Factors Influencing Nurses' Intentions to Provide Weight Management Education to Hospitalized Obese Adults

Milissa Volino

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FACTORS INFLUENCING NURSES’ INTENTIONS TO PROVIDE WEIGHT MANAGEMENT EDUCATION TO HOSPITALIZED OBESE ADULTS

By

Milissa A. Volino

Approved July 10, 2014

Joan Such Lockhart PhD, RN, CORLN, AOCN, CNE, ANEF, FAAN
Clinical Professor of Nursing
(Committee Chair)

Mary Ellen Glasgow, PhD, RN, FAAN
Dean, School of Nursing
Professor of Nursing
(Committee Member)

Melanie Turk, PhD, RN
Assistant Professor
(Committee Member)

Mary Ellen Glasgow, PhD, RN, FAAN
Dean, School of Nursing
Professor of Nursing

Alison Colbert PhD, APRN
Assistant Professor/Chair, Graduate Nursing Programs
School of Nursing
ABSTRACT

FACTORS INFLUENCING NURSES’ INTENTIONS TO PROVIDE WEIGHT MANAGEMENT EDUCATION TO HOSPITALIZED OBESE ADULTS

By

Milissa A. Volino
August 2014

Dissertation supervised by Joan Such Lockhart PhD, RN, CORLN AOCN, CNE, ANEF, FAAN

Obesity is a sensitive, global health problem that impacts individuals of all ages and places individuals at risk for various chronic health problems. Nurses caring for hospitalized obese clients are in a prime position to provide them with timely information on weight management. This study utilized an exploratory sequential mixed method design to examine medical-surgical nurses’ intentions to provide weight management education to hospitalized obese adults and the factors that influence nurses’ intentions.

In phase 1, a focus group interview guide and nurse demographic form (NDF) were developed. Focus groups were conducted and analysis resulted in the creation of 15 salient beliefs and 12 broad categories. In Phase 2, focus group results were used to construct the Weight Management Education Survey (WMES) guided by Azjen’s Theory.
of Planned Behavior (TPB) for question development. A total of 71 WMES items were developed based on the main TPB components: 24 attitude; 16 subjective norm; 26 perceived behavioral control; and 5 intention. The WMES was piloted with 12 RNs in the same setting; nurses also completed the NDF. In phase 3, the WMES with minor changes was electronically administered with the NDF to a national pool of 354 RNs who held membership in the Academy of Medical Surgical Nurses.

Of the nurses who completed the WMES, 85.8% (n = 318) responded they would provide weight management education if clients asked for the information. A 12-factor solution explained 80% of the variation in response; seven of those factors explained 52% of the variation in the principle component of “intention”. Factors significant in predicting nurses’ intentions included: “health benefits” (p < 0.0001), “reducing costs and admissions” (p < .0001), “client/family approval” (p < 0.0001), “institutional approval” (p < 0.0001), “home-based weight management plan on admission” (p < 0.0001), “staffing and timing” (p = 0.0055), and “acute illness priority” (p =0.0022). After removing variation explained by factors, demographics explained less than 5% variation in nurses’ intentions. Establishing a standardized collaborative approach for instituting “a home-based weight management plan on admission” may increase the likelihood that nurses will choose to provide weight management education for their clients.
DEDICATION

This dissertation is dedicated to family who were supportive throughout this entire process: to my husband Casey for his unending love and support; to my children Nicholas, Abigail, Christopher and Olivia for always understanding when I had schoolwork to finish; and finally to my parents Dave and Peggy Adriance who always believed that I would be successful in any educational endeavor.
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A special thank-you to all of the nurses who participated in my study. They took time out of their busy lives and I am forever grateful for their generosity. These nurses’ responses provided valuable insight into factors that influence nurses’ intentions to provide weight management education to their hospitalized obese clients. Thank-you to Sydney Peck for agreeing to be my co-moderator for the focus groups. She donated a significant amount of time to help me collect data. Her assistance with these focus groups was invaluable for data collection.

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CHAPTER 1
INTRODUCTION

Chapter 1 presents a review of the background, associated factors and a description of the purpose of this dissertation study. In addition this chapter will present the research questions and provide operational definitions for each of the study’s variables. Assumptions and limitations are explained. Finally, this chapter addresses the significance of this study to nursing.

1.1 Background

It was estimated that in the United States (US) about one-third or 33.8% of adults and 17% of children and adolescents age 2 to 19 years were obese in 2007-2008 (Flegal, Carroll, Ogden, & Curtin, 2010). More recent data indicate that rates seem to have leveled off with adult obesity rates in 2009-2010 reaching 35.7% and children at 18.6% (Flegal, Carroll, Kit & Ogden, 2012). In adults, obesity rates exceed 31% in all age and gender groups, with older adults experiencing higher rates of obesity (Flegal et al, 2012). Obesity rates for women have remained stable over the last decade while obesity rates in men have increased (Flegal et al, 2012). Obesity is best described as excess adipose tissue with the quantity of adipose tissue typically measured using Body Mass Index (BMI). BMI is calculated as follows: weight in kilograms divided by height in meters squared rounded to one decimal place, and adults with a BMI $\geq 30$ kg/m$^2$ are considered obese (Flegal et al., 2010, Flegal et al., 2012). Unfortunately the BMI measurement tool crudely represents body fat, since it does not account for higher muscle mass. Furthermore, the BMI measurement tool is not sensitive to differences in body
composition across races of people (Flegal et al., 2010). According to US Department of Health and Human Services (HHS), Healthy People 2020 (2011), despite growing awareness and weight management interventions, the US population has experienced a 20 year uphill climb in body weights. Some explanations of climbing weights include a general decline in physical activity coupled with a diet consisting of large quantities of energy dense food (HHS, Healthy People 2020, 2011). Research also supports that individual genetic components may predispose individuals to weight gain, but this factor has always existed and does not explain the rise in obesity rates (Swinburn, et al., 2011). Paralleling the increasing size of the US citizen is the development of a variety of chronic health conditions including: diabetes, stroke, cardiovascular disease, some cancers, high cholesterol and arthritis (HHS, Healthy People 2020, 2011). Higher levels of obesity are associated with higher mortality rates (HHS, Healthy People 2020, 2011). Healthy People 2010 objective (19-2) was to reduce the percentage of adults who were obese to 15% (Flegal et al., 2010; Flegal et al., 2012). Despite multiple efforts to reduce weights, this goal remains the same in Healthy People 2020 (HHS, Healthy People 2020, 2011). Obesity represents a complex health problem and it is often a consequence of a variety factors that may be psychological, biological or social. Despite a growing number of treatment options (non-pharmacological, pharmacological, and surgical), the multifaceted nature of the obesity problem continues to present a challenging situation to all involved.

1.1.1 Cultural and ethnic influences

Culture and ethnicity also play pivotal roles in the US obesity epidemic on both community and individual levels. As a culture, Americans place a high value on being
thin, despite the evidence that 1/3 of the population is considered obese (Crandall, Merman, & Hebl, 2009; Puhl & Brownell, 2003; Puhl & Heuer, 2010a; Puhl and Heuer 2010b). In addition to overall high levels of obesity in the US, research suggests that there are a disproportionate number of racial and ethnic minority groups affected by the obesity epidemic (Flegal et al., 2010; Flegal et al., 2012). For instance, recent population research indicates that 33% of non-Hispanic White women, 49.6% of non-Hispanic Black women and 43% of Hispanic women are considered obese (Flegal et al., 2010). It is possible that individuals’ income and education may contribute to the ethnic differences in obesity rates. Kirby, Liang, Hsin-Jen, and Youfa (2012) found that members of ethnic and racial minority groups were more likely to reside in metropolitan areas, have less education and be of lower socioeconomic status. Research also suggests that social norms surrounding body weight may be different across ethnic groups. For example one study found that non-Hispanic White women are dissatisfied with body weights that are much lower than body weights acceptable to non-Hispanic Black women (Fitzgibbon, Blackman, & Avellone, 2000). Despite the US cultural perspective that being thin is ideal, it is plausible that ethnic background may change how individuals view body weight.

One community cultural influence investigated in the literature is the impact of the built environment on obesity. Recent research suggests that characteristics of communities, such as the presence of sidewalks and recreational facilities may play a role in the development of obesity (Doyle, Schwartz, & Schlossberg, 2006). In addition, research indicates that food availability especially in poor neighborhoods, selection of
energy dense processed foods and higher cost of fruits and vegetables may also be contributing factors to individual obesity rates (Chou, Grossman, & Saffer, 2004).

1.1.2 Weight management

In light of the U.S. obesity epidemic and the long term health effects of obesity, weight management has become a central focus in healthcare settings, schools and communities. As a result of increasing numbers of obese individuals and related chronic health conditions, health care providers bear the professional burden of being knowledgeable of the various weight loss interventions and associated risk factors. Furthermore, healthcare providers must also be able to determine who may be best suited for each option. Established clinical guidelines for managing obesity provide some structure for developing a treatment plan. The Centers for Disease Control and Prevention (CDC, 2011) currently recommends that adults ages 18 to 64 years should exercise moderately for at least 120 to 150 minutes weekly to reduce the risk of diabetes and metabolic syndrome (CDC, 2011). Metabolic syndrome is described as having a combination of hyperlipidemia, increased abdominal adipose tissue, hypertension and hyperglycemia (CDC, 2011). The CDC recommends performing at least 150 minutes of moderate intensity exercise weekly to prevent cardiovascular disease. Those individuals with chronic health conditions that affect their ability to safely exercise should also establish modified exercise routines with the assistance of their health care provider (CDC, 2011). In addition to exercise, the CDC (2011) recommends that adults consume diets high in fruits, vegetables and lean meats, while avoiding high fat products. Eating
low fat foods results in quantities of food that are less energy dense, allowing the individual to eat larger quantities for fewer calories.

Research focusing on the benefits of weight loss indicates that a modest reduction in weight of even 10% may improve chronic health conditions (Knowler, Barrett-Connor, Fowler, Hamman, & Lachin, 2002; Wing, et al., 2011). As a result of these findings, current CDC (2011) guidelines for weight management focus on achieving a modest weight loss of 5% over a 6 month time frame, rather than setting sights too high and risking failure. An inherent problem for obese individuals is that a modest weight loss will not change how they are perceived by society since they will still be viewed as overweight or obese. Unfortunately, individuals who are successful with weight loss often encounter a more elusive problem with maintaining weight after reaching a specified target weight. Research on weight maintenance is disheartening and suggests that individuals losing weight with lifestyle modification typically will regain all of the weight lost within five years (Demaria, 2007). These statistics make achieving and maintaining a healthy weight the exception rather than the routine result of weight management programs. Ovbiosa-Akinbosoye and Long (2011) examined weight maintenance in the work place and found factors that were associated with long term maintenance included the following: “male gender, older age, reduced psychosocial stress, improved nutrition and increased exercise when combined with improved nutrition” (p. 1236).

Bariatric surgery options provide solutions for some obese patients. Surgical options are classified as restrictive or malabsorptive (Demaria, 2007; Schroeder, Garrison, & Johnson, 2011). Restrictive surgeries reduce the size of the stomach pouch,
while malabsorptive procedures bypass a portion of the intestine. Another procedure, requiring minimal surgical alteration, is called adjustable gastric banding. In this procedure, the gastric band is surgically implanted and encircles the neck of the stomach (Demaria, 2007). After insertion, the amount of restriction from the band may be individually tailored by removing or injecting saline without anesthesia in the office setting (Demaria, 2007; Schroeder et al., 2011).

Generally speaking, clients undergoing these surgical procedures have exhausted non-pharmacological and pharmacological therapies. They typically have a BMI ≥ 40 kg/m² or have a BMI > 35 kg/m² with pre-existing weight-related chronic health problems (Demaria, 2007; Ovbiosa-Akinbosoye & Long, 2011; Schroeder et al., 2011). While these surgeries offer a significant average weight loss of 44 to 110 pounds, they are not without risk or significant expense (Demaria, 2007; Schroeder et al., 2011).

Individuals undergoing weight loss surgeries require extensive support and counseling in order to ensure postoperative success. Bariatric surgery also places the individual at risk for both fatal and nonfatal complications. On average, 13% of patients undergoing bariatric surgery experience complications including, but not limited to: “bleeding, thromboembolism, wound infections and pulmonary problems” (Demaria, 2007, p. 2180). Death following bariatric surgery is often the result of pulmonary embolism or anastomotic leaks (Demaria, 2007). In addition, various gastrointestinal complications are common. Over half of the patients undergoing bariatric surgery experience nausea and vomiting (Demaria, 2007). Many individuals experience dumping syndrome which is caused by eating concentrated sugars. Furthermore many individuals undergoing bariatric surgery have experienced various nutrient deficiencies (commonly
vitamin B12, folate, calcium and iron) that require frequent monitoring (Demaria, 2007). Patients could experience other complications including: “dehydration, bowel obstruction, anastomotic leaks, strictures, erosions, ulcers, adhesions, internal and incisional hernias and cholelithiasis.” (Demaria, 2007, p. 2180). Mortality rate is significantly increased when BMI is over 50 or there are significant chronic health problems (Demaria, 2007; Ovbiosa-Akinbosoye & Long, 2011). More recently a laparoscopic approach to bariatric surgery is used 90% of the time (Schroeder et al., 2011). This surgical approach is “as effective as open procedures and result in fewer wound complications, shorter hospital stays and more rapid recovery” (Schroeder et al., 2011, p. 807).

Despite the many risk factors and complications there are several benefits of bariatric surgery that warrant its continued use in qualifying patients. In addition to weight loss, patients experience improvement in many obesity related health conditions (Schroeder et al., 2011). In fact, blood glucose begins to improve prior to losing significant amounts of weight (Schroeder et al., 2011). However, it is not clear if the high risk factors associated with bariatric surgery outweigh the benefits. Currently, the National Institutes of Health (NIH) is conducting an observational cohort study of multiple bariatric centers to determine outcomes and safety of bariatric surgery (Schroeder et al., 2011).

1.1.3 Obesity stigma

Compounding the difficulty of managing this multifaceted health problem is the presence of an obesity stigma and potential for implicit and explicit discrimination.
Studies of obesity stigma indicate that obesity is associated with a pervasive stigma that has resulted in the only acceptable form of discrimination in the US that cannot be concealed and is not protected by social policy (Crandall, Merman, & Hebl, 2009; Puhl & Brownell, 2003; Puhl & Heuer, 2010b). As a result of physical appearance, obese individuals experience discrimination in all aspects of life. Research indicates that obese individuals generally get fewer promotions, raises and jobs (Agerstrom & Rooth, 2011; Puhl & Heuer, 2010a; Puhl & Heuer, 2010b). They are discriminated against in all settings. The media represents the obese individual as being lazy, sloppy or humorous (Greenberg, Eastin, Hofschire, Lachlan, & Brownell, 2003). This stigma continues despite the fact that over one-third of the US population is obese. One factor propelling this stigma is that, in general, society blames the obese person for the condition of obesity (Latner, O'Brien, Durso, Brinkman, & MacDonald, 2008; Puhl & Heuer, 2010b). Society believes that obese individuals eat excessively, exercise infrequently and, therefore, are to blame for their excess body weight. This belief continues despite evidence that other factors contribute to an individual’s weight including internal and external environmental factors that may not be under the control of the individual (Puhl & Heuer, 2010b). In addition, obese individuals who experience stigma and are at higher risk for various chronic health problems and may be less likely to seek healthcare (Fontaine, Heo, & Allison, 2001; Teixeira & Budd, 2010). By avoiding encounters with healthcare providers, obese individuals miss the opportunity for early detection of weight-related health problems. Lack of preventative care in obese individuals increases the likelihood of complications from undetected chronic illness and may also shorten their life expectancy. In addition, obese individuals may delay or avoid seeking
healthcare even when they believe they have a health problem (Fontaine, Heo, & Allison, 2001; Teixeira & Budd, 2010). Some amount of obesity stigma may be alleviated with participation in support groups. Moisio and Beruchashvili (2010) conducted a qualitative study of participants in Weight Watchers support groups that resulted in a “spiritual and therapeutic model” of participants’ quests for well-being (p. 875). Participants thought the group kept them honest and they celebrated each other’s successes (Moisio & Beruchashvili, 2010).

1.1.4 Role of the health care provider

Literature on healthcare providers’ attitudes toward obese patients indicates that many healthcare providers do not provide information on weight management to obese patients (Miller, Alpert, & Cross, 2008). Some studies suggest that health care providers believe they do not have adequate educational preparation to engage in discussions about weight management options. Research also indicates that the healthcare providers’ personal weight may influence the public’s perception of the healthcare provider’s ability to provide weight management education (Hicks et al., 2008; Wheadon, 2011). Hicks et al. (2008) found that there was significant difference ($p < 0.000$) in public confidence in seeing pictures of weight appropriate nurses and pictures of overweight nurses with the public being more confident in the weight appropriate nurses ability to provide weight management education. In a study of patients’ experiences with obesity stigma, participants reported being humiliated by providers and disliking the term “obese” (Thomas, Hyde, Karunaratne, Herbert, & Komesaroff, 2008).
Furthermore, healthcare providers are not immune to the stigma of obesity. Research on attitudes toward obese patients suggests that healthcare providers also experience negative or ambivalent feelings toward the obese patient. Some nurses perceive that obese patients are needy, require more care, and increase the risk of work-related injury (Jeffrey & Kitto, 2006; Miller et al., 2008; Zuzelo & Seminara, 2006). It is possible that healthcare providers may believe that efforts to provide weight management education are futile and likely to fail. These predictions of failure are based on the knowledge that most individuals who lose weight fail to maintain their weight long term. Some evidence of improved attitudes of healthcare providers is seen in studies of patients and healthcare providers on bariatric surgery units that incorporate sensitivity training into staff education programs (Falker & Sledge, 2011; Jeffrey & Kitto, 2006; Zuzelo & Seminara, 2006). In a study of the effectiveness of sensitivity training for bariatric patients, Falker and Sledge (2011) developed an educational program that was open to all staff on 14 hospital units. A total of thirty individuals completed the program with 80% of those respondents consisting of registered nurses (Falker & Sledge, 2011). All respondents received educational information and responded to a pre and post-survey on caring for bariatric surgery patients (Falker & Sledge, 2011). Survey responses indicate that the educational intervention may decrease stigmatization of bariatric patients (Falker & Sledge, 2011). However, these studies focus on nurses caring for patients undergoing weight loss surgery. It is possible that the client choice to have weight loss surgery may bias nurses’ attitudes toward the obese individual. Some studies focusing on nurses’ attitudes toward obesity suggest that the nurses’ own weight status may influence behavior and result in providers deciding to avoid weight management education, even
when they believe it is necessary (Miller et al., 2008). However Zhu, Norman and While (2011) conducted a systematic review of the literature and found that nurses’ body size was not predictive of attitudes toward obesity. Healthcare providers may even experience self-stigma if they believe that they themselves are overweight and, therefore, not likely to be perceived as a reliable source of information (Miller et al., 2008). This phenomenon is similar to what nurses who smoke experience when attempting to counsel patients on smoking cessation (Radsma & Bottorff, 2009). Various degrees of obesity stigma may represent a major contributing factor in nurses’ practices of providing weight management education.

There are several studies that describe the practice of various health care providers engaging in weight management education in the outpatient setting or in school systems (McKenney, 2010; Steele et al., 2011). Only one study was found that looked at nurses’ weight management practices with their patients. Zhu, Norman and While (2013) explored using self-efficacy theory to understand nurses’ weight management practices. They surveyed 420 nurses and found that self-efficacy was predictive of weight management practices and fully or partially mediated relationships between the model variables. The model constructed in the study contained the variables: “perceived skills, perceived barriers, teamwork beliefs, professional role identity, self-efficacy, and weight management practices” (Zhu et al., 2013, p. 1). In terms of obesity and weight management, “the final model accounted for 38.4% of the variance in weight management practices and 43.2 % of the variance in self efficacy” (Zhu et al., 2013, p. 7). The acute care setting presents a challenge in terms of environment and resources. For example, many times nurses caring for adult clients have very little time to devote to
education. One study suggests that nurses may feel ill prepared to provide information on weight management, since they report having very little education on this topic during professional educational preparation (Miller et al., 2008). If nurses are uncomfortable providing this information or believe that they do not have time for this discussion, it is possible this intervention may be omitted even when they believe it is necessary information to promote client health. Nurses may need training on how to provide health information on sensitive topics and how to approach uncomfortable conversations.

Research on teachable moments supports the benefit of broaching the topic of weight management after admission to the hospital for a weight-related health problem similar to smoking cessation programs (Li, et al., 2013; McBride, Emmons, & Lipkus, 2003; Phelan, 2010). It is at this time that individuals are most likely to respond to educational counseling regarding lifestyle behaviors. One recent study found that early in the diagnosis of osteoarthritis clients were more likely to want to make lifestyles changes to improve health (Li. et al., 2013). Understanding the practices of medical-surgical nurses in providing weight management education represents a large gap in what is known about weight management.

Furthermore, in reviewing the literature, there is little evidence of what resources would be most helpful to nurses when engaging in conversations with hospitalized patients about weight management. One study by Brown et al. (2007) of primary care nurses’ attitudes towards obesity found that of the 564 nurses surveyed, many did not report having education on weight management issues or even any support in gaining this information from their employer. This suggests that nurses may not have the resources necessary to engage in discussions of weight management with obese patients, even if
they believe it is their responsibility. Another contributing factor to nurses’ intentions may be their access to recent published research using mobile information terminals such as personal digital assistants (PDAs), mobile devices, and tablet PCs on the nursing units. Recent research indicates that nurses using PDAs report increased use of research findings in practice and that they perceive there is an improvement in quality of care and job satisfaction (Doran, et al., 2010). Lack of access on the nursing unit to current health information on weight management may be a barrier for nurses when choosing to provide weight management education, especially if they already feel they lack the necessary educational preparation to be comfortable in talking with patients about losing weight. Nurses’ intentions may also be influenced by their own background factors such as age, weight, education, experience, gender and ethnicity. Confounding this complex issue are short hospital stays coupled with increased acuity levels on medical-surgical nursing units which may prevent nurses from engaging in conversations about weight management with obese adult inpatients, especially since obesity is not the direct reason for admission to the hospital and time is limited. It is critical to understand nurses’ intentions to provide weight management education and the factors that influence the likelihood that they will engage in this behavior.

1.2 Purpose of the Study

The purpose of this exploratory study employing a sequential mixed method design is to examine medical-surgical nurses’ intentions to provide weight management education and the factors that influence nurses’ intentions. *Ajzen’s Theory of Planned Behavior* (TPB) will provide the theoretical basis for exploring nurses’ intentions to
provide or not to provide weight management education to obese adult clients experiencing obesity-related health conditions in the acute care setting (Ajzen, 1991; Ajzen, 2012a). According to the TPB, behavioral intentions are determined by three integral factors: attitudes, normative beliefs and perceived behavioral control (Ajzen, 1991; Ajzen, 2012a). As intention increases, so does the likelihood of behavioral achievement (Ajzen, 1991; Ajzen, 2012a). Actual behavioral control refers to the resources and abilities of an individual to perform a behavior (Ajzen, 1991; Ajzen, 2012a). Research suggests that nurses may feel that they lack the educational background, resources or skills to provide weight management education (Brown, 2007; Miller et al., 2008). This study aims to determine which factors influence intentions of nurses to provide or not provide weight management education during admission to the hospital for an obesity related health condition. In addition, this study will investigate the effect of nurses’ sociodemographic variables on their intention to provide weight management education. Sociodemographic variables include age, gender, race, weight, height, educational level and years of experience.

1.3 Research Questions

1. What are the intentions of medical-surgical nurses to provide weight management education to obese patients?

2. What are the attitudes, normative beliefs and perceived control beliefs of nurses about weight management education when asked about their intentions to provide this education to obese patients?
3. What factors (attitudes, normative beliefs, and perceived control), as expressed by the nurses, influence nurses’ intentions to provide or to not provide weight management education to obese patients?

4. What sociodemographic factors are associated with nurses’ intentions to provide or to not provide weight management education to obese patients?

1.4 Assumptions

Underlying assumptions for this study include:

a) All participants will answer questions honestly.

b) Nurses working in a hospital caring for adults on non-critical care units who have the opportunity to provide weight management education to obese clients, especially those experiencing obesity-related health conditions.

c) Nurses working a medical surgical unit may face many barriers that place provision of weight management education out of the volitional control of the nurse.

d) Perceptions of stigma associated with obesity, either internal or external may influence nurses’ intentions to provide weight management education.

e) Nurse socio-demographic factors may influence their intentions to provide weight management education. Sociodemographic factors include: age, gender, race, BMI, educational level and years of experience.

f) Other contributing normative factors may include nurses’ recall of nutrition knowledge, experience with health teaching/coaching, access to various information sources on weight management such as: written materials, computer
access to electronic information, textbooks, other colleagues, continuing education and access to mobile information terminals or devices (PDAs or tablet PCs).

