore the obesity; however, she recommended addressing it from the standpoint of another co-morbidity as “weight is so stigmatized.” Lauren recommended nurse practitioners practice size-inclusive care where the focus is placed on the patient’s health and well-being rather than weight being emphasized as a measure of health. These recommendations were in direct contrast to Theresa, who recommended addressing

weight directly with the patient at every visit and discussing the detrimental effects and risks of obesity has on the patient's health and well-being. Mary also recommended addressing the weight with the patient remarking, "Bring it up in the visit. They have to know increased weight is causing them problems."

Recommendations to other nurse practitioners offered by Joy were similar to her views from working with patients who have addictions. She spoke of trying to get people to understand the pathology of addiction, the reasons why people are addicted, and the need for providers to view obesity holistically.

Two nurse practitioners recommended closer follow-up with the patients who have morbid obesity. Strategies for closer follow up could be employed by office visits or telephone contact as communication with patients provides an opportunity for further dialog and support of recommendations discussed in the previous visit. The focus of the clinical visit can be solely on the issue of obesity rather than another co-morbidity. Although these recommendations are not employed in their current practice, the nurse practitioners noted that they could be considered for additional support.

One nurse practitioner recommended that nurse practitioners be well-informed and knowledgeable in the care of patients with morbid obesity. She advised nurse practitioners to increase their knowledge by attending conferences on the management of obesity.

## **Discussion**

The findings from this study raise a number of areas for discussion. Four major areas involve the nurse practitioners' approaches to morbid obesity: their coding for morbid obesity, awareness of clinical guidelines (including those for pharmacology) and use of personal experiences in managing patients with morbid obesity as well as the presence of co-existing psychological disorders.

### ***Coding***

Nine of the 10 nurse practitioners interviewed identified morbid obesity as a separate disease, although it was not clear if they all coded for it. Little was mentioned by the nurse practitioners with regards to applying the International Classification of Diseases, Tenth Revision, (ICD-10) codes for obesity and morbid obesity. This may reflect the findings in a retrospective study by Mattar et al. (2017) who examined the records of adult patients seen in a family medicine outpatient clinic. In that study, there was an under coding for obesity, although obesity was more likely to be documented in the medical record with patients who had a higher BMI identifying them as having morbid obesity. The researchers suggested this was most likely contributed to by visual cues indicating the severity of the obesity and the cumulative numbers of visits relating to the comorbidities associated with the higher BMI. Although physicians, and not nurse practitioners, were identified as providers in this study, it was important to acknowledge the documentation of obesity was under coded and not identified as a separate disease.

Bornhoeft's (2018) qualitative study of both physicians and nurse practitioners who were managing patients with obesity in primary care, reported that, one

participant remarked on coding for obesity / morbid obesity, “You know it is not reimbursable. . . if it is, I am not aware of that. Do you know any of the codes?” It was not clear whether this participant was a physician or nurse practitioner. The statement, however, is similar to one nurse practitioner in this study who said, she did not think obesity was “covered” as medical records had been returned to her requesting an additional diagnosis rather than obesity being listed as the primary diagnosis. Another nurse practitioner lacked clarity on the specific codes for different classes of obesity as she had received chart audits requesting documentation of the class of obesity for reimbursement.

The need for more information on the frequency with which nurse practitioners are coding for morbid obesity in primary care settings is striking given the above studies and questions raised about the amount of coding by the nurse practitioners in this study. Even more informing and potentially important may be the need to better understand why nurse practitioners may not be coding. Is it simply a lack of awareness, a problem with reimbursement or perhaps related to the type of approach (direct, indirect, neutral) used by any one nurse practitioner?

**Clinical Guidelines.** In 2003, the United States Preventive Services Task Force (USPSTF) recommended that primary care practitioners screen all adults for obesity and offer intensive behavioral counseling to individuals afflicted with this condition (Wadden et al., 2013). In 2013, the American College of Cardiology, the American Heart Association and the Obesity Society released guidelines for managing obesity by primary care providers (Jensen et al., 2014). In 2016, the American Association of Clinical Endocrinologists and the American College of Endocrinology

provided comprehensive clinical practice guidelines for medical care of patients with obesity (Garvey et al., 2016). Despite the availability of these guidelines, studies have indicated inconsistencies with implementation of them into clinical management of obesity in primary care (Farran et al., 2013; Leverence et al., 2007; Look et al., 2019). Factors identified as barriers to weight management practices include reluctance of the primary care provider to recognize obesity as a chronic disease, negative attitudes about weight, time constraints, insufficient knowledge and skills of the provider, and patient readiness and motivation (Aboueid et al., 2018; Bornhoeft, 2018; Ritten & LaManna, 2017). It could not be determined from these studies the specific weight management practices of nurse practitioners as much of the data was grouped collectively as primary care providers.

Half of the nurse practitioners in this study were not aware of the clinical guidelines for obesity management in primary care, and none of them received training in obesity management during their formal education. This finding was consistent with other studies regarding the provider's lack of knowledge or lack of consistency in utilizing established clinical guidelines on obesity in primary care. Ritten and LaManna's (2017) identified in their report several disease-staging systems and guidelines related specifically to obesity that are currently available for health care providers. The researchers reported the multitude of guidelines for obesity and/or obesity-related diseases causes a "lack of alignment and consensus . . . among healthcare professionals with regards to disease staging, guidelines, and treatment modalities for obesity" (Ritten & LaManna, 2017, p. s30). Nolan et al. (2012) found in a study of role adequacy and role legitimacy of practice nurses in the U.K. that

practice nurses had a limited awareness of the national guidelines on obesity for general practice, and the practice nurses who were aware of them, found little use for these guidelines. In a qualitative study by Bornhoeft (2018) on physicians and nurse practitioners' perceptions, attitudes, and behaviors toward obesity management, the authors found that obstacles relating to delivery of evidence-based components of obesity management included lack of knowledge regarding established clinical guidelines, uncertainty of nutritional and dietary information, and concern over reimbursement for nutritional referrals. Additionally, all of the participants in Bornhoeft's study acknowledged their lack of training in counseling skills regarding initiating the topic of obesity with their patients. Although the nurse practitioners in this study did not specifically report any lack of counseling skills in addressing the patient in terms of weight, the same rationale was found in this study as in Bornhoeft's study of not initiating the topic of weight for fear of offending or embarrassing the patient.

Three of the nurse practitioners in this study who were aware of the guidelines reported that guidelines for obesity had never been discussed in their provider meetings, nor was there any continuing education regarding obesity management within their place of employment. This was consistent with a similar finding noted in Bornhoeft's (2018) study where primary care providers, including nurse practitioners, reported a lack of value and little importance being placed on obesity management within the organization, and they were not aware of any educational formats to inform them on obesity management.

