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# Quality Improvement Through Evidence-Based Education: Advancing Obesity Awareness and Clinical Management Strategies for People Living with Mental Disorders

Ellis Ehizele Opusunju  
*Walden University*

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# Walden University

College of Health Sciences

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Ellis Opusunju

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Walden University

2017

Abstract

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by

Ellis Opusunju

MSN, Ohio State University, 2013

BSN, Ohio State University, 2007

Project Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Nursing Practice

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February 2017

## Abstract

People living with mental disorders (PLWMDs) are at an increased risk for developing obesity due to poor diet, physical inactivity, and antipsychotic medications. In the United States, the general-population obesity rate is 36% compared to more than 50% for PLWMDs. Mental health professionals (MHPs), focused on addressing psychiatric conditions, seldom recognize and clinically manage obesity. Furthermore, this population is socioeconomically disadvantaged with poor dietary habits while consuming psychiatric medications that stimulate hunger, further exacerbating the risk for obesity. The Promoting Action on Research Implementation in Healthcare Services (PARISHS) framework guided this quality improvement project to improve obesity awareness and management for PLWMD at a large state psychiatric hospital. An evidence-based education intervention was implemented to positively impact obesity awareness and clinical management of MHPs. The evaluation used a validated instrument with a pre- and posttest design. Paired *t* test was used to analyze multiple constructs from the MHP participants ( $N = 50$ ). Overall, the pretest indicated 76% of MHPs were not involved in helping obese PLWMDs manage their weight; however, the posttest data (at 90-days) revealed that 90% were involved in this activity. This represents a positive shift in obesity perceptions and management knowledge. Future research needs to evaluate the impact of the perceptions on process measures and clinical outcomes. This project led to positive social change as MHPs are more likely to address obesity in PLWMD due to their increased awareness and knowledge. This project has broader implications as the program can be duplicated in other psychiatric hospitals.

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## Dedication

I would like to dedicate this capstone to God Almighty and my wonderful husband, Dagogo Opusunju, who provided unlimited support, encouragement, and understanding, without which I would not have been able to accomplish this dream. I want to say thank you for being there for me through thick and thin.

I would also like to dedicate this capstone to my dearest children, Tamunoiprinye and Ibitamuno Opusunju, for giving me so much joy and happiness in my life.

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## Section 1: Nature of the Project

### **Introduction**

Obesity is defined as the condition of being overweight caused by an excessive accumulation of body fat that contributes to a negative effect on health (Centers for Disease Control and Prevention [CDC], 2010). Obesity is measured and defined by the Body Mass Index (BMI), a simple way to classify each person as underweight, normal weight (18-24.9kg/m<sup>2</sup>), overweight (25-29.9kg/m<sup>2</sup>), and obese (30kg/m<sup>2</sup> or higher) (CDC, 2010). When the weight exceeds 20% higher than normal, a person is considered obese. Importantly, an obese person will have a shortened life expectancy, on average of 14 years (CDC, 2010).

As the second leading cause of preventable death in the United States, obesity is a national public health burden (CDC, 2010). The CDC (2010) estimates that one in three adults and one in six children are obese. Obesity is linked to mental disorders (Katekaru, Minn, & Pobutsky, 2015). The obesity rate in the general population is 36.5% compared to 40% to 60% in people living with mental disorder(s), or PLWMD(s) (De Hert et al., 2011). Obesity is more prevalent in women than in men in both populations as 20% of men and 27% of women are obese in the general population, whereas obesity for men living with mental disorders is 41% and for women nearly 50% (McKibbin, Kitchen, Wykes, & Lee, 2014).

New evidence suggests an association between factors such as poor diets and a lack of exercise that increase obesity in PLWMD (Nemiary, Shim, Mattox, & Holden, 2012). This is an important health concern, as obesity contributes to the risk for

gallbladder disease, diabetes mellitus, osteoarthritis, hypertension, coronary artery disease, stroke, and cancer (De Hert et al., 2011). As these chronic conditions advance, there is increased morbidity and mortality. Importantly, excessive weight gain is a major risk factor for heart disease (De Hert et al., 2011). Heart disease is the leading cause of death for PLWMDs (De Hert et al., 2011). And, PLWMDs are more susceptible to developing obesity than the normal population. Furthermore, PLWMDs have poor diets, make unhealthy lifestyle choices, and avoid physical activity; they also do not seek medical attention on a regular basis (McKibbin et al., 2014). These are all critical factors for health care professionals to understand while interacting with this population.

Diet changes combined with exercise and behavioral therapy can significantly reduce hypertension and decrease the risk for metabolic syndrome (Radke, Parks, & Rutter, 2010). These interventions are particularly important in the context of the psychiatric hospital and the residents. Health care professionals at state psychiatric hospitals can intervene to impact obesity with strategies to prevent weight gain and to change lifestyle behaviors. As such, these strategies contribute to decreased morbidity and increased quality of life (Radke et al., 2010).

This Doctor of Nursing Practice (DNP) project provided an evidence-based obesity management education program for health care professionals at a state psychiatric hospital. In addition, this project identified barriers within the hospital that hindered effective obesity management. This evidence-based educational program for obesity helped professionals working in the psychiatric hospital improve their clinical practice specific to obesity awareness, including assessment and management.

### **Problem Statement**

The prevalence of obesity among PLWMD is on the rise. For example, Capodaglio, Faintuch, and Liuzzi (2013) reported 42% of people with schizophrenia had a BMI greater than 27, as opposed to 27% of the general population. Obesity is a leading risk factor for death in people living with serious mental disorders; and the leading contributor to cardiovascular disease (McKibbin et al., 2014). For PLWMDs, obesity is a complex problem, requiring a multifaceted team approach (Radke, Parks, & Rutter, 2010) to manage the combined mental health and obesity related issues. A number of factors contribute to the complexity of obesity within the context of mental disorders, including antipsychotic medications, metabolic issues, poor diet, and insufficient physical activity (Katekaru et al., 2015).