1.5 Limitations

Limitations for this study include:

a) Nurses recruited for this study belong to a professional organization and are self-identified medical-surgical nurses.

b) Snowball sampling techniques employed for focus group recruitment may potentially affect qualitative findings by influencing responses since nurses may know each other.

c) Survey response rates are not predictable. The researcher intends to mail the surveys to a designated random sample of the members of the Academy of Medical Surgical Nurses (AMSN) and include a follow-up reminder one week after the initial mailing, requesting participation in the electronic survey. An incentive of entering a drawing to win an IPad will be offered to improve response rate.

d) Self-report data are not always objective and are at risk for inaccuracy. Cultural norms, personal experience and personal bias may influence nurses’ responses to questions. Nurses will be encouraged to speak freely about the focus group interview questions. As a result participants will be encouraged to be honest in reporting this data and ensured that all data will be protected. In addition,
subjects will be assured that no identifying information will be shared in this study.

1.6 Definitions

To ensure that research is robust and rigorous, it is essential to define the concepts under study. Many terms in nursing research have been used interchangeably and as a result it is necessary to clearly define concepts in order for them to be operationalized. For this investigation, an extensive literature review resulted in the following operational definitions that have been created for the conceptual variables under examination in this study.

a) *Nurses* are any US licensed registered nurses currently employed in the hospital setting on a medical-surgical unit with responsibility for providing health care for adults admitted to the hospital with obesity related health conditions. Only nurses employed on a medical-surgical unit will be included in the study samples for Part 1 and Part 2 of the study.

b) *Obesity Related Health Conditions* are health problems that have been attributed to excess body weight including but not limited to “diabetes, stroke, hypertension, cardiovascular disease, some cancers, and arthritis” (Flegal et al., 2010).

Medical-surgical nurses routinely care for patients admitted with exacerbations or new diagnosis of these problems. Ensuring that participating nurses are currently employed on a medical-surgical hospital unit will ensure that the nurses under study care for patients with obesity-related health conditions.
c) *Weight Management Education* refers to the provision of information on acceptable weight loss measures (diet, lifestyle, and exercise), explanation of health benefits of weight loss for related health conditions and identification of community resources for weight loss (CDC, 2011). For the purposes of this study, nurses’ intentions to provide weight management education will be the focus for assessment. Nurses’ intentions to provide weight management education will be measured in Part 1 of the study through focus group questions developed for this research using guidelines from the TPB (Ajzen, 2012b). In the second part of this study, a survey will be created using the TPB to guide question development based on the responses of nurses from the focus groups conducted in Part 1 of the study (Ajzen, 2012b).

d) *Medical Surgical Unit* is the inpatient unit in a hospital where the nurses care for adult patients, defined as ≥ 18 years of age, experiencing exacerbations or new diagnosis of obesity related health conditions that may be improved through weight loss. Only licensed registered US nurses currently reporting employment on a medical-surgical hospital unit will be surveyed.

e) *Intention* is defined as “an indication of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior” (Ajzen, 1991 p. 181). The stronger the intention the more likely the behavior will occur unless that behavior is not under the volitional control of the individual. Intentions are directly influenced by *attitudes, subjective norms and perceived behavioral control* (Ajzen, 1991 Ajzen, 2012). Intentions will be measured initially through nurses’ responses in the focus groups conducted in Part
1 of the study and later through nurses’ responses to the electronic survey developed in Part 2 of the study using TBP guidelines.

f) *Attitude* is best described as “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Azjen, 1991, p. 188). Attitudes will be measured initially through nurses’ responses in the focus groups conducted in Part 1 of the study and later through responses to the mailed survey developed in Part 2 of the study, using TBP guidelines.

g) *Subjective Norm* is the “perceived social pressure to perform or not to perform the behavior” (Azjen, 1991, p. 188). Subjective norms will be measured initially through nurses’ responses in the focus groups conducted in Part 1 of the study and later through nurses’ responses to the mailed survey developed in Part 2 of the study, using TBP guidelines.

h) *Perceived Control Belief* is “perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles” (Azjen, 1991, p. 188). Perceived control beliefs will be measured initially through nurses’ responses in the focus groups conducted in Part 1 of the study and later through nurses’ responses to the mailed survey developed in Part 2 of the study, using TBP guidelines.

1.7 Summary of the Significance to Nursing

Obesity remains a growing problem in the US and worldwide. Obesity-related health problems have significantly increased morbidity rates and healthcare expenditures (Flegal et al., 2010). Despite more than 20 years in the public spotlight, the solution for
this growing health problem is elusive. Obesity stigma is further worsening the situation by causing obese individuals to avoid important health screening or seeking healthcare (Carels et al., 2009; Puhl & Heuer, 2010b; Teixeira & Budd, 2010). Admission to the hospital for a weight-related health problem represents a potential opportunity to intervene at a meaningful moment in the client’s life experience, a teachable moment (McBride, Emmons, & Lipkus, 2003). Unfortunately, efforts to intervene may be thwarted by obesity stigma. Obesity stigma is a complex and multifaceted variable that impacts both the patient and the provider. In addition, obesity stigma may affect the relationship between the patient and provider making weight management education a sensitive topic that is difficult to address even with good intentions.

Medical-surgical nurses who are caring for patients with obesity-related health conditions need to establish routine education practices on weight management. One study on obesity in six states with licensed nurses of various backgrounds and average experience level of 25 years in nursing suggests that nurses may avoid engaging in obesity management education, even when they believe it is necessary (Miller et al., 2008). Miller et al. (2008) reported that of the 760 respondents, “71% of respondents indicated that health promotion education is part of their professional role”, however 76% indicated that they do not pursue the topic with the patient even when they make the clinical judgment that the patient is overweight or obese” (p. 263). In this study of obesity and nurses, nurses also were asked to name three to five health consequences of obesity and only 41% could name five (Miller et al., 2008). In light of the lack of information about medical surgical nurses’ practices of providing weight management education, and potential lack of knowledge, it is imperative to first understand nurses’
intentions. This research will inform how to strengthen the professional development of nurses who are responsible for teaching obese clients and creating standards for weight management interventions in medical-surgical clients. Nurses are essential in providing weight management education to obese clients who could experience improved health with even a modest reduction in weight.
CHAPTER 2

REVIEW OF THE LITERATURE

In this chapter is a review of the literature pertaining to nurses’ intentions to provide weight management education for obese clients. The first section contains a review of nursing research using Ajzen’s Theory of Planned Behavior to examine nurses’ intentions to perform expected behaviors in the clinical setting (Ajzen, 1991; Ajzen 2012a). The second part of this chapter will review literature related to obesity attitudes and perceptions of nurses and other healthcare providers toward obesity and obese patients. Finally, after the presentation of these essential studies, a final analysis and synthesis of these findings is presented culminating in the identification of significant gaps in the available literature.

2.1 Theoretical Framework

Obesity in the U.S. continues to be a significant public health problem despite over two decades of research and attempts to find an acceptable solution. Obesity continues to be on the nation’s health agenda with a goal of reducing obesity rates to 15% (HHS, Healthy People 2020, 2011). Data from the 2009-2010 National Health and Nutrition Examination Survey indicates that 35.7% of U.S. adults are obese (Flegal et al., 2012). Being obese places individuals at risk for significant chronic health conditions and shortens their lifespan. Finkelstein, Trogdon, Cohen, & Dietz (2009) found that, on average, obese individuals spend 42% more on healthcare than individuals with a BMI in the normal range. Confounding the solution to this health problem is the overt bias and discrimination that is directed towards obese members of society. Obese individuals who
experience stigma may be reluctant to seek or even avoid seeking healthcare. While society provides legal protection from discrimination because of race, sexual preference or religion, there is no protection for the obese individual (Puhl & Brownell, 2003; Puhl & Heuer, 2010a). In general, the obese individual bears the burden and the blame of society for an obvious physical trait. As a result, obese individuals experience discrimination in all aspects of life and are often negatively portrayed in the media (Agerstrom & Rooth, 2011; Greenberg et al., 2003; Puhl & Brownell, 2003). There has been significant effort to intervene in this complex health problem with little success. Even knowledgeable health care providers experience rates of obesity similar to society (Miller et al. 2008). Research also documents that nurses avoid the topic of weight management with patients, even if they think it is necessary (Miller et al., 2008). The reluctance of nurses to participate in weight management education presents a significant problem that must be addressed if we are to be successful in reducing the size of the average American, especially in primary care. Given the significance of this problem and the impact of obesity stigma, it is important to gain a theoretical perspective in order to fully understand nurses’ intentions and behaviors toward providing weight management education. This research will utilize the Theory of Planned Behavior as a theoretical framework to examine nurses’ intentions to provide or not to provide weight management education to obese patients (Ajzen, 1991; Ajzen, 2012a).

The Theory of Planned Behavior (TPB) proposed by Ajzen (1985) broadens its predecessor the Theory of Reasoned Action (TRA) developed by Ajzen and Fishbein (1975) and was developed after recognizing that the TRA did not account for behaviors
that are not within the total volitional control of the individual (Ajzen, 1991; Ajzen, 2012b). Central to both models is behavioral intention.

The TRA proposes that behavior is based on the determinants: *attitude, subjective norms, and intention* (Ajzen, 1991). In the TRA, behavioral intention is influenced simultaneously by behavioral attitudes and subjective norms. The TRA also describes two types of beliefs, behavioral beliefs and normative beliefs. With behavioral beliefs, the individual believes if a particular behavior is performed, it will lead to a particular outcome. Behavioral beliefs underpin behavioral attitudes toward performing a behavior. Normative beliefs are a result of individuals subjectively considering how others specific to the situation might want them to act in order to perform or even not perform a specific behavior. Normative beliefs are developed after careful internal consideration of motivation to conform to the “others” wishes. Behavioral intention refers to the likelihood that a behavior will occur in light of normative and behavioral beliefs, thereby predicting behavior. In the TRA, the decision to perform a behavior is under complete volitional control of the individual.

After significant testing of this theoretical model, Ajzen (1985) recognized that an inherent weakness with the TRA was the framework’s inability to acknowledge behaviors that were not in complete control of the individual. Time, money and resources are all examples of factors that may affect the amount of control that an individual will have over choosing to perform or not to perform a behavior. Some behaviors are difficult to perform even with the best intentions. As a result, the TPB incorporates perceived behavioral control (PBC) as another antecedent of behavioral intention in addition to behavioral attitudes and subjective norms (see Figure 1) (Ajzen,
Perceived behavioral control is likened to Bandura’s concept of self-efficacy and its effects on individual performance and motivation (Ajzen, 1991; Ajzen 2012a).

In the TPB, there are three separate determinants of intention: “attitude toward the behavior, subjective norms, and perceived behavioral control” (Ajzen, 2012a, p.450). These determinants encompass the factors influencing intention and ultimately behavior. An individual’s attitude toward the behavior is described as the level of a person’s internal positive or negative assessment of a particular behavior (Ajzen, 1991). The second determinant, subjective norm, is the amount of external social pressure that the individual appreciates regarding whether or not to perform a behavior (Ajzen, 1991; Ajzen, 2012a). The third determinant, perceived behavioral control (PBC), refers to the level of ease or difficulty the individual will face to perform the behavior in question and reflects the individual’s prior experience in similar situations, anticipated barriers and other factors that may hinder behavior (Ajzen, 1991; Ajzen, 2012a). “Specifically the more favorable people’s attitudes and subjective norms, and the more they believe they are capable of performing the behavior, the stronger should be their behavioral intentions.” (Ajzen, 2012a, p.446) Actual behavioral control (ABC), refers to the presence of resources and abilities necessary for performing a particular behavior (Ajzen, 2012a). Both strong intentions and ABC are required for a behavior to be likely to occur (Ajzen, 2012a). If the behavior is simple enough that anyone can do it with minimal resources and there are no obstacles for performance, then a high degree of intention is not required. However, in cases where resources are limited, intentions may be an antecedent to performance of a behavior (Ajzen, 2012a).
2.2.1 TPB empirical testing

Empirical evidence indicates that there is a strong correlation between measures of perceived behavioral control and control beliefs (Ajzen, 2012a). Armitage and Conner (2001) conducted a quantitative integration of 185 studies using the TPB as a theoretical framework. They found that the TPB explained 27% of the variance in behavior and 39% of the variance in intention. A significant amount of the variance in behavior and intention was explained by perceived behavioral control. It was noted that, on average, the construct of PBC added “2% to prediction of behavior over and above intention” (Armitage & Conner, 2001, p. 481). In addition, they examined the correlation between PBC and intention and reported that it is strong ($R^2=0.43$) and that PBC explains 6% of the variance (Armitage & Conner, 2001). They did find the relationship between subjective norm and intention to be significantly weaker than the other relationships with intention (Armitage & Conner, 2001). Multiple correlations were also conducted among self-reported data and observed data with the TPB accounting for significant variance ($p < 0.001$) in each study, $R^2 = 0.20$ and $0.31$, respectively (Armitage & Conner, 2001).

Godin, Belanger-Gravel, Eccles, & Grimshaw (2008) more recently conducted a systematic review of 78 studies based on social cognitive theories that examined the intentions and behaviors of healthcare professionals. The most referenced theories were the TRA and TBP. They found that an overall frequency weighted mean for prediction of behavior was $R^2 = 0.31$, and the prediction for intention was $R^2 = 0.59$ (Godin et al., 2008).
2.2.2 TPB and nurse intentions

A review of the literature was conducted to examine the use of TPB for understanding intentions of nurses to perform behaviors in the acute care setting. A search of the literature from CINAHL, EBSCO, Academic Search Premier and Eric was conducted using combinations of the following search terms: theory of planned behavior, nurse, intentions. Initially this search retrieved 45 articles and after careful review 10 published articles were identified that addressed the TPB constructs and nurses’ intentions to provide care or interventions for clients in the acute care setting.

Several of the studies reviewed indicated that perceived behavioral control (PBC) contributed significantly to intention (DiIorio, 1997; Edwards et al., 2001; Nash, Edwards, & Nebauer, 1993; O'Boyle, 1998; Pessoa-Silva et al., 2005). Nash, Edwards, and Nebauer (1993) conducted a study of intentions of nurses to assess pain to test the effects of attitudes, subjective norms and perceived behavioral control. They reported that PBC was the only construct that could independently contribute to intentions to perform pain assessments.

The impact of PBC was again confirmed when Dilorio (1997) surveyed 368 neuroscience nurses to examine how intentions of nurses to provide care to patients with human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS) are influenced by the TPB constructs: attitudes, subjective norms, and perceived behavioral control. A three step analysis demonstrated that, in the first step, attitudes contributed significantly to the variance. However, by the third step it was determined PBC was the significant contributor to intention.
Edwards et al. (2001) surveyed 446 nurses (survey response rate 55.75%) regarding their intentions to administer opioids for pain relief. They found that direct attitude, indirect belief-based attitude, subjective norm and direct control scores predicted 39.1% of the variability in intention. They eliminated indirect belief-based attitude as it had little impact on the scores and yielded an $R^2 = 0.63$. They found that while attitudes, subjective norms and PBC all predicted intention, PBC was the strongest of the TPB variables.

Perceived behavioral control was again confirmed in a study by Pessova-Silva et al. (2005) that examined the intentions of nurses to perform hand hygiene when caring for critically ill neonates. They administered a 74 item questionnaire to 61 nurses and physicians (survey response rate of 76%). They also found intention to comply was related to perceived behavioral control over the difficulty in performing hand hygiene as expected, as well as how superiors (referents) valued hand hygiene.

O'Boyle, Henley, and Larson (1998) also examined the intentions of nurses to perform hand hygiene in critically ill adult patients. They surveyed 120 critical care nurses and found a self-reported adherence rate of 69%. Interestingly, adherence was directly related to the intensity of the nursing unit ($r = 0.33, p = 0.00$). They reported that attitude and intention constructs were directly influenced by perceived behavior control and that external factors were more influential in predicting behavior.

Some studies examined the effect of attitude on intention (Kelley & Abraham, 2007; Watson & Myers, 2001; Zhou, Stoltzfus, Houldin, Parks, & Swan, 2010). Watson and Meyers (2001) used the TPB to explore which cognitive factors predict glove use in
nurses. They surveyed 103 nurses and found that the TPB explained 45-61% of the variance in intention and behavior of nurses when choosing to use gloves.

Kelly and Abraham (2007) studied nurses’ intentions to provide health promotion education to patients over the age of 65. They surveyed 72 nurses (survey response rate 41%). Of the nurses surveyed, 88% believed that health promotion was worthwhile and 75% thought it was part of their role. However, many nurses believed that health promotion was not for everyone and that it was more difficult to teach health promotion to older patients. These beliefs may lead to nurses choosing not to provide health promotion to geriatric patients or other patient groups.

Zhou et al. (2010) surveyed 89 nurses (29.66% response rate) regarding knowledge, attitudes and practice behaviors related to advanced care planning with oncology patients. A positive correlation was identified between attitudes and hospice referrals. They conducted exploratory high order factor analysis and found a two factor solution accounted for 92.5% of the variance. Attitudes towards advanced care planning were positive (M= 1.91, SD=0.37, range =1.5-2.52), with lower means indicative of positive attitudes. Nurses were marginally positive in practice behavior statements (M=2.62, SD=0.45). Study results indicate a moderately strong correlation between practice behaviors and comfort level. Several barriers to providing advanced care planning were identified which include: patients, families, physicians, nurse comfort level and time constraints.

One study conducted by Samuels and Fetzer (2009) examined nurses’ clinical experience and perceptions of their practice environments relative to the adoption of current evidence–based pain management. They developed an instrument for chart
analysis of a convenience sample of 85 nurses from two teaching hospitals and found that clinical expertise explained 4.4% of the variance ($r = 0.219$). No relationship was seen between nurses’ pain management practices and the practice environment. It appears that more expertise leads to poorer documentation. It was hypothesized that more experienced nurses may lack the resources and information technology skills to stay current and that novice nurses were more likely to respond to structured expectations.

### 2.2.3 Conclusions

This review of the existing literature provides support that the TPB is a good fit for examining the behaviors and intentions of nurses. The research demonstrates the importance of perceived control and provides some support for the influence of attitudes on intentions and behaviors. It is also evident that perceived behavioral control has direct influence over attitudes and intentions. Recent research suggests that attitudes toward a behavior may play an important role in determining nurses’ intentions (Kelley & Abraham, 2007; Watson & Myers, 2001; Zhou, Stoltzfus, Houldin, Parks, & Swan, 2010). If nurses’ attitudes are negative or ambivalent toward obese patients and obesity, it may negatively influence intentions to provide weight management education and ultimately lead to nurses choosing not to provide this education. Behavioral, normative and control beliefs may play an important role in nurses’ beliefs by influencing intentions, PBC and ABC. These beliefs are not specified by the TPB, but instead they indicate a group of factors that may influence individual beliefs (Ajzen, 2011). These background factors may include, but are not limited to: personal factors, such as life experience and values; various demographic variables such as age, ethnicity, gender,
education and income; and media exposure (Ajzen, 2011). For example, nurses who have not recently completed a nutrition course may not feel prepared to provide this education for patients resulting in decreased PBC. It is also possible that nurses lack access to current weight management resources on the nursing units. Furthermore, access to current research using mobile information terminals may also enhance ABC by allowing quick access to resources necessary to feel comfortable in providing evidence-based weight management education. Nurses may also be uncomfortable or lack experience in health teaching or coaching which could result in nurses choosing not to provide weight management education despite knowledge of the topic. Nurses may also believe that the individual is responsible for their weight and that any effort to intervene is futile. Finally, it is possible that the nurses’ sociodemographic variables such as age, BMI, and ethnicity may influence behavioral, normative and control beliefs.

A weakness evident throughout the literature is the reliance on self-report data and sample size limitations. Self-report data are accepted as a means to collect information. While self-report data may reflect some amount of inaccuracy, it remains an inexpensive means to gather data about a phenomenon of interest (Delboca & Noll, 2000). Furthermore, direct observation may also influence responses. Careful communication to registered nurses participating in this study may help to encourage honest responses in support of better understanding nurses’ perceptions about weight management education and any support they may need in pursuing this education with medical-surgical clients.
2.3 Nurses Attitudes and Perceptions toward Obesity

It is also imperative to review literature pertaining to nurses’ attitudes toward obesity and obese patients. Attitudes are a major construct in the TPB and have the potential to affect nurses’ intentions. A review of the literature was conducted using the following databases: CINAHL, Healthsource Academic Editions, PubMed and PSYCHinfo, using combinations of the following search terms: obesity, nurses, patients, perceptions, and attitudes. Research was retrieved from January 1995 until January 2012. The initial search generated 87 potential scholarly articles. Previously established inclusion criteria by the author included: 1) articles of primary studies and systematic reviews, 2) studies published in English, and 3) papers appearing in peer reviewed health-related scholarly journals. Studies included in this review should examine nurses’ attitudes toward obese adults and/or patients’ perceptions of nurses’ attitudes. Exclusion criteria include studies that focused on the management of obesity or obese individuals under 18 years of age or focused solely on other health care professionals. After review of the abstracts and elimination of duplicate items, 24 of the 87 articles that were generated were reviewed based on the inclusion criteria. The sample was further narrowed down to 11 primary studies that met the inclusion criteria, after eliminating studies that examined attitudes of other healthcare professionals and unpublished dissertations and theses. A review of the reference lists of these articles added three additional primary studies for a total of 15 articles. This literature review was updated in early 2014 with addition of four articles for 19 total articles.

Of the literature reviewed, 15 studies attempted to quantify or describe nurses’ or patients’ attitudes towards obesity (Bagley, Conklin, Isherwood, & Pechiulis, 1989;
Brown & Thompson, 2007; Culbertson & Smolen, 1999; Garner & Nicol, 1998; Hicks et al., 2008; Hoppé & Ogden, 1997; Jeffrey & Kitto, 2006; Miller et al., 2008; Peternelj-Taylor, 1989; Petrich 2000; Poon & Tarrant, 2009; Watson, Oberle, & Deutscher, 2008; Wright, 1998; Zhu, Norman, & While, 2013; Zuzelo & Seminara, 2006). In addition to these 15 studies, 4 systematic reviews were identified that examined obesity attitudes in nurses (Brown, 2006; Budd, Mariotti, Graff, & Falkenstein, 2011; Mold & Forbes, 2011; Zhu, Norman, & While, 2011). A summary of these studies is located in Appendix B.

2.3.1 Nurses’ attitudes toward obese patients

Only a small number of the studies examined nurses’ attitudes towards obesity. Negative views or ambivalence towards obese patients were identified in all of the studies reviewed. Bagley and colleagues (1989) created an instrument entitled Nurses Attitudes towards Obese Adult Patients (NATOAP) scale that has been used extensively in quantitatively evaluating nurses’ attitudes. This tool was created when the authors identified that no scale existed to assess nurses’ attitudes. The original scale contained 70 items which were reduced to three factors and yielded a 15 item scale. They surveyed 107 registered nurses, all female, in three urban hospitals. Three main factors were produced after principle components analysis: Passivity and Weakness, Softness and Unsociability and Badness and Cruelty (Bagley et al., 1989). They reported that nurses’ negative view of obese adults was associated with a negative view of caring for obese adults (Bagley et al., 1989). They reported that older nurses had more negative attitudes \(r = 0.32\), and that increased levels of professional education resulted in more positive attitudes \(r = -0.32\) (Bagley et al., 1989). They also found a hospital affect that occurred
without impact from age or education that they attributed to either a difference in organization or patient population (Bagley et al., 1989). However, the original publication failed to establish psychometric properties, resulting in criticism in a systematic review by Brown (2006). Despite the lack of identified psychometric properties, other studies have employed this instrument in exploring nurses’ attitudes, all reporting ambivalent or negative attitudes (Garner & Nicol, 1998; Poon & Tarrant, 2009a; Zuzelo & Seminara, 2006). In an attempt to update the NATOAP and in response to Brown’s criticisms, Watson, Oberle, and Deutscher (2008) revised the instrument and established psychometric properties. The new instrument entitled Nurses’ Attitudes towards Obesity and Obese Patients (NATOOPS) was sent to 1,400 randomly selected RN’s in Canada with a response rate of 46.1%. Psychometric properties were acceptable with a Cronbach’s alpha of .81 with range of .45-.79 over five identified factors containing 36 items. Study findings confirmed nurses’ negative attitudes. In a more recent study, Zhu, Norman, & While (2013) found that nurses had neutral to positive attitudes towards obese patients.