Unawareness of the guidelines by the nurse practitioners may be related to the lack of focus or enthusiasm placed on morbid obesity as a separate disease entity, particularly when it was reported to be “common” in their practice. Another possibility is that the nurse practitioners felt competent in their knowledge of obesity management and were addressing it appropriately without the use of additional references. The five nurse practitioners who were aware of the guidelines became aware of them in different ways. For example, one “looked up” the guidelines as she was seeing more patients with morbid obesity in her practice and wanted to be prepared caring for them. Another became aware of them during research for her doctoral studies, and yet another attended a conference on obesity management. All of the nurse practitioners promoted healthy eating and physical activity with patients who had morbid obesity regardless of their awareness of the guidelines. Further studies examining the nurse practitioners’ awareness and usage of guidelines, including benefits and barriers of their use in clinical practice are needed.

Five of the nurse practitioners in this study spoke of the lack of time in the clinical visit to focus on obesity in addition to other presenting co-morbidities. This finding was similar to findings from a study by Leverage (2007) in which primary care providers, including nurse practitioners, were not able to support established guidelines due to the multiple clinical demands in a restricted time frame where obesity counseling was done in the context of other medical needs.

In terms of weight loss medications, the nurse practitioners reported various opinions on the usefulness of and their willingness to prescribe these medications for patients with morbid obesity. Five of the nurse practitioners in this study reported they

did not observe any significant weight loss with these medications and were less inclined to prescribe them. Two of the nurse practitioners reported the cost of the medications or lack of insurance coverage prohibited their use, and one nurse practitioner did not comment on the use of weight-loss medications. One nurse practitioner stated she was “more open” to prescribing weight loss medication after she attended a conference on obesity management guidelines in primary care. An additional nurse practitioner expressed the lack of organizational support of prescribing weight loss medications for patients with obesity and the reluctance of providers in prescribing these weight loss medications. The reason for this reluctance is unclear, although lack of awareness of the guidelines or issues regarding the safety of these drugs interacting with other medications the patient may be taking may be perceived as barriers.

The lack of pharmacotherapy identified in this study was consistent with the findings in a study by Granara and Laurent (2017) of the underutilization of pharmacotherapy in obesity management by primary care providers, including physicians and advance practice providers. Overall, 60% of the primary care providers did not prescribe weight loss medication for short term use (three months or less), and 76% of the providers did not prescribe these medications for long term use (three months or more.) Interestingly, advanced practice providers were more likely to prescribe these medications verses physicians when cost and insurance coverage did not prohibit their use. More than half of the advanced practice providers had a neutral or very positive impression of weight loss medications verses 20% of physicians. The main reasons for not prescribing were the providers perception of adverse effects, drug

interactions, cost, and insurance coverage. The nurse practitioners in this study also identified affordability of weight loss medications and lack of insurance coverage as a barrier to prescribing these medications. One participant reported hesitancy in prescribing a particular weight loss medication as it was classified as a controlled substance.

### ***Nurse Practitioners Personal Experiences***

The role of the nurse practitioner's personal experiences with weight and how these experiences influenced their approach to patients with morbid obesity was a significant finding in this study. Although there were a few studies on health care professional's own weight relating to weight management interventions, no studies were found relating the nurse practitioner's own personal experiences with weight relative to the management of patients with morbid obesity.

In this study, there were three distinct ways the nurse practitioner approached the patient with morbid obesity; obesity raised in the context of other comorbidities, obesity separated out and directly addressed, and obesity indirectly addressed by focusing on health and avoiding all terms associated with weight (also called a size-inclusive approach).

The approach to addressing weight in the context with other co-morbidities and the nurse practitioners' experiences with weight were consistent with findings in a qualitative study by Philips et al. (2014) which identified the approaches taken by 18 practice nurses, including five nurse practitioners, in their management of patients who were overweight and obese. Fifteen of the nurses said they would not discuss weight loss advice if it was not linked to the presenting problem. The nurses reported

they used their personal experiences with weight loss to show “empathy and understanding,” however, negative experiences lowered their willingness to discuss the subject of weight.

Approaching the patient’s weight in the context with other chronic diseases was also consistent with findings in Aboueid’s (2018) qualitative study on the nutritional practices of primary care providers. The study conducted in-depth interviews with thirteen nurse practitioners and seven family practice physicians where most of the providers felt nutrition relating to weight was addressed in relation to other diseases such as “diabetes being out of control” or “dyslipidemia.” The major reasons for approaching the topic of nutrition or making a referral for nutritional counseling for weight management was the diagnosis of a chronic disease and lack of time.

Although the majority of the nurse practitioners in this study identified themselves at the time of the study as overweight or obese, their current weight status did not appear to have an effect on their approach but rather their previous experiences and fear of offending the patients were most prominent. This was in contrast to two relatively recent studies. Bornhoeft (2018) examined nurses and physicians’ perceptions, attitudes, and behaviors toward obesity management. The author described how some providers struggled with their own weight and expressed their view on approaching obesity by stating, “How can I be telling patients to lose weight when I am dealing with my own weight issues. I understand where they are coming from but I feel uncomfortable talking about weight” (Bornhoeft, 2018, p.93). A similar finding was observed by Blackburn (2015) on raising the topic of weight in

primary care by general practitioners and nurses, including three nurse practitioners. The health professional's own weight status was observed to be a barrier as clinicians with normal range BMIs would be viewed as lacking empathy and those with BMIs in the obese range admitted to "feeling uncomfortable raising the issue [weight] due to the personal nature of such discussions, the difficulties of weight loss and uncertainty about the credibility of their message" (Blackburn, 2015, p. 6). Other factors included insufficient knowledge of obesity care, limited time, and fear of offending the patient.