In state psychiatric hospitals, residents are often inactive with diets high in fats and carbohydrates. Furthermore, of the patients admitted to TSK Psychiatric Hospital, or TSK Hospital (a pseudonym created specifically for this project to preserve the anonymity of the study participants), one in five suffer from concurrent chronic conditions such as diabetes, hypertension, hypercholesterolemia, and heart disease. Within this population, there are additional health issues, including metabolic, nutritional, cardiovascular, and respiratory diseases (De Hert et al., 2011). At TSK Hospital, most residents remain in their rooms throughout the day except to eat their three daily meals. The residents seldom engage in physical activity, a direct contributor to weight gain and to worsening existing comorbidities. Furthermore, most residents take multiple antipsychotic medications, which contribute to an increased appetite and weight gain.

Currently, the obesity rate among PLWMD admitted to the TSK Hospital is 50% (personal communication, January 26, 2016). These people suffer from chronic health conditions, including long histories of diabetes, hypertension, hyperlipidemia, and heart disease. Residents with these conditions are medically managed at TSK Hospital. At the TSK hospital, data indicated resident weight typically increases during hospitalization. For example, a medical record review found 50% of people admitted to TSK Hospital had a BMI greater than 30, and their weight further increased during hospitalization. In fact, many residents were found to have a 25% weight gain during their hospitalization. Overall, the average weight gain was about 5 lbs. per month, or as much as 15 lbs. over a 3-month period (personal communication, January 26, 2016).

According to McKibbin, Kitchen, Wykes, and Lee (2014), a range of mental disorders such as bipolar disorder, depression, schizophrenia, and anxiety increase the risk for obesity. These mental disorders have also increase the risk of obesity-related diseases, including diabetes and coronary heart disease. A practice-gap exists with psychiatry, as health care professionals are not promptly identifying people at risk for obesity, and then implementing evidence-based treatment strategies (Katekaru et al., 2015). Such timely interventions can prevent further progression and limit the complications associated with obesity for this population.

The increased number of PLWMD with concurrent obesity led to the development of obesity-reduction programs and strategies. PLWMD, especially those hospitalized, are at risk for obesity due to three principles factors. The first factor is the concurrent mental health disorder with chronic conditions, including diabetes and

cardiovascular disease (Green, Janoff, Yarborough, & Yarborough, 2014). The second contributing factor is the population tends to have poorer dietary habits than the general population, including foods high in fat and low in fiber (McKibbin et al., 2014). And, the third factor is PLWMD lack the ability to synthesize health-related information, have little dietary education, are unfamiliar with healthful eating habits, or are not motivated to make the changes for better health (Galletly & Murray, 2009). These three factors directly contribute to this population becoming obese despite their frequent interactions with the health system. Health care professionals need to link obesity to the medical consequences specific to clinical challenges to the treatment of PLWMD.

The final factor is the medications prescribed to manage mental disorders. These medications often adverse effects such as weight gain (Chacon, Mora, Gervas-Rios, & Gilaberte, 2011). Another factor is psychological in nature, for people with mental illness have low expectations of weight loss and, therefore, make no attempt to lose weight. Additionally, their social environment may reduce support from friends and family members (Gatineau, 2011).

Evidence-based obesity prevention and reduction interventions need to be implemented for PLWMD. Through interventions such as obesity prevention educational programs, psychiatrists can improve the quality of life and life expectancy for PLWMD. For example, Usher, Park, Foster, and Buettner (2012) reported significant weight reduction can be achieved with basic lifestyle interventions such as education, reduced calorie intake, and increased exercise (p. 1540). The National Association of State Mental Health Program Directors reported psychiatrists are not doing enough to prevent and

reduce obesity in PLWMD, these basic but effective interventions should be implemented by psychiatrists (Parks & Radke, 2008).

Mental health hospitals are neither in the business of providing obesity prevention strategies nor to offer intervention strategies for PLWMD. However, health care professionals are cognizant that the psychiatric medications contribute to weight gain; placing medicated PLWMD at increased risk for obesity (Radke et al., 2010). PLWMD need to be encouraged and motivated to manage their weight. However, there is a gap in the literature as few studies report obesity intervention results in mental health settings. Radke, Parks, and Rutter (2010) suggested that, in order to close this gap, mental health professionals caring for PLWMD need to understand the importance of weight monitoring and management. Therefore, the aim of this project was to provide an evidence-based education program to mental health professionals working at a state psychiatric hospital to address deficits in awareness and knowledge about obesity management for PLWMD.

### **Purpose Statement**

The purpose of this DNP project was to explore the perceptions and practices about obesity management and PLWMD among mental health professionals working in a state psychiatric hospital. The two practice questions were as follows:

1. What are the current perceptions and practices of mental health professional working in a state psychiatric hospital about managing resident obesity?

2. How will an evidence-based educational program focused on obesity identification and management strategies for residents of a state psychiatric hospital change the perceptions and practices of mental health professionals?

### **Nature of the Doctoral Project**

This project included the administration of a pre- and posteducation survey to mental health professionals working at a state psychiatric hospital to assess changes in perceptions and practices regarding obesity management of the PLWMD. First, the project implementation required a review of the best practices and published evidence regarding obesity management strategies to inform the educational program. Then, an obesity management education program was provided to mental health professionals at the state psychiatric hospital. Researchers report professional education can improve the confidence, knowledge, and ability of health care professional to effectively manage patients and to improve the overall quality of care (Herring et al., 2013). Next, thirty days following the education program, and the mental health professionals managed the care of residents, a postsurvey was administered to reassess their perceptions and practices related to obesity management. Finally, the project findings were disseminated to the state psychiatric hospital mental health professionals and other stakeholders to continue to improve the practices with a broader perspective.

An educational program that addresses the problem of obesity management in this population that enhances their quality of their care is consistent with *DNP Essential III* (American Association of Colleges of Nursing, 2006). The *DNP Essential III* states the

importance of disseminating evidence-based practice results to advance knowledge and to improve health outcomes. This project addressed this DNP Essential.