Qualitatively, another study by Petrich (2000) of 28 medical and 102 nursing students found that students experienced extreme disgust when thinking about caring for obese clients, understood the health consequences of obesity, assumed obese individuals were lazy and lacked self-control (Petrich, 2000). Students also indicated that they had had little instruction or experience providing care to obese patients. In another qualitative study of 10 registered nurses (RN), Wright (1998) found that nurses understood the detrimental health consequences associated with obesity and, as a result, had negative attitudes toward obesity.
In exploring the multifaceted nature of attitudes towards obese patients, nurses’ attitudes were correlated with their demographic characteristics including gender, BMI, age and experience. Several studies report the impact of demographics on attitudes toward obesity and obese patients.

Two studies reviewed examined if female nurses had different attitudes than male nurses (Garner & Nicol, 1998; Poon & Tarrant, 2009). Both of these studies found no significant difference between female and male nurses’ perceptions of obesity. In both cases, perceptions towards obese individuals were negative.

Six studies correlated BMI with attitudes towards obese patients (Bagley et al., 1989; Brown & Thompson, 2007; Hoppé & Ogden, 1997; Zhu et al., 2011; Zuzelo & Seminara, 2006). Wright (1998) found that nurses believed that women who were obese were perceived more negatively by medical professionals; however these comments were anecdotal and not a focus of the study. Therefore, further investigations are necessary to explore this perception. Hoppe and Ogden (1997) reported that nurses with low BMIs were more likely to rate obesity as preventable and recommended eating less versus controlling calories. Interestingly, in a survey of nurses in the U.S., Miller (2008) found that nurses with a high BMI had more negative attitudes towards obese patients than nurses with a low or average BMI. Contrasting results were reported in a qualitative study by Brown (2007) and indicated that nurses with a high BMI seemed to have more empathy towards obese patients. Another study by Watson, Oberle and Deutscher (2008) indicated that thin or normal weight nurses were more negative than overweight/obese nurses toward obese patients. Zuzelo and Seminara (2006) found no relationship
between self-reported BMI and nurses’ attitudes. Zhu et al. (2011) found no relationship between nurses and doctors weight and their weight management practices.

Four studies explored the relationship between nurses’ ages and/or experience with attitudes toward obesity (Bagley et al., 1989; Culbertson & Smolen, 1999; Petrich, 2000; Poon & Tarrant, 2009). Bagley et al. (1989) reported that the increasing age of nurses resulted in increasing negative thoughts about obese patients; however increasing education of nurses seemed to result in more favorable attitudes. In contrast, Culbertson and Smolen (1999) found that advancing age of the RN student resulted in decreased negative thoughts towards obese patients and that nurses with fewer than 6 years of experience were more negative. Petrich (2000) explored the attitudes of nursing and medical students and reported that many felt repulsed towards obese patients, while another study showed that nurses with more experience had more negative impressions than nurses with fewer than 6 months experience (Poon & Tarrant, 2009). Based on these conflicting results, it is not clear how age or professional experience affect nurses’ attitudes toward obese patients.

2.3.2 Management of care

Another facet of nurses’ attitudes towards obese patients is the physical demands associated with managing the care of obese patients. Nurses consistently reported that providing care for very large patients was exhausting because of the difficulties associated with moving these patients (Jeffrey & Kitto, 2006; Zuzelo & Seminara, 2006). Nurses also feared sustaining injuries while providing care, especially to the morbidly obese patient (Jeffrey & Kitto, 2006). Culbertson and Smolen (1999) found that 38.3%
of nurses were uncomfortable caring for an obese client and that 28.8% would rather not care for obese patients at all. In studies focusing on nursing students, students reported insufficient education and experience necessary for providing care to obese clients (Culbertson & Smolen, 1999; Petrich, 2000; Poon & Tarrant, 2009).

2.3.3 Responsibility for obesity

Nurses seem to place the blame for obesity on the obese patient. In eight of the studies reviewed, it was clear that nurses felt the obese individual had made poor lifestyle choices and was responsible for their situation (Bagley et al., 1989; Culbertson & Smolen, 1999; Hoppé & Ogden, 1997; Jeffrey & Kitto, 2006; Peternelj-Taylor, 1989; Poon & Tarrant, 2009; L. Watson et al., 2008). In general, nurses and nursing students believed that, with healthy eating and exercise, obese patients would lose weight (Culbertson & Smolen, 1999; Jeffrey & Kitto, 2006). Hoppe and Ogden (1997) reported that nurses perceived obese clients failed to lose weight because they were non-adherent to medical advice. Interestingly, Jeffrey and Kitto (2006) found that nurses in bariatric units fluctuated between assessing obese patients as responsible and irresponsible. They reported feeling frustrated with weight loss surgery outcomes and the quantity of patients who do not adhere to post-operative education.

2.3.4 Impact on care

Bagley et al. (1989) highlighted that negative attitudes may have a detrimental impact on care provided to obese adult patients. In contrast, another study by Peternelj-Taylor (1989) found that nurses’ negative views did not result in withdrawal from caring
for obese patients. Instead, they found that nurses seemed to attempt to provide care despite negative perceptions. Two studies of bariatric nurses found participants possessed a positive view of obese patients undergoing bariatric surgery (Jeffrey & Kitto, 2006; Zuzelo & Seminara, 2006). In addition another study identified a positive relationship between views of teamwork and perceived skill level and role identity (Zhu, Norman, & While, 2013).

Mold and Forbes (2011) completed a synthesis of the current research to examine obese people’s perspectives on their experiences with healthcare and health care providers. The resulted synthesis of the research findings indicates that health care professionals require additional support to care for obese patients. In addition they highlighted that health professionals may be reluctant to discuss weight management with obese patients and that there is a strong social effect of obesity and obesity stigma.

2.3.5 Analysis

The findings from the literature review show that nurses may share the same negative attitudes as other members of the society. The term “obesity” generates further negativity through its association with detrimental health conditions such as cardiovascular disease, diabetes, cancer and hypertension. However, it is reassuring that, despite negative perceptions towards obesity, many nurses empathize with obese patients (Jeffrey & Kitto, 2006; Petrich, 2000; Zuzelo & Seminara, 2006). Budd (2011) also conducted an integrative review of the literature and found that nurses’ attitudes appear to be improving. Mold (2011) did not note improvement, but does acknowledged that the studies reviewed were at least five years old and that as obesity has become more
common, attitudes may have improved. This is an improvement since the review of the literature conducted by Brown (2006) which highlighted a prevailing negative attitude in nurses toward obese patients and obesity. Two studies reported a positive attitude towards obese clients among nurses working on nursing units specializing in weight loss surgeries (Jeffrey & Kitto, 2006; Zuzelo & Seminara, 2006). However, this may be a result of additional education provided to these nurses focused on the care of patients undergoing weight loss surgeries. A more recent study reported that nurses had ambivalent to positive attitudes towards obese patients suggesting that attitudes may be changing (Zhu et al., 2013).

Demographic characteristics of nurses are not consistently related to attitude in the literature reviewed. Studies examining gender correlations consistently find that perceptions of obesity are similar in men and women (Garner & Nicol, 1998; Petrich, 2000; Poon & Tarrant, 2009). However, these data are sparse in this literature review, which is likely due to the fact that nursing is a predominantly female profession, limiting the ability to correlate attitudes with gender.

The inconsistent impact of age and experience was identified in this review. Some studies indicated that increasing age and experience was associated with negative feelings towards obese patients (Bagley et al., 1989; Culbertson & Smolen, 1999; Petrich, 2000; Poon & Tarrant, 2009b), while other studies report that younger nurses possess more negative attitudes (Culbertson & Smolen, 1999; Petrich, 2000). These results are conflicting and provide little guidance in understanding the impact of age and experience.

The impact of nurses’ BMI was also ambiguous, with conflicting reports that high BMI is associated with negative and positive attitudes towards obese patients. However,
a consistent finding is that nurses with low BMIs are more likely to perceive that obesity is preventable (Brown & Thompson, 2007; Culbertson & Smolen, 1999; Jeffrey & Kitto, 2006; Petrich, 2000; Zuzelo & Seminara, 2006).

Findings also indicate that management of care is negatively impacted by nurses’ attitudes towards obesity. Evidence suggests that, while many nurses voice knowledge of the importance of obesity education, they are not confident in their own ability to provide this to patients (Culbertson & Smolen, 1999; Culbertson & Smolen, 1999; Miller et al., 2008; Rush, Kee, & Rice, 2005). Some nurses describe conflicted feelings towards the medical views on obesity and personal perceptions of obesity (Zuzelo & Seminara, 2006). In general, findings suggest that nurses and nursing students believe providing care to an obese patient is exhausting and overwhelming. They also express concerns that they may be injured during an attempt to mobilize the obese patients (Zuzelo & Seminara, 2006). While nurses reported some degree of reluctance to provide care to an obese client, it seemed that they did not avoid the task (Peternelj-Taylor, 1989). In contrast one study found that attitudes did not appear to effect self-efficacy (Zhu, Norman, & While, 2013).

Nursing students consistently reported an inadequate level of education and experience with managing the care of the obese client (Culbertson & Smolen, 1999; Petrich, 2000; Poon & Tarrant, 2009). None of the studies reviewed discussed available weight management education resources on the nursing units such as: written materials, textbooks, continuing education, or the use of mobile information terminals. Knowledge of weight management education may be augmented by the use of these resources. A group of resources gaining popularity as a source of relevant clinical information is
mobile information terminals such as: Personal Digital Assistant (PDAs, mobile devices) or tablet PCs. Recent research on a group of 488 nurses in Ontario, CA suggests that nurses using mobile information terminals (PDAs, tablet PCs) to gain access to information in the clinical setting in a variety of areas (acute care, home care, long term care, correctional organizations) expressed the perception that they were providing higher quality care and using more evidence from research to guide their practice (Doran et al., 2010). Other research indicates that nurses prefer human sources of information (Doran et al., 2007; Thompson et al., 2008). It is possible that this attitude toward mobile information terminals is changing with increased popularity of the devices and the growing number of applications for use in the clinical setting. Furthermore, nurses’ level of discomfort in broaching the topic of weight management with patients suggests that they may need assistance in developing teaching/coaching skills necessary to talk about sensitive topics.

Also, most studies reviewed consisted of group of very similar people. None of the studies reviewed examined the impact of the nurses’ ethnicity or culture which could have a significant impact on attitudes, since being large body size may be valued in another culture. Also different races of people experience obesity at different rates which could impact attitudes. Finally, in most of the studies reviewed, the respondents were predominantly White females. Gender differences may exist the affect attitudes towards obesity.

In general, nurses viewed patients as responsible for their lifestyle choices and that obesity is preventable. The evidence supports the notion that most nurses believed that obese patients can lose weight if they change their lifestyle. A major concern in light
of nurses’ ambivalent or negative attitudes is the impact these attitudes have on nurses’ willingness to provide weight management education in the acute care setting.

2.4 Summary

This literature review demonstrates that nurses possess negative or ambivalent attitudes towards obesity and obese patients. These attitudes, complex in nature and based on the sparse amount of research available, are not well understood. Furthermore, self-report instruments may limit exploration of the topic, and nurses may select answers that they believe are professionally appropriate. Analysis of the research also suggests that many nurses are also battling obesity and have personal experience with obesity stigma (Miller et al., 2008).

Findings from this review of the literature on obesity suggest that nurses believe that a negative attitude towards obesity does not result in a negative attitude towards care; however, there are no published studies to date that examine weight management education practices of acute care nurses. It is disconcerting in studies of nurses’ attitudes, many nurses report they choose not to address weight management, even when a client has a medical condition that would benefit from modest weight loss (Miller et al., 2008). Research on other stigmatized conditions suggests that evidence based education might be the answer to this dilemma and interventional research could be used to assess the impact that this education has on nurses’ intentions and behaviors relative to weight management education. This stance is supported by findings that show a positive correlation of nurses’ attitudes towards obesity with education on obesity measures (Bagley et al., 1989; Jeffrey & Kitto, 2006; Zuzelo & Seminara, 2006). Furthermore, the
TPB will provide a good fit in conceptualizing nurses’ intentions to provide management education and insight into the various factors that ultimately contribute to nurses’ weight management education practices. Various background variables (*behavioral, normative and control factors*) are of interest and may play a role in nurses’ intentions. These factors may include education, inpatient unit-based resources (colleagues, textbooks, and written materials), use of mobile information terminals, coaching/teaching skills, gender, ethnicity, geographic location, and experience.

It is vital that nurses are prepared to provide patient education on weight management in all settings. Acute care nurses’ current practices in providing weight management education represent a significant gap in the nursing literature on obesity and weight management. In order to intervene, it is first necessary to understand intentions of acute care nurses to provide weight management education to hospitalized obese clients experiencing obesity related health conditions and how various factors may influence intentions. Knowledge of these factors intentions will provide a professional platform for the development of educational interventions aimed to support acute care nurse participation in providing evidence-based weight management education to adult clients with obesity related health conditions. Furthermore, it is important to identify a means for nurses to provide this education with transition for the client to access resources outside of the hospital. Assisting clients to manage their weight and make sustainable changes in health behaviors will potentially contribute to a decrease in morbidity and mortality, and reduce health care costs.
CHAPTER 3

METHODS

The methodology used for this two-part study will be discussed in this chapter. Chapter 3 includes a discussion of the design used for this study, methods for recruitment and data collection, and the sample characteristics. Details are provided for the data collection methods and for pilot testing in both parts of this study. A summary of the measures employed to protect the human subjects during data collection is provided. This chapter concludes with a description of the data analysis techniques employed for each part of the study.

3.1 Study Design

Ajzen’s Theory of Planned Behavior (TPB) theoretically guided this investigation of medical-surgical nurses’ intentions to provide or not to provide weight management education to hospitalized adult patients experiencing obesity-related health problems (Ajzen, 1991; Ajzen, 2012a). For this exploratory study, a sequential mixed method design was used to examine nurses’ responses regarding their intentions to provide or not provide weight management education and the factors that influence nurses’ intentions. A sequential mixed methods design involves first conducting a qualitative study, consisting of focus groups, followed by a quantitative study (Hanson, Creswell, Clark, Petska, & Creswell, 2005). This mixed methods approach resulted in the development of an assessment tool grounded in the TPB, and based on the qualitative findings regarding nurses’ intentions to provide weight management education. Phase 1, the qualitative portion of the study, included the development of focus group questions related to weight
management education, interviews of focus group members, and content analysis of focus group transcripts using a local population of registered nurses. Since no survey existed to assess nurses’ intentions to provide or not to provide obesity education to patients, Phase 2 of this study entailed the development, based upon the qualitative findings, and pilot testing of a quantitative survey for this purpose. Phase 3 of this study was the electronic administration of the survey, to a larger national sample of nurses. The Nurse Demographic Form (NDF) (Appendix C) created for use in this study was administered to all nurses in all phases of the study.

3.2 Study Design: Phase 1

Phase 1 of this study used focus groups for qualitative inquiry of nurses’ intentions to provide or not provide weight management education, as well as to identify any influencing factors surrounding nurses’ intentions. The questions (Appendix D) for the focus groups were developed by the researcher to answer the first two research questions and were conceptually based on the TPB. These questions were designed to examine the salient beliefs that influence intentions using the constructs identified in the TPB. Constructs included attitude toward the behavior, subjective norm, and PBC (Ajzen, 1991; Ajzen 2012a). These factors are thought to be antecedents to intention (Ajzen, 1991; Ajzen 2012a). A mapping of the focus group questions to the TPB is located in Appendix E. Focus groups are an accepted method of qualitative inquiry for exploring poorly understood complex topics with members of a group positioned to contribute to this body of knowledge (Krueger & Casey, 2009; Morgan, 1996). “Focus groups are often used to lay the groundwork for subsequent survey research” (Krueger &
Another benefit of using focus groups in lieu of individual interviews is to explore intentions to provide weight management education is the synergistic effect that occurs when a group of similar individuals have a focused discussion (Krueger & Casey, 2009). Krueger and Casey (2009) state that “focus groups can provide insight into complicated topics when opinions or attitudes are conditional or when the area of concern relates to a multifaceted behavior or motivation” (p. 19). This method was chosen since little published research exists that describes registered nurses’ (RN) practices in providing weight management education in the medical-surgical setting caring for adults with obesity related health conditions. Another advantage of employing this method of qualitative research was that it provided evidence for the construction of the quantitative survey that reflected how the respondents talk about weight management with medical-surgical inpatients (Krueger & Casey, 2009; Morgan, 1996). Content analysis of the focus group transcripts and notes provided the basis for the development of a quantitative survey for use in the second part of the study (Krueger & Casey, 2009). Disadvantages may also be encountered during focus group research. Some participants may intellectualize past behaviors, be reluctant to share true feelings, may make up acceptable answers, or may dominate the discussion (Krueger & Casey, 2009). It is also possible that a non-diverse samples may result in findings that are not reflective of a diverse group. Furthermore focus groups that are too large may produce trivial results (Krueger & Casey, 2009).
3.3 Setting: Phase I

The setting for the first part of this study took place in three hospitals within a healthcare system in northeast United States (US). Focus groups were conducted in a private conference room in the largest acute care facility within the healthcare system.

3.4 Recruitment: Phase I

Participants were recruited through hospital flyers, emailed flyers and snowball sampling techniques to establish focus groups that were used to create categories representing factors involved in nurses’ intentions to provide or not provide weight management education. According to Richards and Morse (2007), snowball sampling is also known as nominated sampling and refers to the practice of asking study participants to refer other participants for the study. Biernacki and Waldorf (1981) also refer to snowball sampling as chain sampling. This method of sampling is beneficial when the topic is sensitive in nature or when trying to reach groups of people who interact with each other (Biernacki & Waldorf, 1981). Several problems exist when using snowball sampling. According to Biernacki and Waldorf (1981), problems with snowball sampling include: “finding respondents and starting referral chains, verifying the eligibility of potential respondents, engaging respondents as research assistants, controlling the types of chains and number of cases in any chain, and pacing and monitoring referral chains and data quality” (p. 144). Fortunately, medical-surgical nurses are socially visible making it easy to begin sampling. However, it was still necessary to confirm eligibility and that nurses responding work on medical-surgical hospital units.
Nurses eligible for inclusion were:

- Licensed English speaking RNs employed in the US.
- Nurses currently working on a medical-surgical hospital unit.
- Nurses who care for adult patients (defined as over the age of 18) admitted to the hospital for obesity related health problems (diabetes, stroke, hypertension, cardiovascular disease, some cancers, and arthritis).

Nurses excluded from this study included:

- Nurses caring for adult patients in the critical care setting. While they may fit the patient criteria in terms of health problems, these patients are likely too sick for education to be a priority. It is expected that this type of education would be best received on the medical–surgical unit after the critical period of the illness had resolved.
- Nurses caring for under the age of 18.
- Nurses not involved in direct patient care.

Before any data was collected, all participants engaged in the informed consent process in which the study was thoroughly explained by the researcher and any questions were answered; a participant confidentially form and study consent form (Appendix F, G, H) was signed by each participant prior to entering the focus group room. Prior to recruitment for the study focus groups, the researcher piloted the interview guide with a select group of nurses. At that time, nurses were asked to provide feedback on the clarity and appropriateness of the questions. No significant revisions were made to the questionnaire that was later administered to the larger group. Prior to the focus groups, the researcher met with the nurse managers of every medical-surgical unit in the
participating hospital system to explain the study and invite staff to participate. Flyers (Appendix I) were posted on the units, and nurses working on those units received a written invitation to participate in the focus groups. In addition, snowball sampling techniques were utilized to encourage participation. Nurses were asked to call the researcher directly if they chose to participate in the study.

Participants were asked to complete a nurse demographic form (NDF) created to determine various factors about the nurses participating in the study including: age, gender, race, weight, height, educational level, years of experience, completion of a nutrition course, use of handheld device for information retrieval on the medical-surgical unit and access to use of technology on the medical-surgical unit.

3.5 Sample Size: Phase 1

Sample plan and size for the first part of this study was determined based on current practices in focus group research. Research suggests that typical focus groups should consist of 5-8 members in order for discussion to occur with each member having adequate time to participate in the discussion (Krueger & Casey, 2009). Studies have also yielded meaningful results that were conducted by researchers using 4-6 participants (Krueger & Casey, 2009). This small group is beneficial for recruitment, reducing cost, promoting comfort level of participants and when exploring complex topics (Krueger & Casey, 2009). For this study, the target group size was 4-8 members. Ultimately, the number of groups was established based on the researcher determining theoretical saturation and the likelihood that little else would be learned by conducting more focus groups (Krueger & Casey, 2009). Theoretical saturation is said to occur when the
researcher has heard the full range of ideas and believes that there is no new information to be obtained from future focus groups (Krueger & Casey, 2009). A good rule of thumb is that saturation is likely after 3-4 focus groups for each category (Krueger & Casey, 2009). Only one category, weight management education, was used for this focus groups study.

3.6 Study Instruments: Phase 1

The first part of this study used focus group questions which were conceptually based in the Theory Planned Behavior (2012) and designed to elicit responses from nurses about their salient beliefs surrounding weight management education for obese adults in the acute care setting. These questions were designed based on guidelines from Ajzen (2012b). These questions include statements designed to “elicit readily accessible behavioral outcomes, normative referents, and control factors” (Ajzen, 2012b, p.4). The opening focus group question serves as an ice breaker and is not for analysis and therefore not included in the interview guide (Krueger & Casey, 2009). The first nine focus group questions were constructed based on the TPB and the final three questions were written based upon the review of the literature. The resulting twelve focus group questions ensured that the focus group interview was possible within a two hour timeframe, since on average 12 questions are likely to take two hours for discussion (Krueger & Casey, 2009).
3.7 Procedure: Phase 1

Prior to entering the meeting room, focus group participants were greeted and provided a brief explanation of the study, expectations, and assured that they may choose not to answer any questions or withdraw from the discussion at any time. Participants were asked to sign a study consent form if they were willing to participate. Once consent was obtained, participants then completed the NDF and the confidentiality form before the interview began. Focus group participants were asked to respond to a series of open-ended and semi-structured questions related to intentions to provide or not provide weight management education to obese adult clients in the acute care setting. These interview questions were conceptually based in the TPB and are designed to elicit representative salient beliefs of the population under study in terms of behavioral outcomes, normative referents and control factors (Ajzen, 2012b). To ensure clarity of the questions and practice the focus group process, it was necessary to conduct a pilot test. A pilot test of the focus group questions was conducted prior to the focus groups with representative nurses known to the principal investigator who have experience working with obese patients in the medical-surgical setting. No questions were revised based on findings from the pilot focus group. All focus group interviews were tape recorded for transcription.

“The researcher serves several functions in the focus group: moderator, listener, observer and eventually analyst” (Krueger & Casey, 2009, p. 7). This study used a moderating team as described by Kreuger and Casey (2009) to conduct the focus group interviews. “A second set of eyes and ears increases both the total accumulation of information and the validity of the analysis.” (Krueger & Casey, 2009, p. 89). For this
study, the principal investigator is the moderator of the focus groups. All focus groups interviews were conducted by the moderator and an assistant moderator.

The assistant moderator was registered nurse and doctoral candidate with experience in qualitative research. The assistant moderator completed all necessary IRB training, and met with the principal investigator prior to the focus group to discuss responsibilities and expectations for the moderator and assistant moderator located in Appendix J. The assistant moderator also signed a confidentiality form.

The moderator was responsible for conducting the focus group and managing the discussion flow (Krueger & Casey, 2009). The moderator set the ground rules, provided an introduction, asked questions and ensured all participants had the opportunity to share in the discussion (Krueger & Casey, 2009). In addition, the moderator had the task of using various focus group tactics, such as pauses and asking probing questions, to encourage discussion among the participants, an important aspect of teasing out information (Krueger & Casey, 2009).

The assistant moderator took notes on critical aspects of the group discussion to augment information recorded during the focus group interaction (Krueger & Casey, 2009). Aspects of the discussion included noting highlights from responses, emotions of participants and interactions among members (Krueger & Casey, 2009). These notes were considered during the analysis of the transcribed responses. In addition, the assistant moderator was responsible for managing the recording equipment and ensuring that it was working properly throughout the focus group session (Krueger & Casey, 2009). The assistant moderator remained nonverbal during the focus group sessions unless specifically asked a question or summarizing the discussion at the conclusion of
the interview (Krueger & Casey, 2009). Finally, the assistant moderator distributed honorariums and participated in a debriefing session with the moderator (Krueger & Casey, 2009).

For consistency, focus groups began using guidelines established by Krueger & Casey (2009). This included an introduction, an overview of the study and participant criteria, a review of guidelines for interacting with the group, and an opening question (Krueger & Casey, 2009). The opening question was not analyzed in the results and was meant to get all members of the group talking early-on (Krueger & Casey, 2009). For this study the opening question was: *Let’s get to know each other, please go around the table and each of you tell the group your name and where you last traveled for vacation.*

Ensuring equivalent group member participation is a challenge with focus group research. Despite efforts made to ensure opportunities to speak, it was inevitable that groups would contain more or less verbal members. One risk was that the more dominant members may control the opinions of the group discussion (Krueger & Casey, 2009). The opening question was designed to allow all members the opportunity to speak early in the discussion to increase the likelihood that all participants will participate (Krueger & Casey, 2009). In addition, the moderator attempted to control dominating speakers by asking them to give others a chance to answer and to draw out quiet members through eye contact and direct questions. Focus groups were conducted every three weeks over a period of 12 weeks. A total of four focus groups were conducted with 5 in the first, 6 in the second, 3 in the third and 4 in the fourth group. This time frame allowed 3 weeks between each focus group interview for transcription and analysis prior to the next focus group. This complex group interaction provided detailed insight into nurses’ practices of
providing weight management education to obese adult clients grounded in the group norms that influence intention.