The second approach taken by three of nurse practitioners in this study was to directly address weight with patients who had morbid obesity. For two of these nurse practitioners, who identified themselves as being overweight or obese, and one nurse practitioner who reported being of normal weight, their weight did not impact their ability to address the obesity directly. The former two nurse practitioners felt that their previous experience in conjunction with the serious health consequences of morbid obesity highlighted the need to directly address the subject of weight with patients. This finding was similar to a cross-sectional internet-based study by Bleich et al. (2014) examining the impact of non-physician health professionals' own BMI on obesity care and beliefs. Representatives from nursing, nutrition, behavioral/mental health, exercise professionals, and pharmacy were included in the study. There was no difference in the health professionals own BMI and obesity care practices including initiating weight loss discussions, confidence in their ability to help patients lose weight, or in the perceived trust of the patient relating to the advice given. However, health professionals with normal BMIs were more likely to report success in helping

patients “achieve clinically significant weight loss (at least 5% of body weight), than health professionals who were overweight or obese” (Bleich et al., 2014, p. 2477). In contrast, Zhu et al. (2011) systematic review of nine empirical studies, did find an association between the weight status of nurses and doctors and their weight management practices. The researchers found non-overweight doctors and nurses were more likely to employ prevention counseling on healthy weight as well as general advice on weight loss in terms of calorie restriction and exercise to patients who were overweight or obese than their overweight peers. There was not a significant difference between non-overweight and overweight health professionals in terms of obesity assessment and referral activities. The researcher surmised the personal weight of the health professional and their practices in weight management may be “complex” and other factors as the “health professionals’ demographics, specialty area of practice, knowledge, training, and attitudes appear related to weight related practices” (Zhu et al., 2011, p. 468).

The third approach to patients with morbid obesity found in this study was utilized by one nurse practitioner who focused on the health and general well-being of patients without the primary emphasis being on weight, also known as size-inclusive care. In this approach, the nurse practitioner does not make any reference to weight or to its management during the visit which is meant to be conducive to patients of larger size. The general well-being of the patient is stressed, where nutrition and exercise is not mentioned in terms of diet or exercise, but rather as nutritional needs for good health and enjoyable physical movement. This approach was viewed as a constructive method of delivering health care for patients with morbid obesity as

patients have had negative experiences with health care professionals regarding their weight and subsequently avoided seeking care (Drury, 2002). This approach is supported by the Health at Every Size Movement (HAES) which is endorsed through the Association for Size Diversity and Health (ASDAH), an organization that advocates a weight neutral approach to patients and cultivates acceptance to all patients of every sizes (Association for Size Diversity and Health, 2020).

The findings of the weight-neutral approach in this study were consistent with Robison et al. (2007) who recommended incorporating the tenets of Health at Every Size into occupational nursing practice as an effective method for weight-related concerns. The authors reviewed literature denouncing traditional beliefs of obesity-associated diseases and its link to premature mortality, as well as the failure of traditional weight loss methods that are currently practiced. A review by Penney and Kirk (2015) addressed the topic of HAES from a public health discourse and stressed the need for social change related to cultural acceptance of individuals regardless of body shape and size. At the same time, the authors commented on the need for stronger empirical research evaluating the effectiveness of this approach.

The diversity of these approaches makes one wonder if one approach may be more effective than another approach. Is one approach more effective with a particular sociodemographic group such as low-income communities' verses more affluent areas or in particular settings where patients with morbid obesity are being treated, i.e., general primary care setting verses weight loss clinics? This study also raises questions around the use of personal experiences with weight as a strategy for weight management of patients with morbid obesity. Does using the strategy of self-

disclosure pose a threat to professional boundaries between the patient and the nurse practitioner where the focus on the patient's needs may be undermined? Perhaps, a combination of these approaches, using the most effective principles from each one is the best approach and tailoring it to the specific needs of the patient that promotes the best health outcome.

### ***Co-existing Psychological Disorders***

In this study nurse practitioners referred to the presence of co-existing psychological disorders, such as depression and anxiety, in many of their patients with morbid obesity. This finding is consistent with earlier research in quantitative studies by Wadden et al. (2006) and Onyike et al. (2003) where an association was found with depression and obesity mostly among individuals with severe obesity or Class III obesity. Onyike et al. (2003) found that this association “remained strong even after controlling for variables such as age, education, marital status, use of psychiatric medications, smoking, and use of alcohol or illicit drugs” (p.1139).

In a study focused on women and using data from the 2005-2006 National Health and Nutritional Examination Survey (NHANES), it was found that the degree of obesity was an independent risk factor for depression within the obese population and women with a BMI of  $\geq 40$  kg/m<sup>2</sup> or Class III obesity were specifically at-risk verses women with a BMI of 30 to  $<35$  kg/m<sup>2</sup> or Class 1 obesity (National Health and Nutritional Examination Survey, 2015). This association and one with anxiety disorders was found in a quantitative study by Scott et al. (2008) in their investigation of thirteen cross-sectional surveys conducted as part of the World Mental Health Surveys. They found a modest significant relationship among severe obesity, and

depressive and anxiety disorders and the associations were found mainly among those who were female with severe obesity. A quantitative study by Marzocchi et al. (2008) on the psychological profile and quality of life of morbid obese patients attending a cognitive therapy behavioral program showed patients with morbid obesity having higher scores based on the Beck Depression Inventory (BDI) assessment, 30% higher in males and 45% higher in females respectively, with 13% of females scoring in the moderate to severe depression range.

The nurse practitioners in this study identified the co-existence of psychological disorders such as depression and anxiety, however, there were only a few examples of patients being referred to behavioral health for these disorders. One nurse practitioner reported she had referred patients with morbid obesity and diabetes to mental health specialist for therapy regarding possible childhood trauma that may have contributed to the obesity. Another nurse practitioner said weight loss was “85% psychological” as she personally had gone through a comprehensive weight loss program that had provided group counseling sessions, however she did not mention individual patient referral to behavioral health for obesity. An additional nurse practitioner in the study reported she did not refer patients with morbid obesity to behavioral health as she did not have “a lot of patients that have expressed to me . . . body dysmorphic disorder [or] an eating disorder.” This raises questions about the frequency which nurse practitioners are referring patients with morbid obesity for behavioral health and if not, why.

### *Adverse Childhood Experiences (ACE)*

In this study, three nurse practitioners acknowledged the subject of childhood events in relation to their possible impact on patients with morbid obesity. One nurse practitioner reported that she has referred patients with morbid obesity for mental health services to find out what happened to them in childhood that led to the obesity. Another practitioner recognized childhood events as having significance in the patient's dietary habits; however, she did not mention referral for behavioral health counseling. The third nurse practitioner received training in adverse childhood experiences as she also worked at a local high school. No other nurse practitioners spoke of adverse childhood events in relation to patients with morbid obesity.

The relationship between adverse childhood events and the risk of adult obesity surfaced with a study conducted by Felitti et al. (1998) which had become known as the ACE study. The ACE study was a large survey conducted to assess the long-term impact of adverse childhood experiences and its relationship to health risk behaviors and diseases as the leading causes of death in adults. The study found the cumulative effect of adverse childhood experiences (ACE) demonstrated a strong association in the development of several health-risk behaviors known to cause diseases and associated comorbidities in adults, including severe obesity.