### **Significance**

Obesity among PLWMD is twice as prevalent than the general population (McKibbin et al., 2014). Obesity prevention strategies are urgently needed for PLWMD (Megna, Schwartz, Siddiqui, & Rojas, 2011). In the local context of the TSK Hospital, this project benefits residents by improving the ability of the health care professional to identify those at risk for obesity. Then, the evidence-based intervention strategies, such as dietary and exercise programs, can be implemented to reverse the weight gain.

Currently, few studies exist regarding obesity management at a state psychiatric hospital. To address this gap identified in the literature, mental health professionals need to be queried with respect to their perceptions and practices of obesity management for PLWMD (Radke et al., 2010). Also, educational interventions need to be developed to address erroneous and outdated perceptions about evidence-based obesity management strategies. State psychiatric hospital professionals need to learn how to manage patients with obesity, or at risk for obesity, and understand the correlation between mental illness and the high rates of obesity in this patient population. This DNP project aimed to raise awareness, direct strategies, and implement plans for the successful obesity management of residents in a state psychiatric hospital.

### **Summary**

Obesity is a leading cause of premature death in the United States and represents a national public health burden. Recent evidence links increased risk factors for obesity

with the beginning of mental disorders such as anxiety and depression (Nemiary et al., 2012). Health care professionals need to be aware that PLWMD tend to be susceptible to developing obesity. With the health problems associated with obesity, health care professionals need to assess their patients for obesity risk factors and be prepared to respond to identified risks. They need use evidence-based strategies to intervene, working with their patient to manage their weight. This project identified the perceptions and practices of the mental health professionals regarding obesity management. Then an educational program was developed for state psychiatric hospital mental health professionals to teach obesity reduction and prevention strategies. This included learning how to assess the risk factors and identify the barriers to management. Finally, the project assessed the perceptions and practices related to obesity management prior to the education and a month later.

## Section 2: Background and Context

### **Introduction**

The purpose of this project was to aid mental health professionals to provide better obesity management to residents at a state psychiatric hospital. The literature search revealed few studies regarding obesity management by mental health professionals practicing at state psychiatric hospitals. To bridge the gap in the professional literature, mental health professionals needed to be queried with respect to their perceptions and practices regarding obesity management for PLWMD (Radke & Rutter, 2010). This project answered two practice-focused questions:

1. What are the current perceptions and practices of mental health professional working in a state psychiatric hospital about managing resident obesity?
2. How will an evidence-based educational program focused on obesity identification and management strategies for residents of a state psychiatric hospital change the perceptions and practices of mental health professionals?

### **Definitions of Terms**

The following terms were used in this project:

*5 AS*: An intervention strategy for obesity counseling: Ask, assess, advise, agree, and assist (Sherson, Jimenez, & Katalanos, 2014; Vallis et al., 2013).

*Antipsychotic medications (AMs)*: A form of medication used to allow communication between neurons by affecting neurotransmitters, especially dopamine,

which is linked to schizophrenia symptoms. AMs are effective in psychotic mental disorders including schizophrenia and bipolar disorders (Green et al., 2014).

*Bipolar disorder:* Diagnostic and Statistical Manual of mental disorder (DSM-V), a psychiatric diagnosis with three associated conditions: Bipolar I, Bipolar II, and cyclothymic disorder. Its common symptoms consist of mood swings that cause mania and depressive episodes (American Psychiatric Association, 2013).

*Body mass index (BMI):* The standard measure used to determine body fat based on an individual's height and weight (CDC, 2010). BMI cannot be referred to as a diagnostic tool, but rather as a screening tool developed with the intent of identifying people at risk for developing health problems because of their weight (CDC, 2010). BMI is calculated by dividing the weight (kg) by height (m<sup>2</sup>). If patients have a BMI

- under 18.5 – they are underweight;
- 18.5 - 24.9 – they have normal weight;
- 25.0 - 29.9 – they are overweight; and
- over 30 – they are considered obese (CDC, 2013)

*Depression:* A mood disorder that causes continued feelings of sadness and hopelessness (American Psychiatric Association, 2013).

*Doctor of nursing practice essentials (DNP essentials):* A DNP essential summarizes the core knowledge and competencies of the baccalaureate-prepared nurse. It emphasizes the importance of using science-based concepts to evaluate and enhance health care delivery and improve patient outcomes (AACN, 2006).

*Health care professionals:* This term refers to physicians, dentists, nurse professionals, psychologists, clinical social workers, and pharmacists. They are authorized to practice by state, within their scope of practice, as defined by state law.

*Mental disorders:* “A mental disorders is a syndrome characterized by clinically significant disturbance in an individual’s cognitive, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning. Mental disorder is associated with significant distress or disability in social, occupational, or other important activities” (American Psychiatric Association 2013, p. 20).

*Metabolic syndrome:* Factors such as abdominal obesity, insulin resistance, hyperlipidemia, and hypertension are diagnostic of metabolic syndrome (Cyrus, Melvyn, Zhang, & Roger, 2014).

*Obesity:* The condition of being overweight, caused by excessive accumulation of body fat, where an individual has accrued so much body fat that it could have a negative effect on his or her health. If an individual’s body weight is approximately 20% higher than normal, that person is considered obese (CDC, 2013).

*Schizophrenia:* A serious mental illness described by illogical or incoherent thoughts process and psychotic features such as hallucination, delusions, along with a disorganization of speech and behavior (American Psychiatric Association, 2013).

*Serious mental illness:* A disorder that result in serious functional impairment and interferes with or limits major life activities (Substance Abuse and mental health services, Administration, 2013).

*State psychiatric hospital professionals:* This term includes physicians, psychiatrists, and nurse professionals who are authorized to practice by state, within their scope of practice, as defined by the state law in psychiatric environments.

*TSK State Psychiatric Hospital, or TSK Hospital:* A pseudonym to refer to the project site and created specifically for this study for the purpose of confidentiality.