3.8 Plans for Data Management/Analysis: Phase 1

Analysis of the focus group data answered the following research questions: 1. 

What are the intentions of medical-surgical nurses to provide weight management education to obese patients? And 2. What are the attitudes, normative beliefs and perceived control beliefs of nurses about weight management education when asked about their intentions to provide this education to obese patients? The researcher simultaneously collected, coded and analyzed data until it was determined that there was data saturation using content analysis as described by Krueger and Casey (2009). Krueger and Casey (2009) recommend systematic steps for analyzing focus group data. These steps include placing questions in an order that allow participants to progressively become more familiar with the topic, capturing all data, thematic coding, verifying results with participants, debriefing between the moderator and assistant moderator, sharing of all reports with the research team (Krueger & Casey, 2009). In addition, four criteria described by Lincoln and Guba (1985) were used to evaluate qualitative research for trustworthiness, a method to determine validity in qualitative research. These criteria included: credibility, transferability, dependability and confirmability. Credibility is plausibility and was established by asking one participant from each group to confirm that the findings and all transcripts were also reviewed by another doctorally prepared nurse familiar with the TPB and the weight management (Lincoln & Guba, 1985). Dependability refers to expecting the same results each time and was ensured by the
researcher using the same procedure each time for collecting and coding data (Lincoln & Guba, 1985). Confirmability refers to impartiality and attempts to remove personal bias, this was established by immediately transcribing all focus group interviews verbatim (Lincoln & Guba, 1985). Interview recordings, notes and verbatim transcription taken during the interview and analysis provide rich data for transferability, which is the ability to use these findings in other studies (Lincoln & Guba, 1985). All tape-recorded qualitative data was transcribed into a written text by the researcher immediately after collection. A benefit of self- transcription of focus group interviews was that it enhanced the researcher’s knowledge of the data collected prior to analysis and also allows the researcher to self-evaluate the process prior to conducting the next focus group interview (Krueger & Casey, 2009). Suggested time allotted for each hour of transcription is 3-6 hours. Focus group analysis is a continuous and systematic process (Krueger & Casey, 2009). Immediately after the focus group interview, the moderator and assistant moderator met to debrief, check the recording, review notes and discuss what was heard during the interview process (Krueger & Casey, 2009). The researcher conducted a careful review of the interview text beginning with a review of the tape recording to assure accuracy and note emotional tones (Krueger & Casey, 2009). During analysis, it was necessary to consider all words, context of statements and the frequency and intensity of responses. Kruger and Casey (2009) also suggest that because of the group dynamics, there is a risk for a lack of internal consistency that occurs when one individual may change his/her response after interacting with the other members of the group. Therefore the researcher noted if participants changed their responses. Finally, it
was necessary to allow extra time for ideas that are not obvious to surface (Krueger & Casey, 2009).

Subsequent reviews included a content analysis of the responses and thematic coding using qualitative data management software, NVivo 10, for qualitative data analysis (QSR International, 2010). The researcher examined the verbatim responses of the study participants and developed broad categories for later use in construction of the quantitative instrument. During examination of individual quotes it is recommended that a systematic process is used each time. This analysis used questions presented by Krueger and Casey (2009) to group quotations:

1. Did the participant answer the question that was asked? 2. Does the comment answer a different question in the focus group? 3. Does the comment say something of importance about the topic? 4. Is it like something that has been said earlier? (p. 120)

When creating categories, the researcher determined the weight of each identified theme by evaluating frequency, specificity, emotion, and extensiveness of responses (Krueger & Casey, 2009). Krueger and Casey (2009) describes the terms as follows: frequency is how often a response occurs, specificity refers to the degree of detail of the response, emotion is the level of passion or feeling attributed with the response and extensiveness is the number of people who said the same comment (pp. 121-122).

This qualitative inquiry was not designed to be rooted in a particular qualitative method, an accepted practice in focus group research (Krueger & Casey, 2009). Instead, the content analysis was conceptualized using the TBP (2012) and the existing research on nurses’ experiences with obese patients and obesity stigma. All themes were verified
using additional data analysis and theoretical sampling until no further themes developed and saturation was achieved. In addition, as recommended by Azjen and Fishbein (1980), frequencies were recorded for each theme to establish how often each theme occurs over the total number of participants.

In order to ensure reliability of the data collected, the researcher asked one participant from each focus group to evaluate whether or not the themes identified through the content analysis were credible. Reliability was also confirmed by comparing responses from each of the different focus groups to if responses repeated. In addition to asking participants to validate the findings, the researcher asked members of the dissertation team with qualitative research backgrounds to review the themes and examples of each for credibility. These findings guided the construction of the quantitative survey developed in Phase 2 of the study.

3.9 Study Design: Phase 2 and 3

This survey was grounded in the qualitative findings from the focus groups and will be called the Weight Management Education Survey (WMES) (Appendix K). The second phase of this study included the development and pilot testing of the WMES. In addition, participants were asked to answer demographic questions from the NDF used in Phase 1 of the study. Phase 3 of the study was the national administration of the WMES and NDF. For tool development, the researcher used quantitative methods to identify factors that correlated with RNs’ intentions to provide or not to provide weight management education to obese patients. Some research suggests that many nurses acknowledge that they do not routinely provide weight management education (Miller et
al., 2008); therefore factors identified through survey analysis using the TPB provide evidence-based support for future interventional research and potential educational programming to enhance nurse participation in this important health promotion practice.

Overall design strength was enhanced through the creation of the study instrument based on the qualitative findings and salient beliefs of the members of the study population (Ajzen & Fishbein, 1980; Morgan, 1996). Furthermore, this design also contributed to content validity and ensured that all items in the newly constructed instrument were relevant for the participants and the behavior under examination (Ajzen, 2012b). The researcher developed the initial survey using Ajzen’s (2012b) guide for constructing a questionnaire based on the TPB. This process required the researcher to develop items based on the salient beliefs identified in analysis of the focus group data and the major constructs of the Theory of Planned Behavior (Ajzen, 2012a; Ajzen, 1991).

Phase 2 was the development and pilot testing of the WMES and administration of the Nurse Demographic Form (NDF); findings from phase 2 pilot study were used to establish reliability and validity of the WMES and to make any fine modifications to the WMES and NDF. Twelve broad categories developed in the focus group analysis were used to develop the 71 item WMES, 5 items on the WMES were questions related to nurses intentions to provide weight management. Categories were: “economic benefits,” “client health benefits,” “concerns for clients after discharge,” “fear of client/family response,” “external influences,” “education,” “discomfort with topic,” “experience of nurse,” “education materials,” “client resources,” “acute illness is focus,” and “matters if admission is because of weight issues”. A few minor changes were made to the study instruments and the IRB was amended prior to administration of the study instruments to
the larger population. In phase 3, the WMES and NDF was administered to a larger study population of registered nurse (RN) members of the Academy of Medical Surgical Nurses (AMSN). Phase 3 of this study will answer Research Questions 1-4.

3.10 Setting: Phase 2 and Phase 3

The setting for the pilot study was in a conference room where the RN works during a time that was during, before, or after completing their scheduled shift. In the second phase of the study, the setting was wherever the nurses who resided in the US chose to access the electronic survey.

3.11 Recruitment: Phase 2 and Phase 3

In phase 2 of this study, the researcher recruited medical-surgical nurses known to the researcher to participate in the pilot study of the WMES and NDF. Participants were recruited in and through the hospital email system by the researcher (Appendix L).

In phase 3 of this study, the researcher recruited participants from a larger known group of medical-surgical nurses through emails, newsletter communication and website communication from the Academy of Medical Surgical Nurses (AMSN).

AMSN is a vibrant community of approximately 10,000 medical-surgical nurses who care about improving patient care, developing personally and professionally, advocating for the specialty of medical-surgical nursing, and connecting with others who share their compassion and commitment. The strategic goals focus on workplace advocacy; evidence-based practice, research and knowledge:
professional development; national leadership and influence; and organizational health. (About AMSN, 2012)

An advantage of recruiting participants from the AMSN was that it represented a national sample of nurses from the study population.

Study participants were recruited through an invitation email sent by the researcher to the AMSN for distribution to their members (Appendix M). Distribution occurred after the research coordinator of the AMSN reviewed and approved the study materials (Appendix N). The invitation email included an estimated time for completion based on the pilot study results. As an additional reminder, the AMSN will also make this invitation available on their website and in their Med-Surg Connection Enews.

Participants were asked to complete the WMES and NDF electronically and offered entry into a drawing for an IPad as compensation. To maintain confidentiality with data collected, participants were asked to email the researcher if they chose to enter the drawing for the IPad with the code word found at the end of the demographic survey and their contact information (name, address, phone number). A reminder email was sent one week after the initial mailing to encourage participation (Appendix O).

3.12 Sample Size and Plan: Phase 2 and Phase 3

After the analysis of the qualitative data, the quantitative survey was constructed and sample size determined. Sample size for the pilot study was calculated based on the number of respondents required for the larger national survey. According to Baker (1994) a sample size of 10-20% of the study sample is adequate for a pilot study (p. 183).
Since the sample size for the larger study was set at 120 respondents, the pilot study had a sample size of 12.

In the Phase 3 of the study, the number of participants required was based on the number of contributing factors identified through the analysis of the focus group manuscripts. Literature reviewed on factor analysis indicates that, on average, the sample size is 10-20 participants per factor under investigation, with the larger sample size being the better choice for producing the correct solution (Costello & Osborne, 2005). Therefore, this study aimed for 10-20 respondents per broad category generated during focus group content analysis. Additionally, adjustments in number of participants recruited were made to adjust for the possibility of a low survey response rate. Twelve broad categories were established during content analysis of the focus group responses. Therefore, the minimum number of completed surveys that was necessary to achieve the desired response rate was 120. Additionally, adjustments in number of participants recruited will be made to adjust for the possibility of a low survey response rate. Baruch and Holtom (2008) researched survey response rates and found that individuals’ survey response rates were on average 52.7%, SD 20.4 and survey response rates for organizations were on average 35.7%, SD 18.8. They noted that reminders were not effective, nor were incentives. However, they stated that electronic surveys boasted as high or some cases higher response rates than mailed surveys (Baruch & Holtom, 2008).

RNs eligible for inclusion for phases 2 and 3 of the study were: licensed English speaking RNs employed in the US for the last two or more years on a medical-surgical unit, and RNs who care for adult clients (defined as over the age of 18) admitted to the hospital for obesity related health problems (diabetes, stroke, hypertension,
cardiovascular disease, some cancers, and arthritis). RNs excluded from this study include: RNs working less than 2 years on a medical-surgical unit, RNs caring for adult clients in the critical care setting, nurses caring for patients under the age of 18, and RNs not involved in direct client care. Eligibility screening questions for the electronic survey are located in Appendix P.

3.13 Study Instruments Phase 2 and Phase 3

Both phases of the second part of this study used the electronic WMES, which is grounded conceptually in the TPB, and was created by using findings from Part 1 of the study. The WMES was developed based on factors identified through content analysis of the focus group interviews to address all of the elements of the TPB. It was developed using guidelines published in Ajzen’s (2012b) “Constructing a Theory of Planned Behavior Questionnaire”. As outlined by Ajzen (2012b), for each of the theory’s major constructs (attitude, perceived norm, PBC, and intention), the researcher will include five or six items (Ajzen, 2012b). These items will be accompanied by a seven point bipolar Likert scale (Ajzen, 2012b). The electronic version of the NDF was used to collect demographic data. A researcher who is familiar with the TPB will assess the measurement tool for congruence with the theory.

3.14 Procedure Phase 2 and Phase 3

The researcher developed a quantitative survey based on the broad categories and factors influencing nurses’ intentions identified from focus group analysis using the TPB (2012) to conceptualize survey items designed to explore the identified factors and
answer the proposed research questions. During phase 2 of the study, the researcher designed and piloted the Weight Management Education Survey (WMES) using factors identified during content analysis of the qualitative data obtained from the focus groups. The researcher developed survey items based on the content analysis of the focus groups using Ajzen’s Guideline for Questionnaire Construction (Ajzen, 2012b). Careful consideration was given to the salient beliefs identified in the qualitative portion of the study, and statements were developed to assess each of the major constructs of the TPB. The tool measured each construct and any aspects as noted: attitude (instrumental and experiential), perceived norm (injunctive and descriptive), perceived behavioral control (capacity and autonomy), and intention. (Ajzen, 2012b). All items were self-directed and written in a way that was compatible to the behavioral criterion. Each item was written in the form of a seven point bipolar Likert scale. In addition, the instrument included measures of 5 questions related to actual intentions. Rhodes, Bowie, and Hergenrather (2003) found that electronic administration of a survey will reduce the cost of the survey, potentially increase the openness of the responses and increase the response time. Downfalls of electronic surveys include sampling issues, competition for survey responses and respondent information literacy (Rhodes & Bottorff, 2003). Ethical issues concern anonymity, which is true for any survey written or electronic (Rhodes & Bottorff, 2003). In phase 3 of the study the revised WMES and NDF were administered electronically to the national sample of nurses.
3.14.1 Phase 2 (Pilot)

A total of 12 nurses participated in the pilot study. The participants were asked to complete the electronic survey in the presence of the researcher. The participants were informed that completion of the WMES and NDF will take about 20 minutes. The researcher remained seated near the participant, but not in view of the computer screen. Being present during the completion of the survey allowed the researcher to monitor the time it takes to complete survey and to note any participant comments during the survey. Participants completed the survey at a time and location that was mutually convenient for them and the researcher that was during, before, or after their scheduled shift at the hospital. They accessed the electronic WMES and NDF through Survey Gizmo (http://www.surveygizmo.com/), on the researcher’s laptop. Survey Gizmo is a web-based commercial survey program (http://www.surveygizmo.com/). All Survey Gizmo data are password protected, held in secure data centers, and HIPAA compliant.

During completion of the survey, the participants were encouraged to share comments or suggestions about the survey using a *think aloud* technique (Willis, 2005). This technique encouraged respondents to speak throughout the process of completing the survey in the presence of the researcher and has been found effective when evaluating surveys for reliability and validity (Willis, 2005). Participants were asked to comment on the clarity of the questions in the study instruments and if they believed that weight management education was an important topic for them. The researcher took note of any comments or suggestions participants made and noted the amount of time it took to complete the survey. The average time of 15 minutes was used as the estimate for the time it takes to complete the WMES and NDF in Phase 3 of the study.
Information obtained from the participants was used to make minor survey modifications such ensuring consistent language was used instead interchangeable versions of the same word. Furthermore, data gathered from the pilot study was used to determine the reliability and validity of the study instrument. Data collected will not be included in the final study. Participants also had the opportunity to separately email the researcher the code word found at the end of the demographic survey and their contact information for entry into the drawing for the IPad that will occur after all data are collected for Phase 3 of the study.

3.14.2 Phase 3

Participants meeting the criteria and choosing to participate in the study confidentially accessed a link to the WMES and NDF through Survey Gizmo (http://www.surveygizmo.com/) sent to them by the AMSN. Participants established eligibility through electronic completion of the screening survey which consists of three questions: 1. Do you speak English? 2. Are you a licensed registered nurse? 3. Have your worked as a registered nurse for the last two or more years on a medical-surgical unit caring for adult clients (defined as over the age of 18) admitted to the hospital for obesity related health problems (diabetes, stroke, hypertension, cardiovascular disease, some cancers, and arthritis)? If eligible, the participants completed the electronic WMES and NDF. Instructions for the WMES included a reminder to only complete the survey once to prevent duplicate entries. Participants will also have the opportunity to separately email the researcher the code word found at the end of the demographic survey and their contact information for entry into the drawing for the IPad.
3.15 Plans for Data Management/Analysis

Demographic variables were tabulated and nurses were grouped by the U.S. Department of Health and Human Services (2010) regions prior to analysis. Research question 1 was answered by nurses’ responses to the 5 intention questions that were asked in the survey. For Research question 2, exploratory factor analysis was used to determine factors affecting nurses’ intentions to provide weight management education, including factors under each of the TPB constructs (attitudes, normative beliefs, and perceived behavioral control). In preparation for answering research questions 3 and 4, principle components analysis was performed using the 5 intention questions and the resulting first principle component named “Intention” was used as a surrogate response for regression analysis for research questions 3 and 4. To answer research questions 3 and 4, the extracted factors from the factor analysis and sociodemographic variables collected from the NDF were used as predictors in the stepwise regression analysis. Data analysis for this phase of the study was performed using JMP® 11 SAS software (SAS Institute, 2013). “The data analysis for this paper was generated using SAS software. Copyright, SAS Institute Inc. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc., Cary, NC, USA” (SAS Institute, 2014).

3.15.1 Factor analysis

Using themes developed from the content analysis of the focus groups, the researcher identified factors that encouraged nurses to provide weight management
education and identify factors that discouraged nurses from providing weight management education. The appropriate parametric or nonparametric factor analysis will result in “a group of linear combinations of items called factors” (Waltz, Strickland, & Lenz, 2010, p. 169). Factor loadings are then created by comparing factors to individual items. Factors may be rotated or repositioned to increase interpretability (Waltz et al., 2010). Usually only factor loadings of 0.30 or more in absolute magnitude are considered. Based on recommendations of Costello and Osborne (2005) that factor loadings between 0.40 and 0.70 were acceptable levels to retain in the social sciences, only items with factor loadings ≥ 0.40 were initially retained. In addition scree plots were examined to determine the number of factors to be retained (Costello & Osborne, 2005). Construct validity is empirically evident if the “numbers of factors approximate the number of dimensions or subcomponents assessed by the measure, and the items with the highest factor loadings defining each item should correspond with the items designed to measure each of the dimensions of the measure.” (Waltz et al., 2010, p.169). Data was summarized using exploratory factor analysis (EFA) with a Quartimin oblique rotation. Rotations increase interpretation by aligning the direction of the original variables and factors (Costello & Osborne, 2005). Oblique rotations correlate the factors with each other and often yield more useful patterns than orthogonal rotations that do not correlate the factors (Costello & Osborne, 2005). EFA examines variance in terms of the uniqueness of the variables plus what is common among the variables (Waltz et al., 2010). Assumptions for the orthogonal factor model used in factor analysis include: the average value of any factor is zero, the errors about the factor model are zero on average, the factors and the errors are independent of each other, and the errors are pairwise
uncorrelated (Johnson & Wichern, 1992). The use of the Likert scale will qualify the self-report data as interval level.

3.15.2 Regression analysis

According to Freeman (2001), regression analysis is a statistical method used to examine the relationship among one or more independent variables with a dependent variable. This method is ideal when predicting whether nurses choose to provide weight management education based on many known factors (Freeman, 2001). “The rule of thumb is that the t ratio of 2 or -2 or less indicates that the regression coefficient is statistically significant” (Freeman, 2001, p. 1). This loosely corresponds to a 95% significance level. Note that we will also inspect the p-value of each term in the model, since low p-values correspond with high t-ratios. For this study, stepwise regression was used to find the subset of variables that was most predictive of nurses’ responses on providing weight management education. Forward stepwise regression involves adding variables to the model one at a time until the F criteria are met and there is no value in adding any more variables (Draper & Smith, 1981). Backward stepwise regression involves starting with all of the variables in the model and removing variables one at a time until the predictiveness of the model is significantly reduced (Draper & Smith, 1981). A desirable goal is to have the forward and backward regressions indicate that the same model is the best; however this is often not the case. Factors from the factor analysis and demographic variables (age, race/ethnicity, gender, years of experience, BMI, medical -surgical certification) from the NDF were used as predictors in the stepwise regression analysis. Principle components analysis of the questions related to
intentions was performed and the first principle component, named “Intention” was used as the response in the stepwise regression. Assumptions for regression concern properties of the error terms and include: “that the errors are independent, have zero mean, a constant variance, $\sigma^2$ and follow a normal distribution” (Draper & Smith, 1981, p. 141). All assumptions were tested to ensure model validity.

3.16 Limitations

This study was limited by employing self-report data that does not objectively measure nurses’ behaviors. Based on the TPB, intentions do indicate likelihood of behavior with stronger intentions linked to increased likelihood that the behavior in question will or will not be performed (Ajzen, 1991; Ajzen, 2012a). In light of obesity stigma, it is also possible that nurses may respond in a way that they believe is socially acceptable, despite the researcher’s efforts to encourage honest responses. In order to minimize this response, nurses will be assured that all responses will be confidential and that honest responses will best help in guiding construction of future professional educational platforms. This phase of the study was also limited by the level of experience of nurses participating in the focus group and a homogenous sample of White women.

3.17 Human Subjects or Animal Use

Permission to conduct this study was requested from the Institutional Review Board for the Protection of Human Subjects at Duquesne University and at the study hospital.
3.17.1 Phase 1

Informed written consent and confidentiality statements were collected from all focus group participants prior to any data collection in the focus groups. They were briefed individually prior to entering the meeting room to allow time for individuals to ask questions. All participants were assured that their participation is voluntary and that they could choose to withdraw from the study at any time. They may also refuse to answer any questions asked during the focus group interview. At no time was personal identifying information revealed and all recorded data was coded so that no names were used. All data entered and analyzed electronically were password protected. All study consent forms and recorded transcripts remained in a locked filing cabinet in the office of the principal investigator. Study materials will be retained by the principal investigator until completion of the research and subsequently destroyed. There were no identified risks to participants and the participants did not experience any problems requiring support. Focus group participants received $20.00 monetary compensation for their time as described.

3.17.2 Phase 2 (pilot)

Since the researcher knew the nurses who participated, all participants signed a study consent form (Appendix Q). Survey participants were assured that participation in this study was voluntary and that they may choose not to answer any questions and they can withdraw from the study at any time. Participants were informed that participating or not participating will in no way impact their current standing (positively or negatively) on their unit or within the medical center. All responses made by participants will be kept
confidential. Data collected from this study was coded so that no names were used. All data collected and analyzed for this study was password protected. Study materials will be retained by the principal investigator for five years, at that time, destroyed. Nurses completing this survey may request to see an electronic report of the survey findings by emailing the principal investigator.

3.17.3 Phase 3

Participation and completion of the WMES and NDF implied consent. Survey participants were assured that participation in this study is voluntary, they may choose not to answer any questions, and they can withdraw from the study at any time. All responses made by participants will be kept confidential. Data collected from this study contains no individual names. All data collected and analyzed for this study was password protected. Study materials will be retained by the principal investigator for five years and, at that time, destroyed. Nurses completing this survey may request to see an electronic report of the survey findings by emailing the researcher.
CHAPTER 4 AND CHAPTER 5

RESULTS AND DISCUSSION

(Manuscript prepared in lieu of Chapters 4 and 5 and submitted to a peer-reviewed professional nursing journal for publication)

Factors Influencing Nurses’ Intentions to Provide Weight Management Education to Hospitalized Obese Adults

**Purpose:** The purpose of this study was to examine medical-surgical nurses’ intentions to provide weight management education to hospitalized obese adult clients and the factors that influence the nurses’ intentions.

**Design:** An exploratory study conducted in three phases.

**Methods:** In phase 1, focus groups were conducted with 18 registered nurses (RNs) who worked on medical-surgical units in a small hospital system in northeastern United States. Focus group feedback was used to construct a survey with Azjen’s (2012b) theory of planned behavior (TPB) as a basis for question development. In phase 2 the resulting Weight Management Education Survey (WMES) was piloted with 12 RNs in the same setting. Nurses also completed an author-designed Nurse Demographic Form (NDF). In phase 3, the WMES, after minor changes, was electronically administered with the NDF to a national pool of 354 RNs who held membership in the Academy of Medical Surgical Nurses. Nurses’ intentions were assessed using five WMES items. Factor analysis was used to determine which factors were predictive of nurses’ intentions; principle component analysis was performed with questions that pertained to intention. The first principle component named “intention” served as the response variable for step-wise
regression analysis; the rotated factors and demographic variables served as the predictors.