Since the ACE study, there has been further published literature demonstrating a positive relationship between adverse childhood experiences and adult obesity. Williamson et al. (2002) performed a separate analysis of the data from the ACE study reporting obesity increased with the number and severity of each type of abuse, estimating the association between childhood abuse and the risk of BMI $\geq$ 40 kg/m<sup>2</sup> were more strongly related to abuse than risk of BMI $\geq$ 30 kg/m<sup>2</sup>. Richardson et al.

(2014) prospective longitudinal study of adolescents who were followed over a 13-year period, a greater incidence of severe obesity was noted in participants with reported or previously documented occurrences of childhood abuse. Meta-analysis studies have also shown the association of adverse childhood experiences increasing the risk for adult obesity (Danese & Tan, 2014; Hemmingsson et al., 2014).

One of the surprising things in this study was the acknowledgment of psychological disorders among many patients with morbid obesity by the nurse practitioners, but little reference to referral to behavioral health to provide a more comprehensive approach to obesity management. It makes one wonder under what circumstances do nurse practitioners refer patients with this level of severe obesity for mental health therapy including behavioral health counseling.

Research has shown obesity and morbid obesity are very complex diseases which affect the physical and mental well-being of patients afflicted with the condition. Various disciplines have studied obesity which has helped to broaden our understanding of the disease. However, there is limited literature relating to the experiences of nurse practitioners working with patients with morbid obesity in the primary care setting as many of the studies within primary care are on physician practices, and few focusing on the nurse practitioner. By exploring and documenting the nurse practitioner's overall experiences, including descriptions of their clinical practice, facilitators and barriers to care, and recommendations they had for other nurse practitioners, added a new layer to the existing body of knowledge caring for patients with this chronic and complex condition. This study adds unique perspective from the nurse practitioner's personal

experiences caring for patients with morbid obesity and provides a dimension to care that may not have been reflected from other health care providers or disciplines.

## **CHAPTER 5**

### **CONCLUSION**

The primary aim of this study was to explore the experiences of nurse practitioners working in primary care with patients who have morbid obesity to gain deeper understanding of these experiences and the nurse practitioners' clinical practice working with this population. This chapter provides a summary, conclusions, limitations, and implications for future nurse practitioner practice.

As mentioned previously, the occurrence of morbid obesity had increased by 70% between 2000 and 2010, with an estimated 15.5 million adults in the United States or 6.6% of the population identified as morbidly obese in 2010 (Sturm & Hattori, 2013). By 2017-2018, the prevalence of severe obesity was 9.2%, with it being higher among women (11.5%) than men (6.9%). It was 11.5% in the 40-59 age group, 9.1% in the 20-39 age group and 5.8% in the 60 plus age group (CDC, 2020). It has been estimated that the cost of severe obesity in the United States is approximately 69 billion dollars, which accounted for 60.5% of total obesity-related costs (Wang et al., 2015).

Obesity and morbid obesity occur when an excessive amount of intake of energy exceeds the amount of energy expended. However, this explanation defies the multitude of complexities associated with morbid obesity. Factors contributing to the condition include genetics, physiology and hormonal imbalances, stress responses, as well as psychological, sociological, and environmental elements. The complex interplay of these factors leading to morbid obesity has serious consequences on the individual's health increasing one's risk for type 2 diabetes, hypertension,

hyperlipemia, cardiovascular disease, and several types of cancer. Additionally, researchers have found that individuals with morbid obesity have higher rates of depression and social isolation and lower health-related quality of life.

Obesity has not been sufficiently addressed in primary care with inconsistencies in following clinical practice guidelines in the management of patients with obesity and morbid obesity. According to the American Association of Nurse Practitioners, 69% of all nurse practitioners deliver primary care, and as such are an integral participant in the management of patients with morbid obesity (AANP, 2020). In light of the increasing prevalence and complexities associated with morbid obesity and given the responsibilities of nurse practitioners in the provision of comprehensive primary care, nurse practitioners' experiences are of paramount importance in the expansion of knowledge regarding caring for patients with morbid obesity.

The literature on the experiences of nurse practitioners providing primary care to patients with morbid obesity is limited and researchers have focused primarily on physicians as primary care providers. Some studies included nurse practitioners as part of the research participants, however, the data was not disaggregated, and very few studies focused specifically on nurse practitioners who work with patients with morbid obesity in the primary care setting.

An inductive, descriptive, qualitative research study was conducted to address this gap in the literature with the aim of describing the experiences of nurse practitioners who care for patients with morbid obesity in the primary care. The specific research questions were:

1. What have the overall experiences been like for nurse practitioners working with patients who have morbid obesity?
2. How do nurse practitioners describe their clinical practice, including one-on-one interactions, with patients who have morbid obesity?
3. What facilitators and barriers, if any, have nurse practitioners encountered in delivering care to patients who have morbid obesity?
4. What recommendations do nurse practitioners have for working with patients who have morbid obesity?

Ten nurse practitioners were recruited for the study using purposive sampling. Two semi-structured interviews were conducted after each nurse practitioner consented to participate. Seven nurse practitioners identified themselves as Caucasian, two as African American, and one as Hispanic. Their ages ranged from 25 to over 65 years of age and years of practice varied from five to over 15 years. All had master's degrees and three nurse practitioners had advance doctoral degrees in nursing practice (DNP).

Data for the study were initially collected via face-to-face interview with the first nurse practitioner. Thereafter all interviews were conducted by telephone as a result of the restrictions placed due to the pandemic affecting the United States at the time of the study and/or preference of the nurse practitioners. Each interview was audio recorded and a copy of the transcript was given to each nurse practitioner to check for clarity and accuracy of the data. Data analysis was conducted in three phases. Immersion and crystallization were used in both phase one and phase two after each interview with each nurse practitioner was conducted. Phase three consisted

of a cross interview analysis and for the identification, naming and further corroboration of codes related to each research question. Two nursing professors who served as core members of the dissertation committee were given copies of each transcript, additional notes, and summary profiles of the nurse practitioners to corroborate the flow of analysis from the data in relation to each research question. Numerous meeting between the researcher and committee members were conducted for review and analyses of the data.