### **Framework and Concept**

The Promoting Action on Research Implementation in Health Care Services (PARIHS) framework was selected to guide the development, implementation, and evaluation of this DNP project (see Figure 1). The PARIHS is an explanatory framework developed in 1998 by nurse researchers in an attempt to represent the constantly changing processes involved in implementing evidence-based practices in complex environments (Kitson et al., 2008). Many researchers and professionals have used this framework to frame their knowledge for project development as well as in translating their goals for improving patient outcomes (Rycroft-Malone, 2004). The PARIHS framework uses a function of three factors: Evidence, context, and the facilitation factor (Squires et al., 2012). For the framework to be successful, there needs to be a clear understanding about the evidence to be applied to the identified problem. There also needs to be a focus on the context for change and the facilitation necessary to implement change (Rycroft-Malone, 2004).

This framework was important as the guide for the program development, the implementation of interventions, and the evidence-based changes necessary to stimulate practice changes (Stetler, Damschroder, Helfrich, & Hagedorn, 2011). In the framework,

the context is defined as the setting where health care services are provided and the proposed change is to be implemented. Facilitation is the implementation process, or the evidence being put into practice. The facilitator has a major role in influencing the context for the change in the selected setting. The facilitator works with the health care professionals to understand the evidence being implemented. Overall, facilitation outcomes are collectively achieved by the people involved in the process, with the goal of assisting others. Successful facilitation results in holistic process that aid teams with respect to their ability to change behaviors and shift attitudes (Kitson et al., 2008).

*Figure 1*

The PARIHS framework to implement evidence-based practice

EVIDENCE	CONTEXT		FACILITATION
<ul style="list-style-type: none"> <li>-- Research-credible evidence and guidelines</li> <li>-- Clinical experience</li> <li>-- Patient preference</li> <li>-- Information/data from local context</li> </ul>	-- Receptive context:	Overall practice environment/ education environment Staff time, education, training, strategies Skills and knowledge to fit facility goal	<ul style="list-style-type: none"> <li>-- Person</li> <li>-- Purpose-communication, clarity of outcomes, practical support</li> <li>-- Roles-providing guidance</li> <li>-- Skills and attributes-support for learning</li> </ul>
	-- Culture	Embrace change Open communication Collaborative partnership Value patients as individuals	
	-- Leadership	Effective teamwork Foster skill teamwork Clear roles and accountability planning	
	-- Evaluation	Patient and team performance Reflective practice	

Figure 1. The PARIHS Framework from Rycroft-Malone et al., 2002

*Note.* The PARIHS framework. Adapted from “The PARIHS Framework,” by Rycroft-Malone et al. (2002), p, 302.

The PARIHS framework has also been used by many nursing leaders to explain the design of strategies to establish evidence-based policies, procedures, and practices. Similar to changing The framework was successfully used to change practices for leg-ulcer wound management (Perry et al., 2011). Also, the PARIHS framework was used to support a variety of practice changes in acute health care settings (Perry et al., 2011; Squires et al., 2012). The relationship between the perceptions of health care providers, the clinical practices regarding obesity, and the evidence-based approach to weight management was organized with the PARISH framework.

### **Relevance to Nursing Practice**

An extensive review of the literature revealed that little evidence existed at the time of this writing to indicate a focus on the education of mental health professionals regarding obesity prevention for people with mental illness. In this literature review, I highlight the gaps that prompted me to undertake the current project. The aim of this literature review was to present an overview of the education and perception of state psychiatric hospital professionals regarding obesity prevention for people with mental illness.

In this section, I discuss literature as it relates to current trends and approaches to managing the issue of obesity in people with mental illness. The review provides information to help in understanding the issues involved in exploring the perceptions and providing education and training to professionals who manager PLWMD. An understanding of the educational needs of state psychiatric hospital mental health professionals in managing obesity will provide a better understanding of the severity of

this problem. The focus of the literature can provide a knowledge base for state psychiatric hospital professionals in the management of these patients.

In the literature review, research was assessed specific to obesity management for PLWMD who are residents at psychiatric hospitals. This review facilitated the analysis and synthesis of evidence specific to this topic. The search produced 60 papers published in the last 5 years; each paper highlighting the problem associated with managing obesity in psychiatric hospitals and ambulatory settings. Of the papers, 25 focused on obesity prevention for people with mental illness. The next 25 articles dealt with obesity management and weight reduction. The, 10 papers explored psychiatric medications that contribute to the development of obesity.

Multiple databases were accessed for the literature search, including: CINAHL, Medline, PubMed, Nursing Journals@Ovid, and ProQuest. The key terms used for the search included, *obesity*, *psychiatric medications*, and *obesity interventions*. The research-appraisal tool developed by nurses and faculty at the John Hopkins Hospital, or the John Hopkins Nursing Evidence-Based Practice (JHNEBP), was used for this review. This tool was applied to each paper to appraise the level of evidence and to assess the quality of the research (Newhouse et al., 2005).

In approaching the literature review, the following characteristics were identified as important focal areas: Individuals with severe mental illness and disorders, obesity and people with severe mental illness and disorders, health care professionals, physician knowledge and attitudes related to obesity and obesity management and treatment, psychiatric perceptions about obesity management, educational needs of health care

providers regarding obesity management, obesity prevention and management interventions for patients with mental disorders, and weight reduction programs offered in the United States. The literature review was completed with research that describes current obesity prevention and management strategies used by mental health and other health care professionals. A summary of the literature review related to this project is provided in a literature review matrix, see Appendix A.

### **Individuals Living with Mental Disorders**

Galletly and Murray (2009) reported approximately one in 17 people is diagnosed with a serious mental disorder. Bipolar disorder and schizophrenia are two of the many mental disorders that affect an estimated 8 million Americans annually (CDC, 2010). During their lifetime, people with mental disorders not only have a higher rate of physical health problems such as obesity, but they also face discrimination, unemployment, and poverty which are challenges of their mental disorder (CDC, 2010). The combination of mental disorder with psychiatric medications consumed on a daily basis increases the risks for people to develop obesity. In addition, poor nutrition, sedentary lifestyle, substance abuse, overeating, and poor coordination of care further contributes to an increased risk for the excessive weight gain that leads to obesity (Hardy, White, & Gray, 2015). For people with mental illness tend to be less active physically than patients who do not suffer from mental health issues (Chacon et al., 2011). Individuals with serious mental illness experience higher premature mortality and morbidity rates compared with the population overall, partly due to their inactivity (Sartorius, Holt, & Maj, 2015).