**Findings:** A total of 71 WMES items were developed based on the main TPB components: 24 attitude; 16 subjective norm; 26 perceived behavioral control; and 5 intention. Survey items were entered into an exploratory factor analysis with a Quartimin oblique rotation. A 12-factor solution explained 80% of the variation in response; seven of those factors explained 52% of the variation in the principle component of intention. Factors that were significant in predicting nurses’ intentions included: “health benefits” ($p < 0.0001$), “reducing costs and admissions” ($p < .0001$), “client/family approval” ($p < 0.0001$), “institutional approval” ($p < 0.0001$), “home-based weight management plan on admission” ($p < 0.0001$), “staffing and timing” ($p = 0.0055$), and “acute illness priority” ($p =0.0022$). Demographic variables did not influence the variation in intentions of nurses to provide weight management education. Nurses responding positively to having a weight management plan for home on the client’s admission to the hospital were more likely to report having intentions to provide this education for their obese adult clients. Of the nurses who completed the WMES, 85.8% ($n = 318$) responded that they would provide weight management education if they were asked for the information by the client.

**Conclusions:** Medical surgical nurses are in a prime position to provide weight management education for obese clients experiencing weight-related health conditions that could be improved with weight management education. However, many barriers exist that make it unlikely for these nurses to broach this topic. Nurses are less likely to
provide weight management education if they believe they lack time, lack approval from clients/families, or believe that the client’s acute illness is the priority.

**Clinical Relevance:** Nurses in the acute care setting need continuing education on weight management and simulated practice engaging in sensitive conversations. A standardized policy on weight management and a weight management plan on admission to the hospital could make it easier for nurses to provide this timely health teaching.

**Keywords:** Obesity, nurses, weight management education
Obesity is a challenging global health problem affecting people of all ages and demographic backgrounds. Obesity rates are higher in developed countries and is believed to be the result of environmental factors that encourage a sedentary lifestyle and consumption of processed energy dense foods that are cheaper than fruits and vegetables (Swinburn, Sacks, Hall, McPherson, Finegood, Moodie, & Gortmaker, 2011). In developed countries, obesity rates are highest in poverty stricken portions of these countries, likely because of the populations’ increased reliance on cheaper energy dense foods (Swinburn et al., 2011). In the United States (US), obesity rates have leveled with 34.9% of adults and 16.9% of youth are considered obese (Flegal, Carroll, Kit, & Ogden, 2012). Paralleling the increasing body size of the US citizen is the rising incidence of a variety of chronic obesity-related health conditions including: diabetes, stroke, cardiovascular disease, some cancers, high cholesterol and arthritis (Health and Human Services [HHS], Healthy People 2020, 2011). In addition, higher levels of obesity are associated with higher mortality rates (HHS, Healthy People 2020, 2011). Research also indicates that losing as little as 5% body weight has a positive impact on the health of an individual with type 2 diabetes experiencing cardiovascular disease (Wing et al., 2011).

Compounding the apparent difficulty in managing the obese condition is the pervasive stigma associated with having excess body weight. Obese individuals are stereotyped as being lazy and sloppy, despite the fact that 1/3 of the population is obese (Puhl & Heuer, 2010). Society blames the individual for the condition of obesity in light of the evidence that there are internal and external factors related to obesity that may not be under the control of the individual (Latner, O’Brien, Durso, Brinkman, & MacDonald, 2008; Puhl & Heuer, 2010). Research suggests that obese individuals who experience
stigma are less likely to seek healthcare for preventative care or will delay care even when they believe they have a problem (Teixeira & Budd, 2010).

Nurses are not impervious to the problems of society. Nurses experience obesity at the same rate as the general population, despite ample knowledge of the negative impact of obesity on the development of chronic diseases (Miller, Alpert, & Cross, 2008). Nationwide, many US hospitals offer employee wellness programs. However, the American Hospital Association (AHA) (2011) surveyed 876 hospitals and discovered that, while they all offered wellness programs, most were focused on preventative health screening and not individual coaching programs. Research on obesity attitudes suggests that nurses may also experience negative or ambivalent feelings toward obese clients (Budd, Mariotti, Graff, & Falkenstein, 2011; Mold, & Forbes, 2011). Recent research indicates nurses attitudes may be more positive (Zhu, Norman, & While, 2013). Some nurses perceive that obese clients are needy, require more care, and that caring for obese clients places them at increased risk for work-related injury (Jeffrey & Kitto, 2006; Miller et al., 2008; Zuzelo & Seminara, 2006). Some improvement of nurses’ attitudes is seen when sensitivity training is incorporated into bariatric surgery programs (Falker & Sledge, 2011). However, it is possible that the client’s decision to have bariatric surgery biased the nurses’ responses. Nurses who believe they are overweight themselves may experience self-stigma and, as a result, believe they will not be perceived by clients to be a reliable source of information (Miller et al., 2008).

Several studies examined various health care providers’ practices in providing weight management education. One study suggested that nurses may feel ill-prepared to provide information on weight management, since they report having had very little
education on this topic during their professional educational preparation (Miller et al., 2008). Zhu, Norman, and While (2013) used self-efficacy theory to explain nurses’ weight management practices for patients and found that targeting nurse’s self-efficacy may be useful to predict weight management practices. Nurses’ intentions to provide weight management education may also be influenced by their own demographic factors such as age, weight, education, experience, gender and ethnicity (Miller et al., 2008). However, a review of the literature suggested that the nurse’s own body type was not predictive of weight management practices (Zhu, et al., 2011). Confounding this complex issue are short hospital stays, coupled with increased acuity levels on medical-surgical nursing units which may prevent nurses from engaging in conversations about weight management with obese adult inpatients, especially when obesity was not the direct reason for admission to the hospital and time is limited.

Research on teachable moments supports the benefit of broaching the topic of weight management after a person’s admission to the hospital for a weight-related health problem (Phelan, 2010; Li et al., 2013). It is at this time that individuals are most likely to respond to educational counseling regarding lifestyle behaviors. Li and colleagues (2013) found that patients experiencing early symptoms of osteoarthritis were more motivated to make changes in their lifestyles and this was a teachable moment that could yield more success for interventions targeting changes in lifestyle.

Furthermore, in reviewing the literature, there is little evidence of what resources would be most helpful to nurses when engaging in conversations with hospitalized clients about weight management. Brown and Thompson (2007) reported that, in their survey of 564 primary care nurses, many did not report having education on weight management
issues or gaining this information from their employer. This finding suggests that nurses may not have the resources necessary to engage in discussions of weight management with obese patients, even if they believe it is their responsibility. Lack of access on the nursing unit to current health information on weight management may be a barrier for nurses when choosing to provide weight management education, especially if they already feel they lack the necessary educational preparation to be comfortable in talking with clients about losing weight. Recent research indicates that nurses who use mobile devices report an increased use of research findings in practice and perceive an improvement in quality of care and job satisfaction (Doran et al., 2010). Easily accessible resources from mobile devices may contribute positively to nurses’ intentions to provide weight management education to their clients.

Aim of the Study

It is critical to understand nurses’ intentions to provide weight management education to hospitalized obese adult patients and the factors that influence the likelihood that they will engage in this behavior. The purpose of this exploratory study that employed a sequential mixed method design was to examine medical-surgical nurses’ intentions to provide weight management education to their hospitalized obese adult patients and the factors that may influence these nurses’ intentions. This study was designed to answer the following research questions:

1. What are the intentions of medical-surgical nurses to provide weight management education to their obese clients?
2. What are the attitudes, normative beliefs, and perceived control beliefs of nurses about weight management education when asked about their intentions to provide this education to obese clients?

3. What factors (personal attitudes, normative beliefs, and perceived behavioral control) as expressed by the nurses, influence nurses’ intentions to provide or to not provide weight management education to obese clients?

4. What sociodemographic factors are associated with nurses’ intentions to provide or to not provide weight management education to obese clients?

Ajzen’s (2012b) theory of planned behavior (TPB) provided the theoretical basis for exploring nurses’ intentions to provide or to not provide weight management education to hospitalized obese adult clients. According to the TPB, behavioral intentions are determined by three integral factors: personal attitudes, subjective norms, and perceived behavioral control (Azjen, 1991; 2012b). Attitudes are “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Azjen, 1991, p. 188). Subjective norms are the “perceived social pressure to perform or not to perform the behavior” (Azjen, 1991, p. 188). Perceived behavioral control is the “perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles” (Azjen, 1991, p. 188). As one’s intention increases, so does the likelihood of behavioral achievement (Ajzen, 2012b). Actual behavioral control refers to the resources and abilities of an individual to perform a behavior (Ajzen, 2012b).
Methods

In this exploratory study, a sequential mixed method design was used to examine nurses’ responses regarding their intentions to provide or not provide weight management education to hospitalized obese adults and the factors that influenced the nurses’ intentions. This design involved conducting a qualitative aspect, with a series of focus groups first, followed by a quantitative component (Hanson, Creswell, Clark, Petska, & Creswell, 2005). Phase 1 consisted of a qualitative component that included developing focus group interview questions related to weight management education based on the work of Ajzen (1991; 2012b) and a nurse demographic form (NDF) to collect demographic data for this study. Focus groups were conducted using a local sample of RNs, and interview responses were analyzed using basic content analysis techniques described by Kreuger and Casey (2009) and criteria for trustworthiness by Lincoln and Guba, (1985). Phase 2 of the study involved developing and pilot testing the Weight Management Education Survey (WMES) based on findings from the content analysis of the phase 1 focus groups, pilot participants also completed the NDF. Phase 3 entailed the administration of the WMES and NDF to a larger national sample of RNs.

Informed Consent

Permission to conduct the study was requested prior to each phase of the study. In phase 1, permission was obtained from the institutional review boards (IRBs) at Duquesne University and the hospital where the focus group participants were recruited. Written consent was obtained from participants who were compensated $20 for their time. In phase 2, permission was again obtained from the IRBs of the university and
hospital (for the pilot study). Pilot group participants signed written consents to participate. In phase 3, permission was again obtained from the IRBs of the university as well as from the Academy of Medical-Surgical Nurses (AMSN) for electronic administration of the survey and demographic form to their membership. AMSN members agreed to participate in the study by electronically acknowledging their inclusion when they accessed the survey. AMSN participants were offered entry into a drawing for an IPad as compensation for their time. All participants were assured that participation was voluntary and that they could refuse to answer any questions or withdraw from the study at any time. Participants were also assured that no personal identifying information would be revealed and all recorded data would be coded so that no names were used.

**Phase 1: Focus Groups**

Phase 1 of the study involved developing focus group questions, recruiting participants for the focus groups, conducting the focus groups and analyzing the findings. For the focus groups, a convenience sample of RNs were recruited from medical-surgical units within a small healthcare system in northeastern US. The nurses were invited using study fliers that were posted on the units and emailed to them. Only English speaking RNs currently working on medical-surgical units and caring for adult clients were invited to participate. Snowball sampling techniques were also used. Richards and Morse (2007) refer to snowball sampling as nominated sampling, described as the practice of asking study participants to refer other participants for the study. Each participant signed a study consent and confidentiality forms, and completed an author-designed 14-item
Nurse Demographic Form (NDF) prior to beginning the focus group interview. Demographic variables included: education, years of experience as an RN and experience on the medical-surgical unit, certification, nursing unit type, mobile technology usage, available resources for weight management education, age, height, weight, race/ethnicity, residence location in the US, and time since receiving prior nutrition education.

Prior to conducting the focus groups, the author created the “Focus Group on Weight Management Education Interview Guide (WMEIG),” designed according to guidelines published by Ajzen (2012a). These questions include statements designed to “elicit readily accessible behavioral outcomes, normative referents, and control factors” (Ajzen, 2012a, p. 4). The first nine questions focused on the constructs of the TPB (3 attitudes, 4 social norms, 2 perceived behavioral control) and the last three questions were based on a review of the weight management literature. The length of the interview guide was consistent with recommendations by Krueger and Casey (2009) in order to keep focus group interviews within a 2-hour time frame. These questions were reviewed by three doctorally prepared nurses familiar with the theory. Table 1 illustrates the 12-questions included in the guide.

Four focus groups (n = 5, n = 6, n= 3, n= 4) were conducted and analyzed by the author using guidelines established by Krueger and Casey. Focus groups were audiotaped with permission, lasted 75 to 90 minutes, and were conducted in a private room within the hospital. Transcripts were uploaded into NVivo software for analysis (QSR International, 2010).

A total of 18 nurses participated in four focus groups, with 3 to 5 participants in each group. Nurses ranged in age from 24-56 years with a mean age of 35 years. All
participants were White/Caucasian and 94.4% \((n = 17)\) were female. Body Mass Index (BMI) was calculated using participants’ self-reported heights and weights and ranged from 21.76 to 42.89 with a mean BMI of 29.61. In terms of education and experience, 38.9% \((n = 7)\) reported having a bachelor’s degree in nursing and 68.8% \((n=11)\) had fewer than five years of experience as a medical-surgical nurse. Nurses with less experience may have retained more of the information on weight management from their pre-licensure RN education than the experienced nurses. Participants reported working in a variety of medical surgical areas with a larger percentage \((55.5\%, n = 10)\) working on a unit with telemetry. Half of the nurses \((50.0\%, n = 9)\) reported being certified in medical-surgical nursing. Being certified suggests that the nurse is knowledgeable in medical-surgical nursing, which may change how the nurse responds compared to a nurse who is not certified. When seeking information on weight management, 72.2% \((n = 13)\) of nurses reported having access to this information through a computer on the nursing unit, 50.0% \((n = 9)\) had access to written materials, 44.4% \((n = 8)\) relied on other colleagues for information, and 11.1% \((n = 2)\) reported accessing continuing education on weight management.

Content analysis was conducted after each focus group and before initiating the next focus group (Krueger & Casey, 2009). Four criteria described by Lincoln and Guba (1985) were used to ensure the study’s trustworthiness: credibility, transferability, dependability, and confirmability. Credibility was established using various strategies: preliminary findings were discussed with one participant from each focus group (member checking); the data coding and analysis were independently reviewed by a doctoral-prepared nurse researcher familiar with the TPB and weight management (peer review).
Dependability was ensured by the researcher who documented all data collection, coding, and analysis decisions to ensure consistent processes. Confirmability was established by transcribing audiotaped focus group interviews verbatim. Interview recordings, notes, and verbatim transcription obtained during the interviews and used in the analysis provided rich data for the study’s transferability. In addition validity was confirmed through data saturation, prolonged engagement with participants and bias control.

After content analysis was complete and themes were identified, frequencies and extensiveness were tabulated under each theme (Krueger & Casey, 2009). Frequency refers to the number of times a response occurred and extensiveness is the number of individuals who gave the same response (Krueger & Casey, 2009). Table 2 illustrates the 15 salient beliefs that were identified during analysis of the focus group data. These beliefs were used to create 12 broad categories of survey items: “economic benefits,” “client health benefits,” “concerns for clients after discharge,” “fear of client/family response,” “external influences,” “education,” “discomfort with topic,” “experience of nurse,” “education materials,” “client resources,” “acute illness is focus,” and “matters if admission is because of weight issues”. The broad categories and representative responses were used in the second phase of the study to guide construction and analysis of the survey being developed.

Phase 2: Tool Development and Pilot Testing

Phase 2 of the study included the development, pilot testing, and administration of a 71-item tool called the “Weight Management Education Survey” (WMES) developed by the author based on phase 1 focus group findings. Using Ajzen’s (2012a) construction
of a questionnaire guidelines, 7-point Likert-style items were developed for the 12 broad categories created in phase 1. Using the qualitative findings from focus groups is a major strength in constructing a survey and helps to establish content validity and determine relevance to the study population (Krueger & Casey, 2009). Survey items 1-24 measured “attitude,” items 25-40 measured “subjective norms,” items 41-66 measured “perceived behavioral control,” and items 67-71 measured actual intention to provide weight management education. An experienced doctorally-prepared researcher reviewed the survey for content validity and congruence with the TBP.

Next, the WMES was piloted in an electronic format with 12 nurses who participated in phase 1. Participants completed the survey using a “think aloud technique” that encouraged respondents to speak throughout the process of completing the survey in the presence of the author (Willis, 2005). This approach allowed the author to time survey completions and be available for questions and immediate verbal feedback. Cronbach’s alpha for the pilot version of the WMES was 0.89 and participants reported that all items were relevant and easy to understand and read. Only minor changes to item wordings were necessary. For example, for consistency certain phrases were standardized throughout the instrument, such as “influence your decision to provide” versus “influence your provision.” The mean survey completion time was 15 minutes. Table 3 displays sample items used in the WMES.

**Phase 3: National Administration of the WMES**

After phase 2 pilot testing was completed, participants were recruited for phase 3 of the study from the national membership of the Academy of Medical Surgical Nurses
AMSN members were contacted according to research guidelines developed by the professional organization. An email from the AMSN organization and were provided a link to access the survey if they wanted to participate. In addition, nurses could also participate by accessing a link to the survey on the AMSN website or accessing the link to the survey in the AMSN newsletter. Links remained active for 6 weeks. SurveyGizmo, a web-based commercial survey program was used for administration of the survey (http://www.surveygizmo.com/). All SurveyGizmo data are password protected, held in secure data centers, and HIPAA compliant (http://www.surveygizmo.com/). Participants established eligibility through electronic completion of the screening survey which consists of three questions: 1. Do you speak English? 2. Are you a licensed registered nurse? 3. Have you worked as a registered nurse for the last two or more years on a medical-surgical unit caring for adult clients (defined as over the age of 18) admitted to the hospital for obesity-related health problems (diabetes, stroke, hypertension, cardiovascular disease, some cancers, and arthritis)? To ensure that no identifying participant information was collected in the survey, AMSN nurses who wished to be in the iPad drawing submitted a separate email with a code word from the end of the survey to the author’s email address.

Power analysis was used to determine the appropriate sample size and was based on the number of contributing factors identified through the analysis of the focus group manuscripts and 12 broad categories established. A literature reviewed on factor analysis indicated that, on average, the sample size is 10-20 participants per factor under investigation, with the larger sample size being the better choice for producing the correct solution (Costello & Osborne, 2005). This study initially aimed for 10-20 respondents.
per broad category generated during focus group content analysis. Therefore, the minimum number of completed surveys that will be necessary to achieve the desired response rate was 120. The AMSN reported that 7,617 members had at least 2 years of experience in medical-surgical nursing (www.amsn.org). However since this survey was administered electronically, there is no way to ensure that all of the members received the request to participate, making it difficult to determine the survey response rate.

**Phase 3: Statistical Analysis**

Phase 3 of the study was used to answer the research questions. Data analysis was performed using JMP® 11 software (SAS Institute, 2013). “The data analysis for this paper was generated using SAS software. Copyright, SAS Institute Inc. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc., Cary, NC, USA” (SAS Institute, 2014). Five questions addressed actual intentions to provide weight management education, answering research question 1. Exploratory factor analysis was used to determine factors affecting nurses’ intentions to provide weight management education, including factors under each of the TPB constructs (attitudes, normative beliefs, and perceived behavioral control), answering research question 2. Costello and Osborne (2005) recommend that while factor loadings ≥ 0.80 are desirable, factor loadings between 0.40 and 0.70 were acceptable levels to retain in the social sciences; therefore, only items with factor loadings ≥ 0.40 were retained as a first pass.

In addition, scree plots were examined to determine the number of factors to be retained (Costello & Osborne, 2005). Rotation of the factor matrix is commonly
performed to simplify the data structure and make it more clear (Costello & Osborne, 2005). Rotations increase interpretation by aligning the direction of the original variables and factors (Costello & Osborne, 2005). Oblique rotations correlate the factors with each other but often yield more useful patterns than orthogonal rotations that do not correlate the factors (Costello & Osborne, 2005). The Quartimin oblique rotation that loaded the most factors independently was used to determine the factor solution. Responses to the questions on intention were analyzed using principle components analysis. The first principle component, named “Intention” was used as the response variable for analyzing questions 3 and 4 using the extracted factors and demographic variables as predictors in a step-wise regression analysis. “The rule of thumb is that the t ratio of 2 or -2 or less indicates that the regression coefficient is statistically significant” (Freeman, 2001, p. 1). This loosely corresponds to a 95% significance level. Note that we also inspected the p-value of each term in the model, since low p-values correspond with high t-ratios. Using these guidelines, the stepwise regression was used to find the subset of factors or demographic variables that were most predictive of nurses’ intentions to provide weight management education for hospitalized adults, answering questions 3 and 4.

**Phase 3: Results**

A total of 354 eligible AMSN members completed the WMES and NDF, an additional 170 members accessed the survey without completing their responses, and 78 were disqualified based on responding “no” to one or more of the three screening questions. One survey was eliminated due to several missing responses. Participant responses from each state were grouped by region prior to analysis based on the U.S.
Department of Health and Human Services (2010) regions. The national sample of participants was distributed among the following regions: 21.8% (n=77) East North Central, 2.5% (n=9) East South Central, 11.9% (n=42) Middle Atlantic, 6.2% (n=22) Mountain, 4.5% (n=16) New England, 14.1% (n=50) Pacific, 20.1% (n=71) South Atlantic, 6.5% (n=23) West North Central, and 12.2% (n=43) West South Central (U.S. Department of Health and Human Services). Participants reported working on a wide variety of medical surgical units with most participants describing their units as “general medical surgical” units. Ages ranged from 24 to 69 years, with a mean age of 47.7 years. The majority of participants were female (96.8%, n=341/352), white/non-Hispanic (79.5%, n=279/351). Body Mass Index (BMI) was calculated using participants’ self-reported heights and weights and ranged from 18.28 to 58.09 with a mean BMI of 29.19. In terms of experience, 83.5% (n=294/352) of participants had more than five years of experience working on a medical-surgical unit, 82.7% (n=292/353) had attained a minimum of a bachelor’s degree, and 66.9% (n=236/353) of participants reported that they were certified in medical-surgical nursing. The participants reported the most common ways that they obtain information for patient teaching at their workplaces were computer access to electronic information (87.0%, n=307/353), written materials (49.6%, n=175/353), and/or smart phones (36.0%, n=127/353).

**Intentions.** The WMES included five items that measured the AMSN nurses’ “actual intentions” to answer research question 1 (Azjen, 2012a). The majority of participants responded that they would provide weight management education to their hospitalized obese clients under the following conditions: if clients expressed an interest
in learning how to manage their weight (85.8%, \( n = 302/352 \)); if clients were admitted for medical/surgical treatment to help them lose weight (72.1%, \( n = 253/351 \)); if clients were experiencing weight-related health problems in the hospital setting (64.9%, \( n = 229/353 \)); if clients were incapacitated by their excess body weight (67.0%, \( n = 236/352 \)); and if the hospital had routine education for all clients based on their body mass index, regardless of the clients’ admitting diagnosis (75.1%, \( n = 265/353 \)).

**Factor analysis of the WMES.** Factors influencing nurses’ intentions to provide weight management education for obese adults hospitalized on medical-surgical units were assessed using items on the WMES to answer research question 2. Items were entered into exploratory factor analysis with a Quartimin oblique rotation. The 12 factors chosen for the solution were based on eigenvalues greater than 1.00 and the broad categories from the focus group analysis. These factors included: ongoing education, staffing and timing, external influences, health benefits, reducing costs and admissions, fear of offending, obesity effect on outcomes, client/family approval, lack of resources after discharge, institutional approval, acute illness is the priority, and home-based weight management plan on admission.

Factor loading criteria was set at \( \geq 0.40 \). Because they were conceptually relevant, two exceptions were made for items with loadings slightly below 0.40. An exception was made in the “ongoing education” factor for the item “My limited experience with providing weight management education will prevent me from addressing the topic with my obese adult clients”, which had a loading of 0.397. Also, an exception was made in the “obesity effect on outcomes” factor for the item “Helping my
obese adult clients reduce their need for medications in order to reduce their risk for other comorbidities is important to me,” which had a loading of 0.387. Factors and factor loadings are illustrated in Table 4.

Factors were also examined for their fit with the TPB (Ajzen, 2012b). Table 5 depicts how each factor aligns with the four components of the theory. An interesting phenomena is that one item, “Being uncomfortable when I am teaching my clients about weight management worries me” is an item of “perceived behavioral control,” but loaded on the factor “fear of offending,” which conceptually represents an “attitude” in the TPB. However, this item correlates with the attitudes of nurses worried about offending obese clients.

**Attitudes.** Nurses who participated in the study reported being aware of the potential negative health consequences of obesity and the associated health benefits of weight management. These nurses also responded that weight management may reduce admissions and costs for hospitals. Despite this general knowledge on the impact of obesity and weight management, nurses had many concerns when faced with providing weight management education to obese adults in the medical-surgical setting. For example, the nurses feared offending obese clients and their families when addressing the clients’ excess body weight.

**Social norms.** Nurses who participated in this study answered similarly when posed the question of who should deliver weight management education. The majority of participants responded that dieticians, physicians and nurses should deliver weight management education. Many nurses also wanted to be a role model for others and
believed that other nurses, physicians and administrators would approve of them providing weight management education.