In terms of the findings, the nurse practitioners noted that morbid obesity is a complex, challenging, and time-consuming condition to treat. All of the nurse practitioners, with the exception of one, viewed morbid obesity as a separate disease, however, their approach in addressing the obesity with their patients varied. Linking the obesity to other diseases was the most common approach applied. Treatment of the obesity was incorporated through the framework of diseases such as diabetes, dyslipidemia, and hypertension. Referrals to health professionals, particularly diabetic nurse educators and on-site pharmacists were common. Other treatment strategies employed by the nurse practitioners included nutritional referrals and weight loss clinics based on the patient's preference, insurance coverage, and availability of transportation. The use of anti-obesity medications and referral for evaluation of bariatric surgery were less frequent treatment strategies employed. Referral for social service assistance was an additional intervention used for patients who required assistance in accessing affordable healthier food options. All of the nurse practitioners made reference to the occurrence of co-existing psychological disorders with depression being cited most frequently. It was not known if patients with morbid

obesity had a formal diagnosis of a psychological disorder. The nurse practitioners acknowledged the stigma and biases associated with morbid obesity and having a supportive and non-judgmental attitude toward patients with morbid obesity was emphasized.

Another approach used by the nurse practitioners was to directly address the topic of weight with patients. One nurse practitioner spoke of her experiences with a primary care provider who never addressed her weight and consequently was viewed as not being important. And yet another nurse practitioner whose personal experiences working with patients with addictions influenced her approach by directly addressing the topic of weight with patients as she believed morbid obesity was an addiction issue. These findings of the nurse practitioners' personal experiences influencing their approach to patients with morbid obesity was a pertinent and substantial finding.

A surprising finding was the role of the nurse practitioner's personal experiences with weight and how these experiences affected their approach to patients with morbid obesity. The majority of the nurse practitioners identified themselves as being overweight or obese with some of them speaking openly about their own experiences with weight and how these experiences influenced their interactions with patients with morbid obesity. One nurse practitioner's negative experience with a health care provider prompted her to change to a new primary care provider. This nurse practitioner would not directly address weight with patients as she reported, "it feels bad" but rather addressed it from a disease co-morbidity. Another nurse practitioner who identified herself as being obese practiced a weight-neutral approach,

called size-inclusive care, where there is no discussion or reference to weight during the clinical visit. Equipment including examination tables, blood pressure cuffs, examination gowns accommodating patients of larger size, and availability of armless, weight-supported chairs were provided. The focus was shifted from weight and placed on health promotion strategies for the general well-being of the patient. This approach was seen as constructive as many patients with morbid obesity have experienced stigma and are reluctant to seek health care due to perceived provider bias.

Two main facilitators that helped the nurse practitioners in their delivery of care to patients with morbid obesity were patient motivation along with access and use of resources. These resources comprised of referral to other health care professionals for additional support, education, counseling as well as on-line weight management programs and phone applications for tracking of food and physical activity.

A number of barriers were identified by the nurse practitioners that hindered their delivery of care to patients with morbid obesity. These were mostly from the patient's position and minimally from the nurse practitioner's or organizational standpoint. A frequent barrier from the nurse practitioner's position was time constraints of the clinical visit as well as one nurse practitioner reporting lack of "organizational support" in prescribing weight loss medications. Several barriers were cited by the nurse practitioners from the patient's position including difficulties incorporating and adapting to positive lifestyle changes. Other barriers identified were co-existing morbidities, and social as well as physical determinants of health.

Lastly, a number of recommendations were offered by the nurse practitioners to other nurse practitioners interested in caring for patients with morbid obesity. These recommendations reflected what the nurse practitioners knew and did in practice with particular attention to being empathetic and having an open-minded and non-judgmental attitude, as well as acknowledging their own biases toward people with morbid obesity. Other recommendations included different approaches in addressing the topic of weight, close follow-up of patients, and having the clinical visit focus only on obesity. Additional suggestions included participating in educational conferences related to the care of the patient with obesity and expanding their knowledge of morbid obesity viewed from an addiction perspective.

Morbid obesity and obesity-related diseases are prevalent in the United States. The serious health consequences of morbid obesity, compounded with complex physical, psychological, and social dimensions associated with it, make it a formidable disease affecting individuals' health and quality of life. Nurse practitioners face challenges when providing effective comprehensive treatment strategies in primary care for patients with morbid obesity. In an effort to improve care by expanding current knowledge in caring for these patients with morbid obesity, it is essential to know what occurs in practice, what successes nurse practitioners had in the treatment of patients, what barriers they encountered, and what recommendations they make for enhancing practice for patients with morbid obesity. This study provides a clearer understanding of what nurse practitioners actually do in the treatment of morbid obesity. Documenting and describing what nurse practitioners actually experience in their role as a primary care provider may lead to identifying effective strategies that

may be tested empirically within the primary care setting. Such research can be helpful in expanding practice guidelines and provide greater clarity to those with interest in the care of patients with morbid obesity.

### **Limitations**

This study had several limitations. Having a homogenous sample of nurse practitioners employed in community primary care clinics predominantly serving disadvantaged communities was a limitation, as findings from this population may be very different than with populations seen in private primary care practices or other health care settings. Several factors, including social determinants of health, were noted as impacting the delivery of care to patients. These same factors may not be present in other socioeconomic groups or settings, such as private primary care practices. However, many nurse practitioners do work in these types of primary care community clinics. It is possible that larger numbers of patients with morbid obesity are being seen in community health centers rather than private practices of primary care as lower income is associated with subsequent obesity (Kim & von dem Knesebeck, 2018).

Another limitation was the small sample size of nurse practitioners in the study. Consideration of the study's location was based on the practicality of conducting in-depth interviews. Consistent with other qualitative research, the small sample was considered suitable in order to obtain a deeper understanding of the experiences of the nurse practitioners. However, a small sample size limits the transferability of the findings to other populations and settings. There was a small amount of racial diversity among this sample with seven nurse practitioners being

White, two African American, and one Hispanic. Even though this diversity did not show any distinct differences therefore studies including larger numbers of diverse nurse practitioners should be considered.

The issue of “insiderness” could be considered a limitation in this study since there was a potential risk of bias by the researcher. Using purposive sampling in the selection process of nurse practitioners, however, alleviated the difficulty of accessing nurse practitioners who had knowledge and experience of the phenomena under study. Additionally, the researcher practiced reflexivity throughout this study.

### **Implications**

This research study has several implications for future research, theory development, nursing practice, and nursing education. As previously noted, there was a gap in the literature specifically relating to the nurse practitioner’s role in weight management in primary care. Many of the studies relating to weight-related practices included a merger of health care clinicians with few studies focusing on nurse practitioners specifically and no studies were found on the experiences of nurse practitioners providing care to patients with morbid obesity, even though they may be the only provider for patients with morbid obesity in the primary care setting.