## **Obesity and People Living with Mental Disorders**

Brown et al. (2011) stated that obesity is more common in people with mental illness as opposed to the general population. Several studies dealt with the problem of obesity in PLWMD such as bipolar disorder and schizophrenia. Capodaglio, Faintuch, and Liuzzi (2013) showed that 42% of individuals who were diagnosed with schizophrenia had a BMI greater than 27, as opposed to 27% of the general population.

Yatham and Maj (2011) conducted research on bipolar disorder and found that the rate of being overweight, obesity, and diabetes mellitus was significantly higher in patients who had severe mental illness as opposed to those in the general population. Yildiz, Ruiz, and Nemeroff (2015) reviewed 50 studies of patients with mental illness; the outcomes indicated that the occurrence of obesity and being overweight were higher among people with mental illness as compared to patients without mental illness. Various areas of risk for obesity and increased weight among PLWMD were also exposed. Treatment with medications linked to weight gain, a limited level of exercise, and excessive consumption of carbohydrates were major causes of obesity in these patients. A recent study of schizophrenia patients, conducted by Yildiz et al. (2015) in the United States, revealed an obesity rate of 59.0% in the people with mental illness versus 20.1% in the general population, and an overweight rate 78.0% versus 58.2% in the general population.

A blend of mental illness and certain medications employed to treat it can trigger obesity (Bradshaw & Mairs, 2014). In addition, poor coordination of care between multiple health care professionals may contribute to increased risks of obesity and weight

gain among persons with serious mental illness (Hardy et al., 2011). Antipsychotic medication can be a contributing factor to the obesity prevalence in patients with severe mental disorders (Bradshaw & Mairs, 2014). The effect of these medications has been observed in both classes of antipsychotic medications: Atypical and typical antipsychotics. Nevertheless, these medications are not the only cause for weight gain in PLWMD.

Several factors were found to contribute to obesity among the PLWMD, including physical inactivity and poor dietary habits (De Wit et al., 2010). Metabolic abnormalities among patients with schizophrenia have become an issue of major concern. Similarly, Udo, Mooney, and Newman (2011) studied the long-stay psychiatric unit to establish the predominance of obesity and metabolic syndrome. They found that there is a high prevalence of metabolic syndrome (66%) and a BMI obesity (33%) in long-term psychiatric patients, which has the propensity to seriously impact mortality and physical morbidity. In the study, the patients' BMI was calculated, and blood investigations and waist circumference measures were done. Thus, the researchers proposed that individuals with severe or persistent mental illness should access primary care and other health services on a regular basis to help monitor their weight. According to Chacon et al. (2011), the prevalence of metabolic syndrome is higher in individuals with mental illness. In the schizophrenic population, the prevalence rate is between 40% and 60%, compared to 27.5% in the overall population. Chacon et al. (2011) stated this increase is partially due to antipsychotic medications, with the additional risk of cardiovascular disease.

Unhealthy lifestyle habits and high-risk behaviors are predominant among PLWMD. Other factors that contribute to obesity in people with mental illness include social deprivation, inadequate access to regular health services, lack of regular physical activity, and possible adverse side effects arising from antipsychotic medications (De Wit et al., 2010). When these factors are combined, they contribute to elevated cardiovascular risks among patients with mental illness. Medication choices may be a risk factor for people with mental illness. Green, Janoff, Yarborough, and Yarborough (2014) conducted a 12-week weight reduction intervention program for overweight persons on antipsychotic medications. These researchers established that potential adverse effects could contribute considerably to an increase in obesity and physical disorders among the sample. Green et al. (2014) argued intensive weight management programs needed to be implemented with for people with mental illness to help prevent the development of obesity. In such cases, the researchers emphasized, intervention programs are necessary to enhance or improve the quality of life, exert symptom control, and reduce relapse as well as rehospitalization. In a systematic review, Chacon et al. (2011) focusing on identifying factors related to physical health to understand how lifestyle interventions and weight management strategies can positively alter the impact of obesity, particularly noting the beneficial factors related to exercise and diet.

### **Knowledge and Perception Obesity Management**

Obesity has emerged as an epidemic in primary care, and a majority of family physicians queried were not confident about managing obese people (Epling, Morley, & Ploutz-Snyder, 2011). For example, Epling et al. (2011) surveyed family physicians

(N=204), with only a 37% response rate, to understand the barriers associated with obesity management in a primary care practice-based research network. Specifically, the survey questions were designed to determine the attitudes toward managing obesity and perceptions in regards to problems in obesity management. The majority of participants reported the presence of barriers to obesity management. Furthermore, there were differences in beliefs about the causes of obesity, between rural and nonrural areas. The researchers concluded more comprehensive approaches to managing obesity need to be developed for physician educational programs (Epling et al., 2011).

Obesity is common in the United States, and particularly prevalent in PLWMD, such as schizophrenia, depression, and borderline personality. There are limited studies to understand the problem with providers and patients collaborating for weight reduction. For example, Lichwala-Zyla (2009) sought to identify physician (N=500) perceptions and practices related to treating and advising obese patients. Barriers to treatment were prevalent, including poor patient compliance, the lack of clear practice tools and obesity guidelines, and the fear of offending patients. In addition, psychiatrists felt they had limited medical training in obesity management, which hindered them in working with obese patients to lose weight (Lichwala-Zyla, 2009). The conclusion was patients could not depend on psychiatrists for assistance with obesity. Thus, weight management training must be integrated into psychiatric residency training, in addition to continuing education programs. This is one focus for this project.

Sugawara et al. (2014) assessed the attitudes of psychiatrists about the adverse events related to metabolic abnormalities among patients with schizophrenia. This was a

survey study to psychiatrists (N=7,482) working at hospitals within the Japan Psychiatric Hospitals Association. Survey evaluated practice patterns with potential physical risks, recognition of the metabolic risk of antipsychotic therapy, and knowledge of metabolic disturbance. The data indicated 30.5% of participants were concerned about the link between antipsychotic medications and the risk of elevated blood glucose. Additionally, 47.6% of participants acknowledged the monitoring frequency for obesity was based on their personal judgment (Lichwala-Zyla, 2009). However, obese PLWMDs should be regularly monitored when taking antipsychotic medications as part of their treatment plan. Additional research is needed specific to the best pharmacotherapy practices with regular weight monitoring for managing patients requiring antipsychotic medications.