**Perceived behavioral control.** In terms of the nurses’ perceived behavioral control, a strong theme was the lack of time and available staffing to provide this education in the acute care setting. Participants believed that they were already faced with more than they could possibly get done and that poor staffing amplified this issue. They also expressed concerns that the timing of this education was poor and that the acute illness should be the priority, even if their obese clients could experience health benefits from weight loss. In addition, nurses identified that they would be more apt to provide weight management education if they possessed more knowledge and experience with weight management education. Interestingly, participants expressed that having a home-based patient plan for weight management upon admission to the hospital would make it more likely for them to provide the education to their clients. Another interesting finding in this study was that nurses feared that obese clients would lack the resources they needed to continue their weight management after being discharged from hospital.

**Factors predicting intention.** Principle components analysis was performed on the “intention” questions. It was determined that retaining the first principle component named “Intention”, which explained 62% of the combined variation of the intention questions, was sufficient to serve as a surrogate response variable for nurses’ intentions to provide weight management education. Stepwise regression analysis was conducted to identify those factors or demographic variables predictive of the principle component of
“intention.” Seven factors were identified as being significant in explaining variation of intention to provide weight management education: health benefits ($p < 0.0001$), reducing costs and admissions ($p < 0.0001$), client/family approval ($p < 0.0001$), institutional approval ($p < 0.0001$), home-based weight management plan on admission ($p < 0.0001$), staffing and timing ($p = 0.0055$), and acute illness priority ($p = 0.0022$). These factors explained 52.3% of the variation in “intention”. Stepwise regression analysis showed that demographic variables (age, race/ethnicity, gender, years of experience, BMI, medical -surgical certification) explained less than 5% of the residual variation in nurses’ intentions to provide weight management education, once the variation explained by the factors was removed.

Many factors contributed to the nurses’ intentions to provide weight management education. Most participants reported that they intended to provide weight management education, especially if the client asked them for this information. This finding is not surprising, since, if the client asks for this information, it is less likely they will respond negatively to the nurse proving the education. While this is not a measure of actual behavior, as intention increases, the likelihood of performing the behavior also increases (Ajzen, 1991; Ajzen 2012b).

**Discussion**

**Regarding research question 1**, most nurses indicated that they intended to provide weight management education, especially for clients who expressed a desire for this information. However, responding positively to providing weight management education on the survey cannot be used or interpreted as an actual measure of the nurses’
behavior (Ajzen 2012b). Given the sensitive nature of weight management and that the data were self-reported, it is possible that there was a response bias and nurses responded to the intention questions in the way they believed they were expected to respond (Del Boca, & Noll, 2000). And the views of those not responding are unknown and may have been different. Furthermore, over half of the participants (63.8%, n=222/348) were considered overweight or obese based on BMI classifications, with BMI ≥ 25 considered overweight and BMI ≥ 30 considered obese, mirroring the general population (Flegal et al., 2012). Nurses’ BMIs were similar to those reported in other studies (Miller et al., 2008; Zhu et al., 2013). It is possible that, despite positive intentions, the nurses’ own weight concerns may have interfered with their attitudes, similar to other research findings (Miller et al., 2008). However, the nurses’ BMIs were not found to predict the variance of intention to provide weight management in this study.

**Regarding research question 2**, the 12 factor solution produced using the TPB model is a good fit and provides evidence of factors that are most likely to influence nurses’ intentions to provide weight management education. Like other studies, nurses identify their lack of time and staffing to provide weight management education and have concerns that weight management education is not the priority at this time (Zhu et al., 2013). Nurses are also concerned that clients may not have adequate resources to support weight management strategies once they leave the hospital. Nurses’ concerns over clients lacking resources are substantiated in the literature by reports of higher obesity rates in poverty stricken areas and the reliance on energy dense processed foods for nutrition (Swinburn et al., 2011). Ongoing education and the fear of offending clients
when providing weight management education was also another predictor of intention that is evident as a component of nurses’ attitudes in other studies (Miller et al, 2008). The idea that nurses require ongoing education to provide weight management is also consistent with findings from other studies (Budd et al., 2011; Falker & Sledge, 2011; Jeffrey & Kitto, 2006; Miller et al, 2008; Mold, & Forbes, 2011; Zhu et al., 2013).

**Regarding research question 3**, seven factors were identified as being significant in explaining variation of intention to provide weight management education. Of those factors, two were items that reflected nurses’ attitudes towards providing weight management education. Like other studies, nurses understood the health benefits of weight management (Miller et al, 2008; Zhu et al, 2013). Not surprising, the factor “reduce cost and admission” was predictive of nurses’ intentions to provide management education. This attitude related to the financial impact of providing weight management education is consistent with the current national focus on providing preventative services and promoting health (America Hospital Association, 2011; HHS; Healthy People 2020, 2011). Findings from this study suggest that nurses who thought that clients wanted information on weight management were likely to provide this education.

A new finding from this study not identified in the literature, was that institutional approval was predictive of intention. This corresponds with the current hospital initiative and focus on developing a culture of health (American Hospital Association, 2011). Changing institutional cultures and ultimately subjective norms could positively influence nurses’ intentions to provide weight management education. However, some factors of perceived behavioral control remain an obstacle for nurses, including staffing

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and timing and the priority of the acute illness. Nurse who perceived they did not have enough “time or staffing” on their nursing unit or those nurses who believed the “acute illness is the priority” may choose not to provide weight management education. It is likely that even with good intentions, weight management education may become last on a long list of activities that nurses must perform during their shift.

Another significant factor that was not in the literature was that nurses would be more likely to provide weight management education if they had a “home based weight management plan on admission”. This idea of beginning the conversation about weight management on admission is very similar to strategies used in today’s smoking cessation programs, using admission to the hospital as an opportunity to take advantage of a teachable moment (Phelan, 2010). Teachable moments have the potential to lead to long-standing change in behavior, since the acute illness may provide motivation for changing behavior (Phelan, 2010).

**Regarding research question 4**, the finding that no particular sociodemographic variable or group of variables was predictive of intention is similar to the recent findings by (Zhu et al., 2013). Unfortunately, the majority of the study participants were white females. It is plausible that respondents of different racial/ethnic backgrounds or those born in other countries may have responded differently. Male respondents could also share a different views on weight management education.
Limitations

The findings from this study are limited by the nature of the sample. In phase 1, the focus group participants were a convenience sample recruited from the same healthcare system and were also recruited by snowball sampling. This recruitment method may have produced a sample of nurses who knew each other and may have influenced each other’s thoughts about weight management education (Richards & Morse, 2007). Over half of the nurses had fewer than 5 years of experience and half were certified-- making this group nurses less experienced, but well educated.

Another limitation was the lack of ethnic diversity in phase 1, since all participants were white and this could have impacted the questions developed for the study and the responses of members of different ethnic backgrounds. Furthermore, only one male nurse participated in the focus groups. In phase 2 all of the participants were white females. In phase 3, the majority of the AMSN participants were white females (79.5%) with bachelor’s degrees and over half were certified, representing a highly educated population of nurses that lacked representation from diverse groups. However, it should be noted that in 2008 it was estimated that 83.2% of the US registered nurse population was white and majority were female (USDHHS, 2010). Population statistics indicate that different genders, races and ethnicities experience different rates of obesity (Flegal et al., 2012). In the future, researchers should recruit males, nurses with a variety of education levels, and nurses of different race/ethnicities to strengthen the study findings.

While the electronic WMES was administered to a national pool of nurses and all regions of the US were represented in the study sample, some states were more heavily
represented than others, and some were not represented. Some participants occasionally omitted responses to some questions and it is unclear if they simply skipped the question or chose not to answer the question. Missing responses, although minimal in this study could result in a nonresponse bias, and it is possible that the lack of response may have influenced the results of the study. The length of the study instrument, while necessary to create the survey using the TPB, was also a limitation and potentially discouraged participation. Additionally, using this sampling method resulted in the researcher not knowing how many emails were generated and if they were received. Another limitation is the study’s reliance on self-reported data and the possibility that the nurses responded in a socially desirable manner (Del Boca, & Noll, 2000).

**Recommendations**

Future recommendations for practice would be a standardized sensitive approach for nurses to use in providing clients with weight management education and resources for discharge upon admission to the hospital based on established protocols. Nurses also require practice with providing weight management education. High fidelity simulation may be useful in acquiring the necessary skills in counselling clients on sensitive topics (Richardson & Claman, 2014). High fidelity simulation would allow nurses to practice engaging in sensitive client teaching topics like weight management with a safety net prior to having these conversations with obese clients in the clinical setting. In addition, developing databases of electronic resources for weight management may also make them more accessible to nurses, since demographic data from this study suggest that most nurses rely on electronic sources of information for health teaching. Nurse reliance on
electronic sources of information for evidence based practice is supported in the research (Doran, et al, 2010). Furthermore, nurses are also in need of support to maintain a healthy weight themselves. Institutions need to develop programs for nurses that help them to identify and make feasible lifestyle changes. Institutions could support nurses by providing them with access to health coaching services that were tailored to their individual needs (American Hospital Association, 2011). National policy should include supporting hospitals in providing services for their employees that assist them in attaining health and wellness. It is also necessary to examine current nurse education curricula and incorporate weight management concepts across the lifespan. In education, nursing students could also benefit from high fidelity simulation providing health teaching on weight management. More understanding of how weight management education is currently integrated into nursing curricula is needed.

In the future, a replication of this study with a revised version of the WMES after data reduction with factor analysis would be beneficial. Sampling strategies should recruit a more diverse group, including males, nurses from various ethnic/racial backgrounds, and internationally born nurses. It may also be beneficial to seek a larger sample size, Knapp and Campbell-Heider (1989) suggest that for multivariate analysis 10-20 responses per survey item is optimal. Intervention studies should be designed based on the results of this study, focusing on ways that may help nurses to be more likely to engage in providing weight management education for obese clients admitted with weight-related health problems. Future observational studies could also examine the actual behaviors of nurses in the clinical setting.
Conclusions

Despite everything that is known about weight management, there continues to be no comprehensive solution with a critical impact to this growing health problem. This study contributes to what is known about medical-surgical nurses’ intentions to provide weight management education to hospitalized obese adults. Obesity is associated with a multitude of health problems and higher mortality rates (HHS, Healthy People 2020, 2011). Medical surgical nurses are in a prime position to provide much needed education on weight management in the acute care setting during a teachable moment. However, it is evident that there are significant factors that influence nurses’ intentions to provide weight management education and these must be addressed if intention is to lead to behavior. The TPB model provides a good depiction of the factors that influence nurses’ intentions to provide weight management education. In light of findings from this study, standardizing provision of weight management education and the institution of a “home-based weight management plan on admission” to the hospital represent interventions for two factors of perceived behavioral control that could increase the likelihood that nurses will provide weight management education.
References


Richards, L., & Morse, J. M. (2007). Readme first for a user's guide to qualitative


Focus Group on Weight Management Education Interview Guide

1. What do you believe are the advantages of providing weight management education to obese adult clients with weight related health problems?
2. What do you believe are the disadvantages of providing weight management education to obese adult clients with weight related health problems?
3. In thinking about weight management education, what else comes to mind?
4. Tell me about any individuals or groups who approve or would have influence over you providing weight management education to obese adult clients with weight related health problems?
5. Tell me about any individuals or groups who disapprove or would have influence over you providing weight management education to obese adult clients with weight related health problems?
6. Which individuals or groups of health care professionals are most likely to provide weight management education to obese adult clients experiencing weight related health problems?
7. Which individuals or groups of health care professionals are least likely to provide weight management education to obese adult clients experiencing weight related health problems?
8. What factor(s) would make it easier for you to provide weight management education to obese adult clients experiencing weight related health problems?
9. What factor(s) might make it more difficult or even prevent you from providing weight management education to obese adult clients?
10. Do you believe you possess the knowledge and skill to provide weight management education? To obese clients?
11. What type of experience do you have with health teaching/coaching?
12. If you were caring for an obese adult on a hospital unit, how likely would you provide weight management education?

Note. Questions 1-3 address attitudes, questions 4-7 address subjective norms, questions 8-9 address perceived behavior control and 10-12 address findings from the literature and intentions.
Table 2
15 Salient Beliefs of Focus Group Participants

<table>
<thead>
<tr>
<th>Salient Beliefs</th>
<th>Frequency</th>
<th>Extensiveness</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncomfortable talking about weight management</td>
<td>39</td>
<td>18</td>
<td>100%</td>
</tr>
<tr>
<td>More client education resources</td>
<td>39</td>
<td>18</td>
<td>100%</td>
</tr>
<tr>
<td>Lack of time to spend on client education</td>
<td>57</td>
<td>16</td>
<td>89%</td>
</tr>
<tr>
<td>Weight management is not the priority</td>
<td>46</td>
<td>15</td>
<td>83%</td>
</tr>
<tr>
<td>Concerns that clients are not interested in hearing about weight management education</td>
<td>42</td>
<td>15</td>
<td>83%</td>
</tr>
<tr>
<td>Fear of offending clients and their families</td>
<td>12</td>
<td>11</td>
<td>61%</td>
</tr>
<tr>
<td>Concern over reducing client satisfaction scores</td>
<td>38</td>
<td>11</td>
<td>61%</td>
</tr>
<tr>
<td>Improving client health</td>
<td>14</td>
<td>10</td>
<td>56%</td>
</tr>
<tr>
<td>Clients have to want to lose weight</td>
<td>14</td>
<td>9</td>
<td>50%</td>
</tr>
<tr>
<td>Nurses are most likely to provide weight management</td>
<td>9</td>
<td>9</td>
<td>50%</td>
</tr>
<tr>
<td>Clients need access to resources (money, classes, transportation, gyms)</td>
<td>17</td>
<td>9</td>
<td>50%</td>
</tr>
<tr>
<td>Decrease need for medications for other co-morbidities</td>
<td>9</td>
<td>7</td>
<td>39%</td>
</tr>
<tr>
<td>Clients won't be receptive to weight management information from based on nurse’s body type</td>
<td>9</td>
<td>7</td>
<td>39%</td>
</tr>
<tr>
<td>Lack of experience -providing weight management education</td>
<td>13</td>
<td>7</td>
<td>39%</td>
</tr>
</tbody>
</table>

Note. Frequency refers to the number of times a belief was expressed and extensiveness is the number of participants expressing the belief.
| Table 3 |
| Sample Weight Management Education Survey Questions |

| My provision of weight management education to hospitalized obese adults will lead to improved health. |
| Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree |

| Physicians would approve of me providing weight management education to obese adult clients experiencing weight related health problems. |
| Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree |

| When it comes to providing weight management education, how much do you want to be like the dieticians at your hospital? |
| Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Very Much |

| I need ongoing continuing education on how to provide sensitive evidence-based weight management education for my obese adult clients experiencing weight related health problems. |
| Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree |

| I intend to provide weight management education to my obese adult clients experiencing weight related health problems in the hospital setting. |
| Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree |

*Note.* Questions were developed based on Ajzen’s (2012b) Theory of Planned Behavior guidelines.
### Table 4
*Factors and Factor Loadings from Factor Analysis*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ongoing education</strong></td>
<td></td>
</tr>
<tr>
<td>Ongoing continuing education on how to provide weight</td>
<td>0.82115</td>
</tr>
<tr>
<td>management education</td>
<td></td>
</tr>
<tr>
<td>More current education about weight management</td>
<td>0.77071</td>
</tr>
<tr>
<td>More experience in providing weight management education</td>
<td>0.75568</td>
</tr>
<tr>
<td>Knowing more about weight management education</td>
<td>0.67741</td>
</tr>
<tr>
<td>Having easy access to more client teaching materials at work</td>
<td>0.60235</td>
</tr>
<tr>
<td>My nursing unit lacks easily accessible client teaching</td>
<td>0.45381</td>
</tr>
<tr>
<td>materials at work</td>
<td></td>
</tr>
<tr>
<td>More comfortable teaching about topics that I routinely</td>
<td>0.43812</td>
</tr>
<tr>
<td>encounter</td>
<td></td>
</tr>
<tr>
<td>Lack of knowledge and skill to provide weight management</td>
<td>0.43570</td>
</tr>
<tr>
<td>education</td>
<td></td>
</tr>
<tr>
<td>My limited experience with providing weight management</td>
<td>0.39709</td>
</tr>
<tr>
<td>education</td>
<td></td>
</tr>
<tr>
<td><strong>Staffing and timing</strong></td>
<td></td>
</tr>
<tr>
<td>Limited staffing will keep me too busy to provide weight</td>
<td>0.82605</td>
</tr>
<tr>
<td>management education</td>
<td></td>
</tr>
<tr>
<td>Having better staffing would make it easier for me to provide</td>
<td>0.81085</td>
</tr>
<tr>
<td>weight management education</td>
<td></td>
</tr>
<tr>
<td>More time during my shift is need to provide weight</td>
<td>0.80530</td>
</tr>
<tr>
<td>management education</td>
<td></td>
</tr>
<tr>
<td>I do not have enough time at work to provide weight</td>
<td>0.72416</td>
</tr>
<tr>
<td>management education</td>
<td></td>
</tr>
<tr>
<td><strong>External influences</strong></td>
<td></td>
</tr>
<tr>
<td>Influence of other nurses</td>
<td>0.71769</td>
</tr>
<tr>
<td>Influence of physicians</td>
<td>0.63791</td>
</tr>
<tr>
<td>Desire to be like physicians</td>
<td>0.61951</td>
</tr>
<tr>
<td>Desire to be like other nurses</td>
<td>0.61946</td>
</tr>
<tr>
<td>Influence of hospital administrators</td>
<td>0.51109</td>
</tr>
<tr>
<td>Influence of obese adult clients' family members</td>
<td>0.46603</td>
</tr>
<tr>
<td><em>(continued)</em>*</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Items with factor loadings ≥ 0.40 were initially retained for analysis, two exceptions were made for conceptual reasons *
Table 4
Factors and Factor Loadings from Factor Analysis

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health benefits</strong></td>
<td></td>
</tr>
<tr>
<td>Reducing my obese adult clients’ future hospital admissions</td>
<td>0.79070</td>
</tr>
<tr>
<td>Reduce their need for medications in order to reduce their risk for other comorbidities</td>
<td>0.68518</td>
</tr>
<tr>
<td>Obese adult clients' excess body weight may put them at risk for diseases</td>
<td>0.55684</td>
</tr>
<tr>
<td>Helping my obese adult clients learn about their weight management and improve their health</td>
<td>0.52622</td>
</tr>
<tr>
<td>Improving my obese adult clients' health outcomes after undergoing elective</td>
<td>0.48370</td>
</tr>
<tr>
<td>Lack support from their family/friends outside the hospital</td>
<td>0.44095</td>
</tr>
<tr>
<td><strong>Reducing costs and admissions</strong></td>
<td></td>
</tr>
<tr>
<td>Reduce costs to the hospital</td>
<td>0.94974</td>
</tr>
<tr>
<td>Improved health</td>
<td>0.76141</td>
</tr>
<tr>
<td>Reducing costs to the hospital is important to me</td>
<td>0.57976</td>
</tr>
<tr>
<td>Reduce the number of people admitted to the hospital</td>
<td>0.51256</td>
</tr>
<tr>
<td><strong>Fear of offending</strong></td>
<td></td>
</tr>
<tr>
<td>Offending my obese adult clients when approaching them about weight management</td>
<td>0.52927</td>
</tr>
<tr>
<td>Clients will respond negatively to a thin nurse</td>
<td>0.49887</td>
</tr>
<tr>
<td>Clients would not be receptive to weight management information from obese nurses</td>
<td>0.47994</td>
</tr>
<tr>
<td>Clients might be offended if I approach them about weight management</td>
<td>0.45647</td>
</tr>
<tr>
<td>Clients would not be receptive to weight management information from thin nurses</td>
<td>0.45326</td>
</tr>
<tr>
<td>Being uncomfortable when I am teaching my clients about weight management worries me</td>
<td>0.42231</td>
</tr>
</tbody>
</table>

*Note. Items with factor loadings ≥ 0.40 were initially retained for analysis, two exceptions were made for conceptual reasons.*
Table 4  
Factors and Factor Loadings from Factor Analysis

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Loading</th>
</tr>
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<tbody>
<tr>
<td>Obesity effect on outcomes</td>
<td></td>
</tr>
<tr>
<td>Improved outcomes from elective surgeries like joint replacement</td>
<td>0.65621</td>
</tr>
<tr>
<td>Decreased need for medications for other co-morbidities</td>
<td>0.65332</td>
</tr>
<tr>
<td>Many diseases my obese adult clients have are attributed to excess body weight</td>
<td>0.62583</td>
</tr>
<tr>
<td>Clients need support from family/friends outside the hospital</td>
<td>0.40738</td>
</tr>
<tr>
<td>Helping my obese adult clients reduce their need for medications*</td>
<td>0.38645</td>
</tr>
<tr>
<td>Client/family approval</td>
<td></td>
</tr>
<tr>
<td>Clients would approve</td>
<td>0.92963</td>
</tr>
<tr>
<td>Families of my obese adult clients would approve</td>
<td>0.76217</td>
</tr>
<tr>
<td>Lack of resources after discharge</td>
<td></td>
</tr>
<tr>
<td>Clients lack needed resources</td>
<td>0.96231</td>
</tr>
<tr>
<td>(money, classes, transportation, gyms) outside of the hospital</td>
<td></td>
</tr>
<tr>
<td>Clients need access to resources</td>
<td>0.78921</td>
</tr>
<tr>
<td>(money, classes, transportation, gyms) outside of the hospital</td>
<td></td>
</tr>
<tr>
<td>Institutional approval</td>
<td></td>
</tr>
<tr>
<td>Hospital administrators would approve</td>
<td>0.75400</td>
</tr>
<tr>
<td>Physicians would approve</td>
<td>0.65447</td>
</tr>
<tr>
<td>Most of the nurses with whom I work would approve</td>
<td>0.63021</td>
</tr>
<tr>
<td>Acute illness is the priority</td>
<td></td>
</tr>
<tr>
<td>Clients for whom I provide care are acutely ill, the timing is bad</td>
<td>0.98348</td>
</tr>
<tr>
<td>Worried about timing with acute illness</td>
<td>0.80901</td>
</tr>
<tr>
<td>Home-based weight management plan on admission</td>
<td></td>
</tr>
<tr>
<td>Weight management plan for home ordered upon admission</td>
<td>0.46586</td>
</tr>
<tr>
<td>instead of at discharge</td>
<td></td>
</tr>
<tr>
<td>Having a home-based weight management plan that is ordered</td>
<td>0.44965</td>
</tr>
<tr>
<td>upon hospital admission</td>
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</tr>
</tbody>
</table>

(continued)

*Note.* Items with factor loadings ≥ 0.40 were initially retained for analysis, two exceptions were made for conceptual reasons.
### Table 5

**Factors and TPB Components**

<table>
<thead>
<tr>
<th>Attitudes</th>
<th>Health Benefits</th>
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<tbody>
<tr>
<td></td>
<td>Reducing Costs and Admissions</td>
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<tr>
<td></td>
<td>Fear of offending</td>
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<tr>
<td></td>
<td>Obesity effect on outcomes</td>
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<td></td>
<td>Lack of resources after discharge</td>
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<tr>
<td>Subjective Norms</td>
<td>External Influences</td>
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<td></td>
<td>Client/family approval</td>
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<td></td>
<td>Institutional approval</td>
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<tr>
<td>Perceived Behavioral Control</td>
<td>Ongoing Education</td>
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<td>Staffing and Timing</td>
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<td></td>
<td>Acute illness is the priority</td>
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<td>Home-based weight management plan on</td>
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<td></td>
<td>admission</td>
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</table>