The use of interviews was particularly valuable in exploring the experiences of nurse practitioners. Further qualitative research is needed, including fieldwork studies which would allow for a closer look of what is actually occurring as nurse practitioners are caring for patients with morbid obesity. This study raised additional implications for future research in terms of providing comprehensive care to patients with morbid obesity. Referrals to other health professionals were evident especially

diabetic nurse educators, on-site pharmacists, professional nutrition services, and social services depending on patient's needs. The nurse practitioners acknowledged some patients, but not all, had co-existing psychological disorders such as depression and anxiety. Although, patients may receive counseling for the psychological disorders, there was little indication of referral to behavioral health specifically for obesity. Only one nurse practitioner reported referring patients with morbid obesity to behavioral health purposely for support in the treatment for obesity. It is recognized that morbid obesity requires a multidisciplinary approach, which may include behavioral health specialists providing patients with a comprehensive treatment plan. Future research studies relating to the appropriateness and practicality of behavioral health intervention in primary care with patients who have morbid obesity must be undertaken.

This study has implications for future research relating to the educational preparation of nurse practitioners who provide care to patients with morbid obesity in primary care. There is a need to examine nurse practitioners' educational preparation and knowledge of treatment guidelines and modalities in the management of patients with morbid obesity, including care of the patient before and after bariatric surgery.

The nurse practitioners in this study identified specific barriers to the delivery of care to patients with morbid obesity, such as inadequate accessibility and affordability of healthy foods, safe neighborhoods for walking or other outside activities, and lack of insurance coverage for weight loss medications and nutritional referrals. It raises questions about the potential need to have a better link between nurse practitioners and the community to increase awareness of the seriousness of the

disease and increase education relating to health promotion practices. There appears to be a need for future research relating to the community's involvement in weight management strategies to help those with morbid obesity in regard to easier access and affordability of nutritious food. Future research is needed on the effectiveness of various health care policy reforms dealing with the provision of coverage for all treatment modalities for morbid obesity at the state and federal level.

**Theory.** The theory of self-efficacy was proposed by psychologist, Dr. Albert Bandura in 1977 and the concept relates to “how well one can execute courses of action required to deal with prospective situations” (as cited in Lopez-Garrido, 2020, p.1). Bandura's self-efficacy theory includes the following four main principals: (a) performance accomplishments or mastery experiences which influences the person's perception of mastery of a task or activity from previous experiences; (b) vicarious experiences through the observation of other individuals succeeding in the completion of tasks, (c) verbal persuasion in the terms of receiving positive feedback from others in their ability to perform or complete a task; and (d) physiological or emotional states or the general well-being of an individual influences how they believe in their personal capabilities in specific situations (Bandura, 1977; Lopez-Garrido, 2020).

In the context of nursing, Bandura's theory of self-efficacy is often used in relationship to specific behavioral changes desired in the patient. However, based on the findings in this study, the theory of self-efficacy may be helpful in explaining the nurse practitioner's uncertainty in coding for obesity, avoidance of documenting the term “morbid obesity” in the medical record, and concern with the risk of having the medical record returned to them due to inaccuracy of their documentation.

With regards to mastery of experiences influencing self-efficacy, the nurse practitioners displayed different and distinct approaches addressing the subject of weight with patients who had morbid obesity. Here, self-efficacy was aligned with the nurse practitioners' personal experiences with weight in terms of her own perceived success or failure, and how these experiences may have affected their level of self-efficacy and consequently their approach to patients with morbid obesity. The principle of vicarious experiences is illustrated by the nurse practitioners' experiences of their past documentation of obesity in primary care as they reported medical records being returned to them due to questionable reimbursement for the obesity and/or clarification of the classification of the obesity. In terms of social or verbal persuasion principle of self-efficacy, half of the nurse practitioners were unaware of guidelines for treatment of obesity and reported there has not been discussion of obesity guidelines or continued education in obesity management within their work environments. This lack of discussion and/or training in obesity weight management influences the nurse practitioner's ability to perform the activities of weight management by not receiving information feedback from others. The fourth point of the self-efficacy theory is the emotional state of the nurse practitioners' concerning their uncertainty in coding for morbid obesity and having an emotional reaction, such as being embarrassed by their ability to code correctly or not wanting to code for morbid obesity as one nurse practitioner said she will document it in the patient's chart "if I need too." Zhu et al. (2013) conducted a survey study on weight management practices of registered nurses incorporating the theory of self-efficacy as a framework for understanding the professional nurse's role, skills, barriers, and practices of obesity

management. The authors provided insight into understanding the nurses' practice patterns with the application of concepts of the self-efficacy theory; however, the quantitative design of the study did not allow for expression of personal experiences of the nurses and the scope of practice of the registered nurses is different from the role of the nurse practitioner.

Coding for morbid obesity is a necessary step in its identification as a disease which requires specific interventions addressing the complexities of it. Bandura's theory is helpful in illuminating activities that could be used to enhance the documentation of coding for morbid obesity by nurse practitioners. By properly documenting and coding morbid obesity as a chronic disease provides an opportunity for the practitioner to implement guidelines established for its treatment, as well as highlighting the need for comprehensive coverage for other resources such as referrals, funding, and research purposes. The theory may also be useful regarding the nurse practitioner's behavior in terms of coding for morbid obesity as a separate disease entity.

**Nursing Practice.** The exploration of nurse practitioners' experiences caring for patients with morbid obesity in primary care provided greater understanding and insight into how they provided this care, including their approach in addressing the topic of obesity given the sensitive nature of weight. It is important that discourse relating to managing patients with morbid obesity take place among nurse practitioners through sharing of their experiences, what they have learned from these experiences, how they have approached or intervened on what they have learned and distributing this knowledge with others caring for this population as this may generate

new insights. For example, nurse practitioners in this study could share their different approaches relating to addressing weight, the reason behind these approaches, and their individual success with any particular approach, such as the size-inclusive approach to care of the patient with morbid obesity. This would allow nurse practitioners to reflect on their practice and begin to identify areas where more evidence-based practice is needed.

**Nursing Education.** As part of their preparation in their role as nurse practitioners, knowledge relating to management of obesity-related conditions such as diabetes and cardiovascular disease are included in their education. Two textbooks of primary care for advanced practice nursing devotes a section on obesity including etiology, risk factors for other diseases, and management related to National Institute of Health (NIH) guidelines. However, only one paragraph identifies morbid obesity and then the focus is on bariatric surgery. Based on recent statistics provided by the American Society for Metabolic and Bariatric Surgery (ASMBS, 2018), less than 1% of people who qualify for a bariatric surgical procedure may have the procedure each year. The implication of this study raises issues regarding the educational preparation of nurse practitioners at the master's level in terms of management of patients with morbid obesity in the primary care setting. Additionally, this study raises other questions as to the nurse practitioners' own personal experiences with weight and how these personal experiences reflect their weight management practices of the patient with morbid obesity.