In spite of the high occurrence of obesity with the link to detrimental health conditions, physicians regularly fail to counsel patients for effective nutrition and weight management (Jay et al., 2009). The personal beliefs and attitudes about the effectiveness of obesity treatments may influence the way physicians manage their obese patients. For example, physicians within the specialties of internal medicine, pediatrics, and psychiatry (N=399) had perceptions and attitudes about obesity and the clinical management that were linked to proficiency, specialty, and years of experience (Jay et al., 2009).

Although obesity has a considerable impact on patient care, physicians and other health care professionals have limited education to effectively manage obesity (Stanford, Johnson, Claridy, Earle, & Kaplan, 2015). Stanford et al. (2015) conducted a survey study of primary care physicians based on demographics, personal health habits, obesity knowledge, and treatment strategies. The authors reported physicians, while in medical

school, were not required to take training regarding obesity, despite the accepted knowledge that training increases a physician's level of knowledge on obesity treatment (Stanford et al., 2015). Inadequate education about nutrition makes it hard for physicians to manage obesity when they lack the necessary knowledge and skills regarding nutrition (Sebiany, 2013). In another study, 140 physicians from different primary health care centers were surveyed to measure their knowledge and barriers regarding obesity treatment. Sebiany (2013) found that two thirds considered themselves as key players in obesity management. However, only one third believed that they were well-prepared to treat obesity. In addition, 83% had a negative attitude toward treating patients with obesity. Absence of training, time constraints, and poor administrative support emerged as the major hurdles in overweight and obesity management (Sebiany, 2013).

### **Health Care Professional's Perception and Obesity Management**

Psychiatrists have limited knowledge on obesity intervention strategies because they are trained on taking care of individuals with mental disorders (De Hert, 2011). For instance, Bleich, Bandara, Bennett, Cooper, and Gudzone (2012) conducted a study in an effort to describe physicians' viewpoints on the primary causes of obesity and possible solutions. They wanted to determine if the perspectives of the physicians had changed since they completed medical school. The national cross-sectional online survey was conducted in 2011 in the United States with 500 primary care physicians. The primary measures pertained to solutions to increase obesity care, sources of obesity, proficiency in obese patients' treatment, and what perspectives the physicians held with regard to assisting obese patients in losing or maintaining weight. Primary care physicians in the

study supported additional training for health professionals and practice-based changes in order to increase their obesity care. The authors identified nutritionists as the most competent providers of care for obese patients. In addition, physicians with less than 20 years of experience were more likely to state that they had limited information related to healthy eating habits and how best to manage patients with weight issues. This study also established that physicians felt more satisfied when they helped obese patients lose weight. Bleich et al., 2015 reported a perceived need for improved medical education related to obesity care across all medical specialties.

In spite of the emphasis on collaborative weight management by multidisciplinary teams, obesity and weight management continue to be a problem in health care settings. For example, Bleich, Bandara, Bennett, Cooper, and Gudzone (2015) analyzed data from a cross-sectional online survey among 500 U.S. health professionals, a sample drawn from various health care providers. Although most participants (97%) were aware of the causes of obesity, they were not aware of the necessary intervention programs needed to curb this problem. Subsequently, persons with mental illness who also suffered from obesity were at a higher risk of early death in comparison to the general population. For example, PLWMD die, on average, between 13.5 and 32.5 years earlier in comparison to the general population (Piatt, Munetz, & Ritter, 2010). Thus, the medical community needs to recognize the importance of improving physical health for PLWMD. In addition, various recommendations and best practice guidelines already exist to provide standards for physical health management of PLWMD, but they are not sufficiently used by professionals.

### **State Psychiatric Hospital Professionals and Obesity Management**

State psychiatric hospital professionals are the sole health care providers that individuals with mental disorders see on a regular basis. These health care professionals will provide PLWMD with obesity weight reduction and management strategies, from which they can benefit and which will result in the best outcome (Yang & Xiong, 2015). Psychiatrists have limited knowledge about obesity management strategies because their training is focused on managing mental health but not the physical health. Daumit et al. (2013) noted PLWMD receive little attention from their attending psychiatrists regarding weight gain and the associated problems. However, different behavior-related weight-loss strategies and their implementation among patients with mental disorders are of great importance to nursing. These strategies benefit PLWMD as their weight can be controlled and risk factors for chronic conditions reduced. The main focus for psychiatrists in working with PLWMD is managing the mental disorder (Daumit et al., 2013) to keep them engaged in activities of daily living. This selective focus becomes a problem when it comes to the assessment of the patients' overall health, especially that of weight management and obesity.

The prescription of antipsychotic medications for PLWMD contributes to the obesity prevalence when compared to the overall population (Bradshaw & Mairs, 2014). One issue that psychiatrists face is the selection of antipsychotic medications, as these can lead to weight gain. Both atypical and typical antipsychotics, are known to cause significant weight gain (Bradshaw & Mairs, 2014). This weight gain results from the antipsychotic medications stimulating appetite in many patients. In addition, many

psychiatric patients take multiple antipsychotic medications, with an additive effect on weight gain (Bradshaw & Mairs, 2014).

However, antipsychotic medication is not the only underlying factor causing PLWMD to gain weight. PLWMD usually have other underlying disease states, and they often do not eat proper diets that are nutritionally balanced. Also many for people with mental illness become distressed by this weight gain, and this may be a major factor in not adhering to their prescribed treatment regimen. Therefore, a psychiatrist using antipsychotic medications should pay attention and counsel their patients about weight management. The perceptions and attitudes of psychiatrists toward the assessment and management of obesity and its treatment are not known because currently no published studies are available on the topic (Lichwala-Zyla, 2009). In addition, psychiatrists' attitudes with regard to metabolic problems remain largely unexplored. Therefore, educational programs for psychiatrists caring for people with mental illness will be an effective way of improving their practice behavior and patient outcomes (Sugawara et al., 2014).