*Note. Attitudes, subjective norms and perceived behavioral control all contribute to intention to perform a behavior.*
References


doi:10.1111/j.1741-6787.2009.00179.x


doi:10.1177/0193945904270082

doi:10.1097/NUR.0b013e3181b20745


doi:10.1111/j.1746-1561.2010.00571.x


Appendix A

Permission Statement

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“The theory of planned behavior is in the public domain. No permission is needed to use the theory in research, to construct a TPB questionnaire, or to include an original drawing of the model in a thesis, dissertation, presentation, poster, article, or book. However, if you would like to reproduce a published drawing of the model, you need to get permission from the publisher who holds the copyright. You may use the drawing on this website for non-commercial purposes so long as you retain the copyright notice.” (Ajzen, 2012b).
<table>
<thead>
<tr>
<th>Author(s), Country</th>
<th>Purpose</th>
<th>Methodology</th>
<th>Sample</th>
<th>Data Collection</th>
<th>Findings</th>
<th>Suggested Actions</th>
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<tbody>
<tr>
<td>Bagley et. Al. (1989), CAN</td>
<td>Developed a scale to measure attitudes of nurses towards obese adults.</td>
<td>Quantitative Study</td>
<td>$N = 107$ RN graduate females ages 21-55 years, mean age 30.5 from three urban hospitals.</td>
<td>After pilot testing a pool of 70 items, the authors reduced the survey to a 15 item <em>Nurse Management Scale</em> and a 13 item <em>Personality and Lifestyle Scale</em>. These items were cross-validated in a study of nurses attitudes conducted in three urban hospitals. Survey administered and data analyzed using principle components and semantic differential method.</td>
<td>“Principle components analysis of semantic differential responses with “an obese adult” as the stimulus produced three main factors: Passivity and Weakness (traditional “activity” factor), Softness and Unsociability (traditional “potency” factor) and Badness and Cruelty (traditional “evaluation” factor),” (p.954). Scores on the Nurse Management Scale correlate with semantic differential components: 0.59 with Passivity and Weakness,</td>
<td>More continuing education needed to help nurses care for obese patients.</td>
</tr>
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<td>Author(s), Country</td>
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<td>0.54 with Softness and Unsociability, 0.60 with Badness and Cruelty Attitude scales correlated 0.75 linking the negative view of obese adults to a negative view of caring for obese patients. Older nurses had been more negative responses (r, 0.32). Mores education years was associated with more positive response (r, -0.32) Nurses not satisfied with their own body types were likely to</td>
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<td>Author(s), Country</td>
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<td>respond more negatively (r, 0.26).</td>
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<td></td>
<td>Increased education was related to more favorable attitudes.</td>
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<td></td>
<td>Hospital effect of 0.30, p&lt;.05, independent of age and education was noted.</td>
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<td></td>
<td>24.3% of nurses surveyed indicated that they “Agreed” or “Strongly Agreed” with the statement “Caring for an obese patient usually repulses me” and 12.1% of nurses also responded that they “Agreed” or “Strongly Agreed” with the item “I’d rather not touch an obese patient” (p. 954).</td>
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<td>Author(s), Country</td>
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<tr>
<td>Brown (2006), UK</td>
<td>Conducted a literature review of the empirical studies of nurses’ attitudes toward obese patients. The author intended to clarify attitudes and explores methods used to examine nurses’ attitudes toward obesity.</td>
<td>Literature Review</td>
<td>N/A</td>
<td>Conducted an electronic search of the literature using seven databases, hand-searched reference lists. Search terms: obesity, nurses, attitudes. Eleven studies were included: three qualitative, four quantitative.</td>
<td>Identified many weaknesses in studies conducted in sampling and measurement techniques. Studies suggest a significant proportion of nurses hold negative attitudes towards obesity.</td>
<td>More research with a shift in focus to positive and negative factors that influence outcomes and quality of care for obese individuals.</td>
</tr>
<tr>
<td>Brown and Thompson (2007), UK</td>
<td>Explore the attitudes and beliefs of primary care nurses own body size in relationship to managing obesity.</td>
<td>Qualitative study</td>
<td>N= 15</td>
<td>Interview guide prepared and pre-tested. Interviews to place at the clinical setting in a private room. All interviews were audio taped and transcribed verbatim. Anonymous transcripts entered</td>
<td>The nurses own body size has an impact. Low BMI nurses were uncomfortable broaching the topic. Some high BMI nurses expressed, others felt they had more empathy.</td>
<td>More research on the effect on patient satisfaction and intervention outcomes is needed. They also suggest education for self-awareness of nurses.</td>
</tr>
<tr>
<td>Author(s), Country</td>
<td>Purpose</td>
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<tr>
<td>Budd et al. (2011), US</td>
<td>Integrative review of health providers’ beliefs about obesity.</td>
<td>Literature search conducted with the following inclusion criteria:</td>
<td>Identified 15 studies for inclusion. Breakdown of studies by professional:</td>
<td>Studies summarized by type of provider.</td>
<td>Found bias still exists despite rising obesity rates. Studies analyzed and criticized for lack of random sampling,</td>
<td>More research needed to see if this bias affects delivery of healthcare.</td>
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<tr>
<td>Author(s), Country</td>
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</table>
| Culbertson and Smolen (1999), US | Examines the attitudes of RN students toward obese adult clients and the relationship to nursing care. | Research studies of nurses, physicians, other health care providers (HCPs), studies examining attitudes and beliefs of HCPs, published in English after 1990. Search terms: *health care professionals*, *obesity*, *overweight*, *discrimination*, *stigma.* | Physician- 3  
Psychologist- 1  
Variety of primary care providers-1  
Dieticians-2  
Nurses- 6  
Obesity clinicians- 2 | Comparison groups, variable statistics reported, use of convenience samples.  
Less bias in those specializing in obesity management.  
More recent nursing research shows less bias. | Students feel obese patient choose poor foods (70%) and could lose weight if they try (50%). | Nursing education needs to prepare students by preventing |
<table>
<thead>
<tr>
<th>Author(s), Country</th>
<th>Purpose</th>
<th>Methodology</th>
<th>Sample</th>
<th>Data Collection</th>
<th>Findings</th>
<th>Suggested Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garner and Nicol (1998) US</td>
<td>Compare female and male nurses attitudes towards obesity</td>
<td>Quantitative</td>
<td>(N = 68) 23 male, 45 females, 55 obese patients</td>
<td>Attitudes Towards Obesity Scale administered.</td>
<td>No differences between men and women. More negative attitudes of caregivers reported by obese patients than non-obese.</td>
<td>All students need to develop positive professional attitudes towards obesity.</td>
</tr>
<tr>
<td>Hicks et. Al. (2008), US</td>
<td>Replicate research findings of patient</td>
<td>Quantitative Quasi-experimental</td>
<td>(N = 135) 78 male, 65 female</td>
<td>Participants randomly assigned to see a picture of an obese or average</td>
<td>People felt less confident receiving education from an obese nurse (p=0.00)</td>
<td>Repeat study with more demographically</td>
</tr>
<tr>
<td>Author(s), Country</td>
<td>Purpose</td>
<td>Methodology</td>
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<td>Data Collection</td>
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<tr>
<td>Hoppe and Ogden (1997), UK</td>
<td>Examine practice nurses beliefs about obesity, practices and explore relationship to nurses BMI</td>
<td>Quantitative</td>
<td>$N = 586$ Response rate 65%</td>
<td>Cross-sectional survey mailed to 900 practice nurses from different practice settings.</td>
<td>All female, mean age 42.3 ± 8.41 Mean BMI 23.48, 35.9% overweight, 49% had less than 5 years of experience Rate lifestyle factors as main cause of obesity Noncompliance with advice most likely to cause failure at weight loss attempt. Nurses with high BMI rated obesity</td>
<td>Nurses need more education on advice giving and self-appraisal in obesity education. Findings limited in several areas, participants requested knowledge of the nurses’ qualifications to determine confidence, both pictures were Caucasian women, limited demographic data of participants diverse population. Offer various pictures that address gender and ethnicity.</td>
</tr>
<tr>
<td>Author(s), Country</td>
<td>Purpose</td>
<td>Methodology</td>
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<tr>
<td>Jeffrey and Kitto (2006) AUS</td>
<td>Examine competing perceptions of obesity, ambivalence to weight loss surgery and obese patient responsibility.</td>
<td>Qualitative Study</td>
<td>N = 10 Volunteer female nurses with extensive bariatric experience.</td>
<td>Interviews conducted in nurses homes</td>
<td>Positive attitude towards obesity. Competing perceptions exist for nurses from the medical BMI rating to the assessment of obesity as excess weight that is limiting activity from a personal perspective. Nurses are ambivalent due to the risks involved for nursing is shaped by more than biomedical principles alone; more research is needed to enhance bariatric nursing care.</td>
<td></td>
</tr>
<tr>
<td>Author(s), Country</td>
<td>Purpose</td>
<td>Methodology</td>
<td>Sample</td>
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</tbody>
</table>
| Miller, Alpert, & Cross (2008), US | Quantify overweight and obesity in nursing professionals and assess nurses knowledge of health risks associated with obesity. | Quantitative Study | Mailed survey to 4980 randomly selected registered nurses from 6 geographic regions  
*N* =760  
90% Caucasian, 72% registered nurse | Surveys by mail  
Response rate 15.5% (low for survey response) | patients and the knowledge that this “cure” does not always fix the underlying problems that caused the obesity.  
Most nurses waffle in terms of holding the patient responsible for their lifestyle choices.  
Grand mean BMI was 27.2 (54% overweight or obese)  
93% acknowledge obesity requires intervention, 76% do not pursue this with patients.  
Overweight or obese respondents felt just as confident as average weight | More research that examines locus of control and motivation to change. |
<table>
<thead>
<tr>
<th>Author(s), Country</th>
<th>Purpose</th>
<th>Methodology</th>
<th>Sample</th>
<th>Data Collection</th>
<th>Findings</th>
<th>Suggested Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mold and Forbes (2011), US</td>
<td>Conducted a synthesis of studies of professional or patient experiences or perceptions of obesity.</td>
<td>Synthesis of current research.</td>
<td>Screened 278 papers, extracted 48 studies with only 30 meeting the inclusion criteria.</td>
<td>All studies retrieved using the search terms and related terms (obesity, body size, body image, body weight, overweight, stigma, bias and discrimination). Information was extracted from these studies guided by the following questions: <em>Does the article relate to body weight?</em></td>
<td>Found that in all studies obesity had an impact on interaction between health providers and patients. Obese individuals have less healthcare choices. Highlighted that it was evident that health professional lack adequate technical resources and health equipment.</td>
<td>More research needed to improve health care provision to obese individuals. Research is also needed to explore the impact of obesity on interactions between patients and providers and patient decision-making.</td>
</tr>
<tr>
<td>Author(s), Country</td>
<td>Purpose</td>
<td>Methodology</td>
<td>Sample</td>
<td>Data Collection</td>
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<tr>
<td>Peternelj-Taylor (1989) CAN</td>
<td>Using mutual withdrawal theory by Tudor (1952) they examined 6 hypothesis regarding</td>
<td>Quantitative Study</td>
<td>N =100 Volunteers senior baccalaureate students.</td>
<td>Independent variable weight and sex presented “through descriptive and visual stimuli” during a self-administered questionnaire:</td>
<td>Means and standard deviations were computed and MANOVA completed.</td>
<td>Further research needed to determine if negative perceptions lead to a negative impact on care</td>
</tr>
<tr>
<td>Author(s), Country</td>
<td>Purpose</td>
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| nur | nurses and the obese patient. Nurses will have:  
1) *A more negative evaluation of obese patients than non-obese patients on the Nurse Evaluation of Patient Scale*  
2) *Rate obese patients as more personally responsible*  
3) *Make decisions that reduce contact time with obese patients* | | Ages 20-49, mean age 26.41 | *Patient Assessment: A Nursing Perspective*  
A sketch used instead of picture to remove influences outside of weight.  
Study subject “were told that the purpose of the study was to explore how nurses form impressions about patients in comparison to lay people” (p.749) | Study results indicate that nurses do see obese patients more negatively. The immensely obese were considered less attractive. No negative bias was seen against women, but was seen in men. The response related to responsibility was neutral suggesting an error of central tendency. | provided or affect the patient nurse relationship in a negative way. What is the significance of withdrawal to care rendered? |
<table>
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<tr>
<th>Author(s), Country</th>
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<th>Findings</th>
<th>Suggested Actions</th>
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<tbody>
<tr>
<td>Petrich (2000) CAN, US</td>
<td>Examine attitudes of medical and nursing students towards obese patients.</td>
<td>Qualitative Study</td>
<td>$N = 130$ 28 medical students 102 3rd or 4th year nursing students and 28 medical students from Purposive sampling. Author reports sending hundreds of surveys and only receiving 130 responses.</td>
<td>Mailed surveys consisting of open-ended questions. Responses were analyzed by hand and themes were identified.</td>
<td>More research needed to determine the perceptions of health care providers and the impact on patient care.</td>
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<td>Author(s), Country</td>
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<tr>
<td>Poon and Tarrant (2009), JAP</td>
<td>To examine Asian undergraduate and RN</td>
<td>Quantitative Cross-sectional descriptive</td>
<td>three Southern Ontario Universities and one university in western, NY</td>
<td>No response rate reported.</td>
<td>Most prevalent theme was feeling repulsion.</td>
<td>More research to examine the impact of negative attitudes towards obese patients.</td>
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<td>Many think obese individuals are lazy or lack any self-control.</td>
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<td>Report little instruction on obesity in coursework.</td>
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<td>Report minimal clinical experience with obese patients.</td>
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<td>Expressed empathy, but believed women were more negatively judged when obese than men.</td>
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<tr>
<td>Watson, Oberle, &amp; Deutscher (2008), CAN</td>
<td>To design and evaluate a tool that measures nurse’s attitudes concerning obesity and</td>
<td>Quantitative</td>
<td>$N = 626$ Response rate 46.1% Represented the majority of nursing</td>
<td>After establishing content validity the instrument was mailed to 1400 randomly selected registered nurses.</td>
<td>Five factors were identified with Eigen values 5.41-1.17. These five factors account for 49.23% of the variability and</td>
<td>Extend these findings into nurse education programs.</td>
</tr>
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attitudes towards obesity.

design using self-administered questionnaire.

Part III Sociodemographic data: Age, gender, weight, height, study year, experience, and practice area.

responses were affected by reluctance to admit negative attitudes, even anonymously. Registered nurses had more negative attitudes than student nurses. More positive when compared to other studies for managing the obese patient’s Care 17.7% are opposed to caring for an obese client. Overwhelming majority listed no positive attributes of the obese individual. Similar to other studies the majority agree that obesity is a lifestyle issue

attitudes on care provided.
<table>
<thead>
<tr>
<th>Author(s), Country</th>
<th>Purpose</th>
<th>Methodology</th>
<th>Sample</th>
<th>Data Collection</th>
<th>Findings</th>
<th>Suggested Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wright (1998) UK</td>
<td>To examine female nurses’ perceptions of acceptable female body size</td>
<td>Qualitative Exploratory study</td>
<td>( N = 10 ) [Convenience sample of 10 nurses from 24 nurses enrolled in a nurse conversation]</td>
<td>Data collection was done at a convenient interview time using a semi-structured format and without time constraints.</td>
<td>Nurses express discomfort in discussing weight reduction with patients. Torn between what they ought to do and personal preference.</td>
<td>Holistic assessment of size that includes: height, weight, BMI, personal perception of size and...</td>
</tr>
</tbody>
</table>

**Data Collection:**
- This instrument was based on a previous instrument and attribution values theory.
- Data was entered into SPSS, cleaned with coding corrections and removal of outliers.
- Data was analyzed using principle component analysis and Varimax rotation was used to reduce the scale for analysis of construct validity.
- After oblique rotation and intercorrelation, these five factors were determined to examine one attribute: attitude towards obesity is negative.
- Internal consistency .81

**Findings:**
- contain 36 items reduced from the initial 71 items developed for the survey.
<table>
<thead>
<tr>
<th>Author(s), Country</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Zhu, Norman &amp; While (2011), UK</td>
<td>Systematic Review of the literature examining weight status as a predictor of attitudes towards obesity.</td>
<td>Systematic Review of literature</td>
<td>$N = 12$ studies</td>
<td>Studies retained if they met the inclusion criteria: 1. Report and categorize weight status (normal weight, overweight or obesity) of health professionals (doctors, nurses, dietitians, physiotherapists or psychologists);</td>
<td>Weight status does not influence weight management practices.</td>
<td>Future work with theory based studies.</td>
</tr>
<tr>
<td>Author(s), Country</td>
<td>Purpose</td>
<td>Methodology</td>
<td>Sample</td>
<td>Data Collection</td>
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</tr>
<tr>
<td>Zhu, Norman &amp; While (2013), UK</td>
<td>Used self-efficacy theory based model to understand nurses weight management practices.</td>
<td>Quantitative</td>
<td>Convenience sample of British RNs attending London University $N = 420/399$ valid responses;</td>
<td>Four Scales used in the study to collect data: <em>Attitudes towards Obese Persons</em>, <em>Attitudes Towards Weight Management</em>, <em>Perceived Barriers</em>, <em>Perceived Skills</em>,</td>
<td>Participants in the study indicated a moderate level of practice with weight management. Self-efficacy was a positive predictor for weight management practices ($p&lt;0.01$).</td>
<td>Enhancing self-efficacy could promote weight management practices of nurses.</td>
</tr>
<tr>
<td>Author(s), Country</td>
<td>Purpose</td>
<td>Methodology</td>
<td>Sample</td>
<td>Data Collection</td>
<td>Findings</td>
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<tr>
<td>Zuzelo &amp; Seminara (2006) US</td>
<td>Looked at RN attitudes towards obese patients in bariatric setting.</td>
<td>Quantitative</td>
<td>N = 119 low response rate of 16.2%</td>
<td><em>Attitudes Towards Obese Adult Patients Instrument</em> was delivered to nurses’ mailboxes in three institutions and responses collected over an 8 week period.</td>
<td>They found that there was also “a mediating effect between self-efficacy and the other study variables (<em>perceived skills, perceived barriers, professional role identity and teamwork beliefs, and weight management practices</em>). Model created explained 38.4 % of variance in weight management practices and 43.2 % of variation in self-efficacy.</td>
<td>Nurses need evidence based education. Nurses need to be aware of personal bias in order to provide the best care for the obese client.</td>
</tr>
<tr>
<td>Author(s), Country</td>
<td>Purpose</td>
<td>Methodology</td>
<td>Sample</td>
<td>Data Collection</td>
<td>Findings</td>
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<td>coded line by line and 8 unique themes were identified: <em>Equal treatment, care needs are unique, care is overwhelming, and efforts are made to avoid being hurtful, sympathy feelings, dreading the physical care, and feeling personal safety risk.</em></td>
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<td></td>
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<td></td>
<td></td>
<td>In general attitudes were positive towards obese patients.</td>
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<td></td>
<td>Limited by low response rate and low alpha score.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C

Nurse Demographic Form

Date:
ID#__________

1. What is your highest level of education?
   a. Diploma in nursing
   b. Associate’s Degree in nursing
   c. Associate’s Degree (indicate type)
   d. Bachelor’s Degree in nursing
   e. Bachelor’s Degree (indicate type)
   f. Master’s Degree in nursing
   g. Master’s Degree (indicate type)
   h. Doctoral Degree in nursing
   i. Doctoral Degree (indicate type)

2. How many years of full-time experience as a registered nurse do you have? (Please round up for half year of experience and down if less than a half of a year of experience)
   a. 0-5 years
   b. 6-10 years
   c. 11-16 years
   d. 17-20 years
   e. 21-25 years
   f. 26-30 years
   g. 31-35 years
   h. 36-40 years
   i. > 40 years

3. How many years of experience do you have as a registered nurse working on a medical-surgical unit? (Please round up for half year of experience and down if less than a half of a year of experience)
   a. 0-5 years
   b. 6-10 years
   c. 11-16 years
   d. 17-20 years
   e. 21-25 years
   f. 26-30 years
   g. 31-35 years
   h. 36-40 years
   i. > 40 years
4. Are you a certified medical surgical nurse?
   a. Yes
   b. No
5. On what type of inpatient nursing unit do you work?
   a. General medical-surgical
   b. Telemetry
   c. Cardiac step-down
   d. Orthopedic
   e. Neurological
   f. Same day surgery
   g. Oncology/ Hematology
   h. Urology
   i. Gastroenterology
   j. Physical Rehabilitative
   k. Other (explain)
6. Do you use a smart phone or other mobile technologies to retrieve information for patient education while working on the medical–surgical unit?
   a. Yes
   b. No
7. What resources are available for you to retrieve information for patient education on weight management while working on your medical-surgical unit?
   a. Written materials
   b. Computer access to electronic information
   c. Textbooks
   d. Other colleagues
   e. Continuing education course at hospital
   f. Other (describe)
   g. No resources available on weight management
8. How old are you in years?
9. How tall are you in inches?
10. How much do you weigh in pounds?
11. What is your race/ethnicity?
    a) White, non-Hispanic
    b) Black/African American, non-Hispanic
    c) Asian, non-Hispanic
    d) Hispanic/Latino, any race
    e) Other or two or more races, non-Hispanic*
*Other races include American Indian and Pacific Islander.

12. What state are you from in the US?

13. What is your gender?
   a. female
   b. male

14. When was the last time you completed formal for-credit education or continuing education on nutrition or nutrition counseling? (Please round up for half year or more and down for less than a half of a year.)
   a. Fewer than 2 years ago
   b. 2-5 years ago
   c. 6-10 years ago
   d. 11-20 years ago
   e. Over 20 years ago
Appendix D

Focus Group on Weight Management Education Interview Guide

1. What do you believe are the advantages of providing weight management education to obese adult clients with weight related health problems?

2. What do you believe are the disadvantages of providing weight management education to obese adult clients with weight related health problems?

3. In thinking about weight management education, what else comes to mind?

4. Tell me about any individuals or groups who approve or would have influence over you providing weight management education to obese adult clients with weight related health problems?

5. Tell me about any individuals or groups who disapprove or would have influence over you providing weight management education to obese adult clients with weight related health problems?

6. Which individuals or groups of health care professionals are most likely to provide weight management education to obese adult clients experiencing weight related health problems?

7. Which individuals or groups of health care professionals are least likely to provide weight management education to obese adult clients experiencing weight related health problems?

8. What factor(s) would make it easier for you to provide weight management education to obese adult clients experiencing weight related health problems?

9. What factor(s) might make it more difficult or even prevent you from providing weight management education to obese adult clients?

10. Do you believe you possess the knowledge and skill to provide weight management education? To obese clients?

11. What type of experience do you have with health teaching/coaching?

12. If you were caring for an obese adult on a hospital unit, how likely would you provide weight management education?
### Theory of Planned Behavior Mapped to the Focus Group Interview Questions

<table>
<thead>
<tr>
<th>Theory Belief</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Behavior</td>
<td>1. What do you believe are the advantages of providing weight management education to obese adult clients with weight related health problems?</td>
</tr>
<tr>
<td></td>
<td>2. What do you believe are the disadvantages of providing weight management education to obese adult clients with weight related health problems?</td>
</tr>
<tr>
<td></td>
<td>3. In thinking about weight management education, what else comes to mind?</td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td>5. Tell me about any individuals or groups who approve or would have influence over you providing weight management education to obese adult clients with weight related health problems?</td>
</tr>
<tr>
<td></td>
<td>6. Tell me about any individuals or groups who disapprove or would have influence over you providing weight management education to obese adult clients with weight related health problems?</td>
</tr>
<tr>
<td>Control Beliefs</td>
<td>7. What factor(s) would make it easier for you to provide weight management education to obese adult clients experiencing weight related health problems?</td>
</tr>
<tr>
<td></td>
<td>8. What factor(s) might make it more difficult or even prevent you from providing weight management education to obese adult clients?</td>
</tr>
</tbody>
</table>
Appendix F

Patient Confidentiality Form

Dear Participant:

During your participation in the focus group interview other focus group participants will know your name. The researchers can not guarantee that participants will respect the group confidentiality. Your signature below will indicate that you intend to keep all comments made during the focus group confidential and that you will not discuss what happened during the course of the focus group outside of the meeting.

__________________________________________
(Print Name and Date)

__________________________________________
(Signature)
CONSENT TO PARTICIPATE IN A RESEARCH STUDY  
(PILOT STUDY)

TITLE:  
Factors Influencing Nurses’ Intentions to Provide Weight Management Education to Hospitalized Obese Adults

INVESTIGATOR:  
Milissa A. Volino RN, MS  
16 Lake Street  
Tioga, PA 16946  
Home Phone: 570-835-5572  
Work Phone: 607-735-1842  
Cell Phone: 607-206-7986  
volinom@duq.edu

ADVISOR:  
Joan Such Lockhart, PhD, RN, CORLN, AOCN®, CNE, ANEF, FAAN  
Associate Dean, Academic Affairs  
Professor  
542C Fisher Hall  
Phone: 412-396-6540  
Fax: 412-396-1821  
lockhart@duq.edu

SOURCE OF SUPPORT:  
This pilot study is being performed as partial fulfillment of the requirements for the doctoral degree of philosophy in nursing at Duquesne University School of Nursing.

PURPOSE:  
You are being asked to participate in pilot study of an interview guide for a research project that seeks to
investigate factors influencing nurses’ intentions to provide or not provide education on obesity management to hospitalized obese adult clients experiencing obesity related health conditions. You are being asked to participate in a focus group of 4-8 nurses. The focus group interview will be audiotaped and transcribed. In addition as part of the pilot test we invite you to comment on the clarity of the questions and your perspective on the importance of this topic. A primary goal of the project is to understand nurses’ intentions to provide weight management education. Another goal of this project is to have a better understanding of resources that would assist nurses in providing sensitive weight management education based on current evidence.

These are the only requests that will be made of you.

RISKS AND BENEFITS: There are no risks greater than those encountered in everyday life.

COMPENSATION: All participants will receive $20.00 for participating in the focus groups. However, participation in the project will require no monetary cost to you.

CONFIDENTIALITY: Your name will never appear on any survey or research instruments. No reference to personal identification will be made in the data analysis. All written materials and consent forms will be stored in a locked file in the researcher’s home. Your response(s) will only appear in statistical data summaries and aggregate data. All electronic data analysis will be on a secure server and password protected. All written consents and recordings will be stored in a locked file cabinet in the researcher’s office. All materials will be destroyed upon completion of the research.