## Appendix A

### ACE Questionnaire

All ACE questions refer to the respondent's first 18 years of life and were composed of seventeen questions relating to seven categories of adverse childhood experiences defined as either childhood abuse or exposure to household dysfunction. The three abuse categories were categorized as physical, psychological, or sexual abuse. The four household dysfunction questions focused on having lived with anyone: who abused alcohol or street drugs, who was mentally ill/attempt suicide, committed violence against the mother or stepmother, and imprisonment of a household member.

Questions which defined psychological and physical child abuse, and violence toward mother or stepmother were from the Conflicts Tactics Scale, a research tool with proven reliability and validity measuring intra-family conflict and violence (Straus, 1979). Definitions of sexual abuse categories were adapted from a study conducted by Wyatt (1985) on the sexual abuse occurrences of Afro-American and White-American women in childhood. Alcohol and substance abuse questions were from the National Health Interview Study on Alcohol conducted by the National Center for Health Statistics (1988).

#### Abuse by category

1. Psychological
  - a. Did a parent or other adult in the household: Often or very often swear at, insult, or put you down?
  - b. Often or very often act in a way that made you afraid that you would be physically hurt?
2. Physical

- a. Did a parent or other adult in the household:
  - b. Often or very often push, grab, shove, or slap you?
  - c. Often or very often hit you so hard that you had marks or were injured?
3. Sexual
- a. Did an adult or person at least 5 years older ever:
    - i. Touch or fondle you in a sexual way?
    - ii. Have you touch their body in a sexual way?
    - iii. Attempt oral, anal, or vaginal intercourse with you?
    - iv. Actually have oral, anal, or vaginal intercourse with you?
4. Neglect
- a. Did you often feel that:
    - i. No one in your family loved you or thought you were important or special?
    - ii. Your family did not look out for each other, feel close to each other, or support each other?
    - iii. You did not have enough to eat, had to wear dirty clothes, and had no one to protect you?
    - iv. Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
5. Were your parents ever separated or divorce?
- a. Household dysfunction
  - b. Substance abuse
  - c. Live with anyone who was a problem drinker or alcoholic?
  - d. Live with anyone who used street drugs?
6. Mental Illness
- a. Was a household member depressed or mentally ill?
  - b. Did a household member attempt suicide?
7. Mother treated violently
- a. Was your mother (or stepmother):
    - i. Sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at her?
    - ii. Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?
  - b. Ever repeatedly hit over at least a few minutes?
  - c. Ever threatened with, or hurt by, a knife or gun?
8. Criminal behavior in household
- a. Did a household member go to prison?

**Appendix B**  
**IRB Approval**

THE  
UNIVERSITY  
OF RHODE ISLAND

DIVISION OF RESEARCH AND ECONOMIC  
DEVELOPMENT

OFFICE OF RESEARCH INTEGRITY  
70 Lower College Road, Suite 2, Kingston, RI 02881 USA  
p: 401.874.4328 f: 401.874.4814 [web.uri.edu/researchecondev/office-of-research-integrity](http://web.uri.edu/researchecondev/office-of-research-integrity)



FWA: IRB: DATE:

TO: FROM:

STUDY TITLE:

IRB REFERENCE #: LOCAL REFERENCE #: SUBMISSION TYPE:

ACTION: EFFECTIVE DATE:

REVIEW CATEGORY:

00003132 00000599 November 12, 2019

Donna Schwartz Barcott, PhD University of Rhode Island IRB

Nurse Practitioners' Experiences Working with Patients Living with Morbid Obesity  
1466798-3  
IRB1920-007

Amendment/Modification

DETERMINATION OF EXEMPT STATUS November 10, 2019

Exempt 2ii

Thank you for your submission of materials for this research study. The University of Rhode Island IRB has determined this project falls into the EXEMPT REVIEW category according to federal regulations 45 CFR 46. Per URI IRB policy, the project has been reviewed by either the IRB Chair or the IRB Administrator. Approval is valid for the duration of the project.

No changes to procedures involving human subjects may be made without prior IRB review and approval. You must promptly notify the Office of Research Integrity of any problems that occur during the course of your work using Appendix S - Event Reporting.

If you have any general questions, please contact us by email at [researchintegrity@etal.uri.edu](mailto:researchintegrity@etal.uri.edu). For study related questions, please contact us via project mail through IRBNet. Please include your study title and reference number in all correspondence with this office.

Matthew Delmonico, Ph.D., MPH IRB Chair

A handwritten signature in blue ink, appearing to read "Matthew Delmonico".

- 1 - Generated on IRBNet

## Appendix C

### Recruitment E-mail

My name is Sharon McLimans and I am a student enrolled in the PhD nursing program at the University of Rhode Island. I am reaching out to ask for your participation in a qualitative research study entitled “Nurse practitioner’s experiences working with adult patients living with morbid obesity”. The purpose of the study is to explore the experiences of nurse practitioners (NPs) who provide primary care to this particular group of individuals, in hopes of expanding our understanding of the nurse practitioner approach to practice of this clinical condition.

This research study has been approved by The University of Rhode Island Institutional Review Board. The principal investigator of the study is Donna Schwartz Barcott, PhD, RN, Professor of nursing at the University of Rhode Island. You may contact Dr. Schwartz Barcott if you have further questions concerning the study at [dsbbb@uri.edu](mailto:dsbbb@uri.edu) or (401) 874-5337.

Participation in the study will involve one in-person interview that lasts approximately 45-90 minutes and a second interview, approximately 15-30 minutes either in person, by phone, or video-call (i.e., FaceTime or Skype). The interview(s) will be audio-recorded. Participants’ identities will be kept confidential from anyone other than the interviewer. Participation in the study is completely voluntary, and participants may withdraw at any point if they do not wish to continue.

To be eligible to be in the study you must be:

1. A nurse practitioner licensed to practice in the state of Rhode Island.
2. Currently providing primary care to adults (over 21 years of age) identified as morbidly obese adults with a documented BMI>40 kg/m<sup>2</sup>.
3. Proficient in English.

If you meet the eligibility criteria and are willing to participate, please contact me at [smclimans@my.uri.edu](mailto:smclimans@my.uri.edu) or 401-450-2937. Together, we will determine a date, time and location for the interview that is convenient for you, and where you will feel comfortable talking about your experience providing care of the morbidly obese adult patient.

If you have questions about the study that you would like answered before deciding whether to participate, please feel free to contact me. Additionally, if you know others who might be eligible and interested in participating, I would appreciate it very much if you would forward this email and encourage them to contact me.

Thank you for your help in the success of this study!