### **Obesity Prevention and Management**

Brown, Goetz, Hamera, and Gajewski (2014) noted that people with mental illnesses require evidence-based intervention programs for weight loss because they experience such high rates of obesity. The study of 136 persons with severe mental illness documented that intervention resulted in weight loss. Therefore, implementation of intervention programs should be the first step toward improved welfare and health of persons with mental illnesses. Lifestyle intervention programs need to be developed that

foster good exercise and nutritional habits, which are effective when used in the treatment of obesity and weight gain (Bonfioli, Berti, Goss, Muraro & Burti, 2012). Naslund et al.'s (2016) study found that, of the patients diagnosed with mental illness, 46.9% were taking antipsychotic medications on a regular basis and, while gaining weight, not practicing an intervention program. After 12 months of intervention, the overall sample showed a substantial weight loss: Of the study participants, 33% of subjects with mental illness and obesity achieved a weight loss of  $\geq 5\%$ . Other study participants with severe obesity, but no mental illness, attained  $\geq 10\%$  weight loss (20.0%), which is more than overweight and obesity groups ( $p = 0.001$ , 2.90%) not participating in an intervention program. Naslund et al. concluded that individuals with serious mental illnesses and severe obesity could benefit from lifestyle intervention involvement. Brown, Kim, Mitchell, and Inskip (2010) carried out a comprehensive literature review to assess the efficacy of long-term lifestyle interventions to prevent weight gain and obesity for persons with mental illness. They found a range of outcomes in the studies reviewed. Nonetheless, it emerged that a healthy diet, accompanied by behavioral therapy and exercise, could result in significant weight loss and improvement in metabolic syndrome. In addition, obesity treatment led to a reduction in diabetes mellitus in the lifestyle intervention group, in comparison with the control group (Brown et al., 2010). Thus, lifestyle intervention practices were shown to be effective in reducing weight gain and the obesity rate in patients who suffer from mental illnesses. In addition, a preventive approach, including physical exercise, is both an efficient and a beneficial methods of weight and obesity management (Chacon et al., 2011).

Similarly, in a study by Holt, Pendlebury, Wildgust, and Bushe's (2010) the intervention programs resulted in BMI reduction among Korean patient populations studied for 12-weeks. Also, these types of programs are demonstrated to be effective in patient populations with serious mental illness in the long-term management of weight. Furthermore, Megna, Schwartz, Siddiqui, and Rojas (2011) did a comprehensive review of psychological interventions for overweight and obese patients with mental illnesses and concluded that cognitive and behavioral therapy made a significant difference in the success of obesity prevention and weight management. This result is seen especially when psychological interventions are combined with physical activity and diet. Welsh et al. (2015) stated that differences in cognitive processes, motivation, social support, and financial resources are some of the factors that should be considered when adapting weight control programs for patients with mental health issues.

### **Education of Health Professionals in Obesity Prevention**

All health professionals and clinicians, but particularly those involved in mental health care, should be trained in obesity and weight management. Professionals who treat people with mental illness or work in the mental health field need to be well-trained and know how to address weight gain issues in people with mental illness. Physician education in obesity risk management is much needed for all populations (Epling et al., 2011). Health care professionals, typically, are inadequately trained and feel, when they assess patients, that they lack the necessary time to emphasize obesity risks and explain lifestyle choices. The result is state psychiatric hospital professionals focus more on a traditional psychiatric goal, such as reducing depression or anxiety, rather than on

reducing obesity and improving the diets of PLWMD (Hardy et al., 2011). Some authors explain health care professionals, irrespective of practice setting, need more precise guidelines and better screening tools to effectively identify and manage obesity (Epling et al., 2011). In addition, barriers to counseling regarding weight loss in primary care practices result from physicians feeling inadequately prepared in this area (Smith et al., 2015). Mazur et al. (2013) reported most primary health care professionals identified the need for continuing education in the obesity management.

### **Obesity Prevention Strategies and Management**

Health care professionals are ideally positioned to contribute to the treatment and the prevention of obesity, but they lack confidence in their ability to manage weight (Zhu, Norman, & While, 2013). But, primary care physicians, as well as other health care professionals, are essential partners in implementing new obesity management programs and strategies (Sherson et al., 2014). For example, screening tools and clinical guidelines can contribute to reversing the obesity epidemic in the United States. As a result, the United States Preventive Services Task Force (USPSTF, 2003) recommended the implementation of evidence-based clinical obesity guidelines for all primary care providers. These guidelines require obesity screening for all adult patients and to provide recommendations for counseling and behavioral interventions for individuals with a BMI of 30 or higher. The main focus is to enable patients to lose weight, and manage their obesity (USPSTF, 2003). Recent guidelines authorized the screening of all adults for obesity, using the BMI as the measurement tool. The recommendation is to measure

weight at the initial visit and then each week, and patients showing weight gain need to be identified in a timely manner for intervention.

Screening all patients on antipsychotic medication is yet another important strategy to establish a baseline as well as to identify early changes in weight (De Hert et al., 2011). Generally, physicians do not perform weight and weight-related counseling with their patients due to barriers such as limited time, inadequate training, and lack of skills in lifestyle counseling (Kraschnewski et al., 2013). The diligent application of the guideline will help health care professionals reverse the obesity prevalence in order in response to the Healthy People 2020 goals. Among the Healthy People 2020 goals, physicians are called to take an active role in promoting issues of weight management among their patients (U.S. Department of Health and Human Services, 2015).

The use of BMI as a health risk assessment for obesity is well-supported in the literature. Evidence-based guidelines for health care professionals to screen and treat obesity are readily available for use (USPSTF, 2003). Based on current evidence, including the most effective programs with exercise, diet, and behavioral therapy, the USPSTF guideline provides strategies to identify, treat, and manage obesity. Obesity research indicates health care professionals across all medical specialties need precise guidelines and better screening tools to manage obesity (Epling et al., 2011).