RIGHT TO WITHDRAW: You are under no obligation to participate in this study. You are free to withdraw your consent to participate at any time.

SUMMARY OF RESULTS: A summary of the results of this research will be supplied to you, at no cost, upon request.
VOLUNTARY CONSENT: I have read the above statements and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw my consent at any time, for any reason. On these terms, I certify that I am willing to participate in this research project.

I understand that should I have any further questions about my participation in this study, I may call Milissa Volino, Principal Investigator of the study 607-206-7986, Dr. Joan Such Lockhart, the Advisor 412-396-6540, and Dr. Joseph Kush, Chair of the Duquesne University Institutional Review Board 412-396-6326.

-----------------------------------------------  -----------------------------------------------
Participant’s Signature                          Date

-----------------------------------------------  -----------------------------------------------
Researcher’s Signature                          Date
CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE: Factors Influencing Nurses’ Intentions to Provide Weight Management Education to Hospitalized Obese Adults

INVESTIGATOR: Milissa A. Volino RN, MS
16 Lake Street
Tioga, PA 16946
Home Phone: 570-835-5572
Work Phone: 607-735-1842
Cell Phone: 607-206-7986
volinom@duq.edu

ADVISOR: Joan Such Lockhart, PhD, RN, CORLN, AOCN®, CNE, FAAN
Associate Dean, Academic Affairs
Professor
542C Fisher Hall
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SOURCE OF SUPPORT: This study is being performed as partial fulfillment of the requirements for the doctoral degree of philosophy in nursing at Duquesne University School of Nursing.
PURPOSE:

You are being asked to participate in a research project that seeks to investigate factors influencing nurses’ intentions to provide or not provide education on obesity management to hospitalized obese adult clients experiencing obesity related health conditions. You are being asked to participate in a focus group of 4-8 nurses. The focus group interview will be audiotaped and transcribed. A primary goal of the project is to understand nurses’ intentions to provide weight management education. Another goal of this project is to have a better understanding of resources that would assist nurses in providing sensitive weight management education based on current evidence.

These are the only requests that will be made of you.

RISKS AND BENEFITS:

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participation is voluntary and that I am free to withdraw my consent at any time, for any reason. On these terms, I certify that I am willing to participate in this research project.

I understand that should I have any further questions about my participation in this study, I may call Milissa Volino, Principal Investigator of the study 607-206-7986, Dr. Joan Such Lockhart, the Advisor 412-396-6540, and Dr. Joseph Kush, Chair of the Duquesne University Institutional Review Board 412-396-6326.

__________________________________
Participant’s Signature

__________________________________
Date
Volunteers Needed!!

Looking for registered nurses working on medical-surgical units to participate in a Focus Group Research Study:

Focus Group: Intentions of Medical Surgical Nurses to Provide Weight Management Education

You may be eligible to contribute to a small group discussion on weight management education for obese adult clients experiencing health problems that may be improved with moderate weight loss.

Must be: A licensed registered nurse working on a medical-surgical unit.

All participants will receive $20.00 compensation for their time.

For more details please contact:

Milissa Volino RN, MS, 607-206-7986 or email volinom@duq.edu
Appendix J
Responsibilities of the Moderator and Assistant Moderator

The responsibilities for the moderator and assistant moderator were created based on guidelines developed by Krueger and Casey (2009).

The Moderator will:
• Welcome the participants to the focus group session
• Create a comfortable setting
• Sit in designated location opposite the assistant moderator
• Set the ground rules to ensure that the discussion goes smoothly
  o Place cell phones on vibrate, feel free to step out if necessary
  o No right or wrong answers
  o Let participants know you are recording the conversation and that all information recorded will be kept confidential
  o Feel free to converse with each other
• Provide an overview of the topic for the group
  o Defer questions at this time
• Read the focus group questions
  o Use probes and pauses
    ▪ 5 second pauses to allow time for participants to think and speak
    ▪ Ask probing questions to encourage discussion i.e. Tell us more
  o Remind participants that different ideas or thoughts are okay
  o Avoid head nodding, short comments indicating approval or speaking about personal opinions
  o Manage the different types of participants “experts, dominant talkers, shy participants, and ramblers” (Krueger and Casey, 2009, p. 100)
  o Manage time to ensure all questions are addressed
  o Be sure all participants are given the opportunity to share
• Indicate the end of the session, allow the assistant moderator to summarize the key points, shut the recorder off and ask the ending question: Did we miss anything?
• Participate in debriefing with the assistant moderator

The Assistant Moderator will:
• Arrange refreshments and have in the room
• Welcome participants to the focus group session as they arrive
• List participant and phone numbers
• Ensure consent forms and confidentiality forms are signed and collected
• Hand out name tents to be displayed during the focus group interview
• Set up and manage the audio recorder equipment
  o Be sure periodically glance at recorder to be sure it is working
  o Ensure there are spare batteries for the recorder
• Sit in a designated location opposite the moderator.
• Take notes
  o Pay attention to quotes or enlightened statements placing subject name in quotations. Place your idea in thought bubbles
  o Note any nonverbal behaviors
• Avoid joining in on the discussion, but answers questions when asked
• Give a two minute verbal summary of the responses to the group
• Hand out and have participants sign for the honorarium
• Participate in the debriefing
Appendix K

Weight Management Education Survey

Please think about your role as a professional nurse at your workplace in providing weight management education to *obese adults experiencing weight related health problems* as you answer the following questions.

This survey makes use of a 7 point rating scale with two opposite ends. Please select the number that best describes your opinion for each question. For example, if you were asked to rate the “quality of food at Applebee's” using this scale, the 7 possible responses from which you can choose would be interpreted in the following manner:

Bad: _____1____:____2___:____3___:____4___:____5___:____6___:____7___: Good
Extremely    Quite     Slightly    Neither      Slightly    Quite     Extremely

If you thought the food was quite good, you would select “6”.

- Please answer all items included in this survey.
- Choose only one response per question.

1. When it comes to weight management education, how much do physicians influence your decision to provide weight management education to your obese adult clients?
   Not at all: ___1___:___2___:___3___:___4___:___5___:___6___:___7___: Very Much

2. When it comes to weight management education, how much do obese adult clients’ family members influence your decision to provide weight management education to their family member?
   Not at all: ___1___:___2___:___3___:___4___:___5___:___6___:___7___: Very Much

3. The possibility that my obese adult clients will respond negatively to an obese nurse who provides them with weight management education worries me.
   Not at all: ___1___:___2___:___3___:___4___:___5___:___6___:___7___: Very Much

4. The possibility that my obese clients are not interested in losing weight worries me.
   Not at all: ___1___:___2___:___3___:___4___:___5___:___6___:___7___: Very Much
5. When it comes to weight management education, how much do hospital administrators influence your decision to provide weight management education to your obese adult clients?
Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Very Much

6. When it comes to providing weight management education, how much do you want to be like other nurses at your hospital?
Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Very Much

7. When it comes to weight management education, to what extent do nurses with whom you work influence your decision to provide weight management education to obese adult clients?
Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Very Much

8. When it comes to providing weight management education, how much do you want to be like the dieticians at your hospital?
Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Very Much

9. When it comes to weight management education, how much does your obese adult client influence your decision to provide weight management education?
Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Very Much

10. When it comes to providing weight management education, how much do you want to be like the physicians at your hospital?
Not at all: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Very Much

11. My providing weight management education to my hospitalized obese adults will lead to improved health.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

12. My providing weight management education could reduce costs to the hospital.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

13. The possibility of reducing costs to the hospital by my providing weight management education to obese clients is important to me.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

14. Obese adult clients might be offended if I approach them about weight management.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

15. The possibility of offending my obese adult clients when approaching them about weight management worries me.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree
16. My obese adult clients would not be receptive to weight management information from obese nurses.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

17. My obese adult clients would not be receptive to weight management information from thin nurses.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

18. The possibility that my obese adult clients will respond negatively to a thin nurse who provides them with weight management education worries me.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

19. Weight management education may reduce the number of people admitted to the hospital.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

20. Helping my obese adult clients learn about their weight management and improve their health while in the hospital is important to me.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

21. Obese adult clients who lose weight experience a decreased need for medications for other co-morbidities.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

22. Helping my obese adult clients reduce their need for medications in order to reduce their risk for other comorbidities is important to me:
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

23. Reducing my obese adult clients’ future hospital admissions because of their weight-related health problems is important to me:
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

24. I think my obese adult clients need support from family/friends outside the hospital for successful weight management.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

25. The possibility that my obese adult clients lack support from their family/friends outside the hospital after discharge worries me.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree
26. I think that many diseases my obese adult clients have are attributed to excess body weight.
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree

27. The possibility that my obese adult clients’ excess body weight may put them at risk for diseases worries me.
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree

28. I believe weight management could help my obese adult client outcomes from elective surgeries like joint replacement.
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree

29. I expect that limited staffing on my nursing unit will keep me too busy to provide weight management education.
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree

30. Having better staffing would make it easier for me to provide weight management education to my obese adult clients.
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree

31. My limited experience with providing weight management education will prevent me from addressing the topic with my obese adult clients.
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree

32. Improving my obese adult clients’ health outcomes after undergoing elective surgery is important to me:
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree

33. I think my obese adult clients have to want to lose weight for weight management education to be successful.
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree

34. Physicians would approve of me providing weight management education to my obese adult clients experiencing weight related health problems.
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree

35. I think my obese adult clients need access to resources (money, classes, transportation, gyms) outside of the hospital to continue to manage their weight after discharge.
   Disagree: ___1___:__2___:__3___:__4___:__5___:__6___:__7___: Agree
36. The possibility that my obese adult clients lack needed resources outside of the hospital (money, classes, transportation, gym access, etc.) to continue weight management after discharge worries me. Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

37. Hospital administrators would approve of me providing weight management education to my obese adult client experiencing weight related health problems. Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

38. Most of the nurses with whom I work would approve of me providing weight management education to my obese adult clients experiencing weight related health problems. Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

39. Dieticians are most likely to provide weight management education to obese adult clients experiencing weight related health problems. Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

40. Physicians are most likely to provide weight management education to obese adult clients experiencing weight related health problems. Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

41. My obese adult clients experiencing weight related health problems would approve of me providing weight management education to them. Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

42. Families of my obese adult clients would approve of me providing weight management education their obese family member experiencing weight related health problems. Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

43. Nurses are most likely to provide weight management education to obese adult clients experiencing weight related health problems. Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

44. I need ongoing continuing education on how to provide sensitive evidence-based weight management education for my obese adult clients experiencing weight related health problems. Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree
45. Having more current education about weight management would enable me to provide sensitive, evidence-based weight management education for my obese adult clients.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

46. My nursing unit lacks easily accessible client teaching materials about weight management.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

47. Having easy access to more client teaching materials at work would make it easier for me to provide weight management education to my obese adult clients.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

48. If I had more experience in providing weight management patient education, I could provide better weight management education to my obese adult clients.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

49. I do not have enough time at work to provide weight management education.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

50. If I had more time during my shift, I could provide better weight management education to my obese adult clients.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

51. Weight management is a sensitive topic for me and my clients that requires privacy.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

52. Having a private location at the hospital for client education purposes would make it easier for me to provide weight management education to my obese adult clients.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

53. I think it is necessary to have a weight management plan for home ordered upon admission instead of at discharge.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

54. Having a home-based weight management plan that is ordered for my adult obese clients upon hospital admission, would enable me to provide weight management education for them.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

55. I intend to provide weight management education to my obese adult clients who express interest in learning how to manage their weight.
Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree
56. I intend to provide weight management education to my obese adult clients admitted for medical/surgical treatment to help them lose weight.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

57. My approaching clients about weight management might reduce my unit’s client satisfaction scores.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

58. The issue of reducing client satisfaction scores if I provide weight management education to my adult obese clients worries me.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

59. I am not comfortable with my own body weight or self-image.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

60. Being more satisfied with my own body weight and self-image would make it easier for me to provide weight management education to my obese adult clients.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

61. Because the obese adult clients for whom I provide care are acutely ill, the timing is bad for me to provide them with weight management education.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

62. Because my clients are hospitalized for an acute illness, providing them with weight management education at this time worries me.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

63. In general, I do not believe I possess the knowledge and skill to provide weight management education.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

64. Knowing more about weight management education would encourage me to provide weight management education to my obese adult clients.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

65. The nutrition content in my RN pre-licensure program adequately prepared me to provide weight management education.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree

66. If I learned more nutritional content in my pre-licensure RN program, it would be easier for me to provide weight management education to my obese adult clients.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__:  Agree
67. I am more comfortable teaching about topics that I routinely encounter on the unit and are associated with managing a health problem or a medication, rather than about weight management.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

68. Being uncomfortable when I am teaching my obese adult clients about weight management worries me.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

69. I intend to provide weight management education to my obese adult clients experiencing weight related health problems in the hospital setting.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

70. I would provide weight management education when my obese adult clients are incapacitated by their excess body weight.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree

71. I would provide weight management education if it was routine education for all of my clients based on their body mass index, regardless of the client’s admitting diagnosis.
   Disagree: __1__:__2__:__3__:__4__:__5__:__6__:__7__: Agree
Dear [Name],

I am a doctoral student at Duquesne University School of Nursing and for partial fulfillment of my degree I am conducting a research project to examine factors influencing medical-surgical nurses’ intentions to provide weight management education to obese adult clients hospitalized for health problems that may improve if the individual were to lose weight. Your expert contributions on this topic are critical to understanding nurses’ intentions and results from this research have the potential to provide insight for future educational programming aimed at supporting medical-surgical nurses in providing weight management education. Please consider participating in the pilot study of the Weight Management Education Survey (WMES) and Nurse Demographic Form (NDF). You may choose to complete the survey in a private conference room during your shift (if time allows), before your shift starts, or after your shift is over. In addition you will be asked to comment on the clarity of the questions and provide your opinion on the importance of weight management education. Answering these questions should take approximately 20 minutes of your time. Results and feedback from this pilot study will be used to modify the study instruments if necessary before distribution to the larger study population. Your results will not be used in the final study. You also have the opportunity to provide contact information in a separate email, without a link to your survey responses, to be entered into a drawing for an IPad after the completion of the larger study.

If you are interested, please contact me to establish a meeting time that is convenient for you to participate in this study.

Sincerely,
Milissa Volino RN, MS, PhD Candidate
volinom@duq.edu
607-206-7986
Appendix M

LETTER OF INVITATION (CONSENT)

DUQUESNE UNIVERSITY
600 FORBES AVENUE ∙ PITTSBURGH, PA 15282

(Date)

Dear [Name],

I am a doctoral student at Duquesne University School of Nursing and for partial fulfillment of my degree I am conducting a research project to examine factors influencing medical-surgical nurses’ intentions to provide weight management education to obese adult clients hospitalized for health problems that may improve if the individual were to lose weight. The Academy of Medical Surgical Nurses (AMSN) has agreed to distribute my request for your participation in this research study. Your expert contributions on this topic are critical to understanding nurses’ intentions and results from this research have the potential to provide insight for future educational programming aimed at supporting medical-surgical nurses in providing weight management education. Please consider completing the 71 item Weight Management Education Survey (WMES) and 14 item Nurse Demographic Form (NDF). The NDF items collect data about your personal characteristics that will be used to examine the effect of nurses’ demographic variables on their intentions to provide weight management education. The WMES items measures factors that influence your intentions to provide or not to provide weight management education to obese patients that you care for during their admission to the hospital for an obesity-related health condition. Answering these questions should take approximately 20 minutes of your time. You may access the survey using the following link: link

By completing and submitting the survey, you are providing your consent to participate. Your participation is completely voluntary. Rest assured that all of your answers will be used only for scholarly purposes and will be kept completely confidential. Your participation is absolutely critical to the success of this project. Only through your responses can we better understand nurses’ intentions to provide weight management education. You will not be mentioned by name in any research reports. You may choose to withdraw and quit answering survey questions at any time without penalty. Data analysis will be performed on aggregate and response data. All study materials will be kept for a period of five years in a locked file cabinet in the researcher’s office and

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then destroyed. Any data entered electronically will be password protected and stored on a secure server. You also have the opportunity to provide contact information in a separate email, without a link to your survey responses, to be entered into a drawing for an IPad.

This study has been approved by Duquesne University Institutional Review Board. I understand that should I have any further questions about my participation in this study, I may call Milissa Volino, Student Investigator of the study at 607-206-7986, Dr. Joan Such Lockhart, the Advisor at 412-396-6540, and Dr. Linda Goodfellow, Chair of the Duquesne University Institutional Review Board at 412-396-6548.

Thank you again for your so very generous participation.

Sincerely,
Milissa Volino RN, MS, PhD Candidate
volinom@duq.edu
From: Anne Kreiss [anne.kreiss@ajj.com]
Sent: Thursday, June 28, 2012 2:54 PM
To: Milissa Volino
Subject: AMSN membership list request

Hello Milissa,

Regarding your membership list request, AMSN asks that you provide a sample of the letter/research proposal and instrument you would like to send to our members. You may send that information directly to me.

Our Research Coordinator will review your materials and, if she approves your request, we will provide the list complimentary as one way for AMSN to support research in medical-surgical nursing.

Will you be mailing the surveys or emailing them? We do not release our email list; however, we will consider emailing a brief request to our members on your behalf or including the information in our Med-Surg Nursing Connection Enews.

Please let me know if you have any questions.

Warm wishes,

Anne Kreiss
Association Services Coordinator
Academy of Medical-Surgical Nurses (AMSN)
866-877-2676, option 7
www.amsn.org

Association is managed by Anthony J. Jannetti, Inc. (www.ajj.com) which is accredited by the Association Management Company Institute.
Date
Dear [Name],

I am a doctoral student at Duquesne University School of Nursing and for partial fulfillment of my degree I am conducting a research project to examine factors influencing medical-surgical nurses’ intentions to provide weight management education to obese adult clients hospitalized for health problems that may improve if the individual were to lose weight. The Academy of Medical Surgical Nurses (AMSN) has agreed to distribute my request for your participation in this research study. This is a reminder letter that your expert contributions on this topic are critical to understanding nurses’ intentions and results from this research have the potential to provide insight for future educational programming aimed at supporting medical-surgical nurses in providing weight management education. Please consider completing the 71 item Weight Management Education Survey (WMES) and 14 item Nurse Demographic Form (NDF). The NDF items collect data about your personal characteristics that will be used to examine the effect of nurses’ demographic variables on their intentions to provide weight management education. The WMES measures factors that influence your intentions to provide or not to provide weight management education to obese patients that you care for during their admission to the hospital for an obesity-related health condition. Answering these questions should take approximately 20 minutes of your time. You may access the survey using the following link: link

By completing and submitting the survey, you are providing your consent to participate. Your participation is completely voluntary. Rest assured that all of your answers will be used only for scholarly purposes and will be kept completely confidential. Your participation is absolutely critical to the success of this project. Only through your responses can we better understand nurses’ intentions to provide weight management education. You will not be mentioned by name in any research reports. You may choose to withdraw and quit answering survey questions at any time without penalty. Data analysis will be performed on aggregate and response data. All study materials will be kept for a period of five years in a locked file cabinet in the researcher’s office and then destroyed. Any data entered electronically will be password protected and stored on a secure...
server. You also have the opportunity to provide contact information in a separate email, without a link to your survey responses, to be entered into a drawing for an IPad.

This study has been approved by Duquesne University Institutional Review Board. I understand that should I have any further questions about my participation in this study, I may call Milissa Volino, Student Investigator of the study at 607-206-7986, Dr. Joan Such Lockhart, the Advisor at 412-396-6540, and Dr. Linda Goodfellow, Chair of the Duquesne University Institutional Review Board at 412-396-6548.

If you have already participated in the study, thank you again for your so very generous participation.

Sincerely,
Milissa Volino RN, MS, PhD Candidate
volinom@duq.edu
Appendix P

Eligibility Screening Questions for the Electronic Survey

1. Do you speak English?

2. Are you a licensed registered nurse?

3. Have you worked as a registered nurse for the last two or more years on a medical-surgical unit caring for adult clients (defined as over the age of 18) admitted to the hospital for obesity related health problems (diabetes, stroke, hypertension, cardiovascular disease, some cancers, and arthritis)?
CONSENT TO PARTICIPATE IN A RESEARCH STUDY (PILOT STUDY)

DUQUESNE UNIVERSITY
600 FORBES AVENUE • PITTSBURGH, PA 15282

TITLE: Factors Influencing Nurses' Intentions to Provide Weight Management Education to Hospitalized Obese Adults

INVESTIGATOR: Milissa A. Volino RN, MS, PhD Candidate, Duquesne University School of Nursing
16 Lake Street
Tioga, PA 16946
Home Phone: 570-835-5572
Work Phone: 607-735-1842
Cell Phone: 607-206-7986
volinom@duq.edu

ADVISOR: (if applicable) Joan Such Lockhart, PhD, RN, CORLN, AOCN®, CNE, ANEF, FAAN
Associate Dean, Academic Affairs
Professor, Duquesne University School of Nursing
542C Fisher Hall
Pittsburgh, PA 15282
Phone: 412-396-6540
Fax: 412-396-1821
lockhart@duq.edu

SOURCE OF SUPPORT: This pilot study is being performed as partial fulfillment of the requirements for the doctoral degree of philosophy in nursing at Duquesne University School of Nursing.
PURPOSE:

You are being asked to participate in a pilot study of two instruments for a research project that seeks to investigate factors influencing nurses’ intentions to provide or not provide education on obesity management to hospitalized obese adult clients experiencing obesity-related health conditions. The first instrument, the Nurse Demographic Form (NDF), contains 14 multiple choice items to collect data about your personal characteristics that will be used to examine the effect of nurses’ sociodemographic variables on their intentions to provide weight management education. The second instrument, the Weight Management Education Survey (WMES) contains 71 items with accompanying numerical scales that measure factors that influence your intentions to provide or not to provide weight management education to obese patients that you care for during their admission to the hospital for an obesity-related health condition. You are being asked to complete the NDF and the WMES once as a pilot test in the presence of the researcher and provide verbal feedback regarding the questions and content in the survey after its completion. The whole process will take approximately 20 minutes. After you agree to participate in the study, a time that is convenient for you and the researcher will be established. You may choose to complete the survey in a private conference room during your shift (if time allows), before your shift starts, or after your shift is over. The researcher will be present, you will do this electronically on a computer by accessing a dedicated website, and the researcher will take notes on your feedback for revision of the study instrument. In addition as part of the pilot test we invite you to comment on the clarity of the questions and your perspective on the importance of this topic. A primary goal of the project is to understand nurses’ intentions to provide weight management education. Another goal of this project is to have a better understanding of resources that would assist nurses in providing sensitive weight management education based on current evidence. Results and feedback from this pilot study will be used to modify the study instruments if necessary before distribution to the larger study population. Your results will not be used in the final study.
These are the only requests that will be made of you.

**RISKS AND BENEFITS:**
There are no risks greater than those encountered in everyday life. By participating in this study, you will have the knowledge that the information you provide may help other health professionals gain a better understanding of factors that influence nurses’ intentions to provide weight management education to hospitalized obese adults. There is not a consequence for participating in this study and providing honest answers. There is also no consequence should you change your mind and withdraw consent from this study.

**COMPENSATION:**
All participants will receive an invitation to enter a raffle of an IPad that will occur at the completion of the study. However, participation in the project will require no monetary cost to you.

**CONFIDENTIALITY:**
Your name will never appear on any survey or research instruments. No reference to personal identification will be made in the data analysis. All written materials and consent forms will be stored in a locked file in the researcher’s home for a period of 5 years. Your response(s) will only appear in statistical data summaries and aggregate data. Your responses will not be included with data collected in the larger study. All electronic data analysis will be on a secure server and password protected. All written consents and recordings will be stored separate in a locked file cabinet in the researcher’s office. All study materials will be stored for five years following the completion of the study and then destroyed accordingly.

**RIGHT TO WITHDRAW:**
You are under no obligation to participate in this study. You are free to withdraw your consent to participate at any time without any consequence to you or your employment status.

**SUMMARY OF RESULTS:**
A summary of the results of this research will be supplied to you, at no cost, upon request.

**VOLUNTARY CONSENT:**
I have read the above statements and understand what is being requested of me. I also understand that my
participation is voluntary and that I am free to withdraw my consent at any time, for any reason. On these terms, I certify that I am willing to participate in this research project.

I understand that should I have any further questions about my participation in this study, I may call Milissa Volino, Student Investigator of the study at 607-206-7986, Dr. Joan Such Lockhart, the Advisor at 412-396-6540, and Dr. Linda Goodfellow, Chair of the Duquesne University Institutional Review Board at 412-396-6548.

Participant’s Signature

Date

Researcher’s Signature

Date