Sincerely,

Sharon McLimans, PhD(c), ACNP-BC, FNP-BC Graduate student, University of Rhode Island College

## Appendix D

### Consent Form

IRB Exempt Consent Principal Investigator: Donna Schwartz Barcott, PhD, RN  
Student Investigator: Sharon McLimans, MSN, FNP, ACNP  
Department: College of Nursing

Title of Study: Nurse Practitioners' Experiences Working with Patients Living with Morbid Obesity Date: July 2019

You are being asked to take part in a research study. The purpose of the research study is to explore the experiences of nurse practitioners working with morbidly obese adult patients in the primary care setting. Please read the following before agreeing to be in the study. If you agree to be in this study, it will take approximately 45 to 60 minutes to complete the first interview and 15-30 minutes for a second interview for clarification or expansion of information gathered. Questions will be asked about your overall experiences and interactions working with patients who are morbidly obese, including any facilitators or barriers, and recommendations you may have working with this particular patient population. There are no known risks, benefits or compensation.

Your responses will be strictly confidential. Your name will not be listed on any data collected. Only the student investigator, Sharon McLimans, will be able to connect your name with the participant code. The responses may be used in research papers, publications, or presentations.

The decision to participate in this study is entirely up to you. You may refuse to take part in the study at any time without affecting your relationship with the investigators of this study or the University of Rhode Island (URI). Your decision will not result in any loss of benefits to which you are otherwise entitled. You have the right not to answer any single question, as well as to withdraw completely from the study at any point during the process; additionally, you have the right to request that the researchers not use any of your responses.

You have the right to ask questions about this research study and to have those questions answered by the principal investigator or the student investigator before, during or after the research. If you have questions about the study, at any time, feel free to contact Dr. Donna Schwartz Barcott at [dsbbb@uri.edu](mailto:dsbbb@uri.edu) or (401) 874-5337 or Sharon McLimans at [smclimans@my.uri.edu](mailto:smclimans@my.uri.edu) or (401) 450-2937.

Additionally, you may contact the URI Institutional Review Board (IRB) if you have questions regarding your rights as a research participant. Also contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Rhode Island IRB may be reached by phone at (401)

874-4328 or by e-mail at [researchintegrity@etal.uri.edu](mailto:researchintegrity@etal.uri.edu). You may also contact the URI Vice President for Research and Economic Development by phone at (401) 874-4576.

Keep a copy of this document for your records. You may also contact the researcher to request a copy.

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UNIVERSITY  
OF RHODE ISLAND

IRB Exempt Consent

Principal Investigator: Donna Schwartz Barcott, PhD, RN  
Student Investigator: Sharon McLimans, MSN, FNP, ACNP  
Department: College of Nursing  
Title of Study: Nurse Practitioners' Experiences Working with Patients Living with Morbid Obesity Date: July 2019

By writing your name below, you indicate that you have read and understood the above and volunteer to participate in this study.

\_\_\_\_\_ Printed Name of Participant  
\_\_\_\_\_  
\_\_\_\_\_ Signature of Participant  
\_\_\_\_\_ Participant Date

\_\_\_\_\_ Printed Name of Person Obtaining Consent  
\_\_\_\_\_  
\_\_\_\_\_ Signature of Person Obtaining Consent  
\_\_\_\_\_ Person Obtaining Consent Date

By signing this consent form, I confirm that I give my permission for audio recording(s) of me, to be used for the purposes listed above, and to be retained for 5 years. You may still participate in this study if you are not willing to be recorded.

\_\_\_\_\_ Printed Name of Participant  
\_\_\_\_\_  
\_\_\_\_\_ Signature of Participant  
\_\_\_\_\_ Participant Date

\_\_\_\_\_ Printed Name of Person Obtaining Consent  
\_\_\_\_\_ Consent

\_\_\_\_\_  
Person Obtaining Consent Date

\_\_\_\_\_  
Signature of

## Appendix E

### Demographic Questionnaire

1. Age

- 18-24
- 5-34
- 35-44
- 45-54
- 55-64
- 65+

2. What is your gender?

•

- Female
- Male
- Other

3. Which race/ethnicity best describes you? (Please choose only one.)

•

- American Indian or Alaskan Native
- Asian / Pacific Islander
- Black or African American
- Hispanic
- White / Caucasian
- Multiple ethnicity / Other (please specify)

4. What is the highest level of education you have completed?

•

- 2 years of college
- 3 years of college
- Graduated from college
- Some graduate school
- Completed graduate school
- Other (please specify)

5. How many years working as a nurse practitioner?

•

- < 5 years

- 5 - 10 years
- 10 -15 years
- 15 years

6. About how many years have you been in your current position?

- Less than 1 year
- At least 1 year but less than 3 years
- At least 3 years but less than 5 years
- At least 5 years but less than 10 years
- 10 years or more

7. In what city do you practice?

## Appendix F

### Interview Guide

<b>Research Question</b>	<b>Interview Question</b>	<b>Probes</b>
What have the overall experiences been like for nurse practitioners working with patients who are morbidly obese?	As you reflect on your clinical practice with patients who are morbidly obese, can you describe your experiences with me?	Can you tell me about a routine primary care visit that includes providing care to patients with morbid obesity? What is that like for you? What has been your overall impressions, thoughts, beliefs about patient with morbid obesity? Do you experience frustration, empathy, disgust? Do you view the patient with morbid obesity differently than normal weight patients? Do view the patient at fault for the obesity?
How do nurse practitioners describe their clinical practice, including, one on one interactions, with patients who are morbidly obese?	Can you describe the process or approach you use in your clinical practice with patients with morbid obesity?	Can you walk me through the first meeting with a patient with morbid obesity? What was your first thought when you saw the patient? Do you mention the subject of weight? Is the topic of weight ever discussed? How do you approach the subject? Are you comfortable discussing weight? Do you focus on weight solely? Is your focus on co-morbidities associated with the weight? Functional limitations? Have you made any other observations besides the obesity?
What facilitators and barriers, if any, have	Can you tell me about one or more patient(s) where a patient	What did you find most useful in your interaction with

nurse practitioners encountered in delivering care to patients with morbid obesity?

was successful with weight loss? Can you tell me of any barriers to weight loss?

patients who have morbid obesity? Support? Motivation? Encouragement? What do you see as obstacles toward weight loss?

What recommendations do nurse practitioners have for working with patients who are patients who are morbidly obese?

Do you have any advice for other nurse practitioners working with patients who are morbidly obese?

What do you feel is the best approach or course of action to take when working with patients who have morbid obesity? What is your opinion of the best way to proceed with patients who have not succeeded in any weight loss? Can you tell me any important things you have learned caring for patients with morbid obesity within your practice?

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