### **Summary of the Literature Review**

A summary of the reviewed literature, in a matrix format, is provided in Appendix A. Each paper is graded with a level of evidence, as measured with the JHNEBP level-of-evidence tool (Newhouse, Dearholt, Poe, Pugh, & White, 2005). The review found few

studies regarding obesity prevention, as practiced by state psychiatric hospital mental health professionals. Generally, there is a lack of research related to the assessment, treatment strategies, and overall management of obesity for PLWMD. This project was intended to address this gap at one state psychiatric hospital.

State psychiatric hospital mental health professionals needed to be queried about their perceptions and current knowledge about obesity management, and then educated to address incorrect perceptions and areas of knowledge deficit (Radke & Rutter, 2010). This project was designed to assess the attitudes, knowledge, and skills of mental health professionals working at a state psychiatric hospital related to obesity management of residents, or PLWMD. The reviewed literature falls into the following categories: 16 summaries at Level I, 11 summaries at Level II, and four summaries at Level III.

Table 1.

*The JHNEBP Evidence-Rating Scales*

STRENGTH OF THE EVIDENCE	
Level I	Experimental study/ RCT or meta-analysis of RCT.
Level II	Quasi-experimental study.
Level III	Nonexperimental study, qualitative study, or meta-synthesis.
Level IV	Opinion of nationally recognized experts based on research evidence or expert consensus panel (systematic review, clinical practice).
Level V	Opinion of individual expert based on nonresearch evidence (case studies; literature reviews; organizational experience, e.g., quality improvement & financial data; clinical experience; or personal experience).

*Note.* JHNEBP = John Hopkins Nursing Evidence-Based Practice. RCT = randomized controlled trial.

In this project, the perceptions and practices of mental health professionals managing obese PLWMD was explored, described, and positively impacted with an evidence-based education program. PLWMD are at greater risk for developing obesity than others. These people tend to lead sedentary lifestyles; they also tend to live below the poverty line, which makes them vulnerable to the poor nutritional intake responsible for weight gain. PLWMD rarely exercise and do not have healthy eating habits (Bradshaw & Mairs, 2014). Additionally, antipsychotic medications contribute to gradual weight gain. Many PLWMD and taking antipsychotic medications gain considerable weight, resulting in poor physical health (Shrivastava & Johnson, 2010).

State psychiatric health care professionals must consider the nutrition and exercise tendencies of PLWMD when developing their treatment plans. They need to have evidence-based strategies for weight management including nutrition and physical activity interventions. Therefore, the implementation of an obesity management education program is the first step toward improved welfare and wellbeing of PLWMD.

Awareness of the problem and the availability of the evidence-based strategies to address the problem is important to reverse obesity in PLWMD. In a study of 136 individuals with PLWMD, the researchers found that the participants in a weight management program achieved significant weight loss (Brown, Stoffel, & Munoz, 2011). Daumit et al. (2013) noted that PLWMD received limited attention from psychiatrists on issues related to weight gain and intervention. Nonetheless, the implementation of interventions, including behavioral modification and weight loss strategies, for PLWMD is an important health concern. The proper management and clinician-patient engagement

results in positive outcomes for the patient, the community, and society. In order to improve the health for PLWMD, nursing professionals need to be aware of the obesity problem in PLWMD, and inform the practices of state psychiatric hospital professionals to improve the knowledge and advance the practices of obesity management through ongoing education.

### **Local Background and Context**

This project was implemented in an approximately 200-bed state psychiatric hospital responsible for managing PLWMD who cannot be cared for in other hospitals due to the severity of their condition. The majority of these residents have been hospitalized for more than 6 months, some for more than a year. The average length of stay for patients is seven months. At the time of this project, the population was men and women between the ages of 18 and 65 years old. The resident race and ethnicity profile was 55% Caucasian, 40% African-American, and 5% Hispanic. From the experience of the project leader with 2 years of experience working at this psychiatric hospital, rarely are diagnoses of obesity, or overweight, provided for the residents. Many psychiatrists engage in assessments focused on the mental aspects of the resident condition, with little attention to the issues such as obesity or overweight. Therefore, the hospital was not engaged in addressing the obesity issues of PLWMD. This situation was also noted by many of the health care professionals working at the state psychiatric hospital (personal communication, January 26, 2016). Addressing this gap in the evidence-based management of obesity in PLWMD is an important local concern with wider community,

regional, and national implications. This project was considered an essential endeavor to resident health and wellbeing.

### **Role of the DNP Student**

In this project, I explored the perceptions and practices of providers who were caring for people with mental illnesses at the TSK Hospital, a state owned institution. I administered a reliable and valid survey regarding provider perceptions and clinical practices related to PLWMD and obesity management. I developed an educational program for providers about obesity management and made recommendations for an obesity management protocol to be developed for this institution.

DNP prepared nurses, as members and leaders of interprofessional teams, with their knowledge of health sciences, nursing practice, public policy, organizational behavior, and system dynamics, are well positioned to positively impact the health and wellness of PLWMD (AACN, 2006). The AACN Essential VI (AACN, 2006), emphasizes improving patient outcomes via interprofessional collaboration across disciplines is an essential DNP responsibility. I communicated and collaborated with others in an interdisciplinary effort to improve patient outcomes and develop evidence-based obesity assessment guidelines for the state mental hospital. This project meets Essential VI, namely, interprofessional collaboration for improving patient and population health outcomes (AACN, 2006).

### **Summary**

Obesity rates among PLWMD are at epidemic levels and vary depending on the severity of disease. The risk for obesity must be considered in the treatment of PLWMD.

Mental health professionals need to be aware of the weight gain associated with PLWMD. This population needs to be assessed, monitored, and managed early when overweight and identified for intensive management when already obese. Currently, mental health professionals at state psychiatric hospitals overlook the risk factors for obesity among the residents as they focus on treating the mental health disorders.

Evidence-based education specific to obesity management needs to become a key aspect of resident treatment plans at state psychiatric hospitals. This is an essential and urgently strategy to begin addressing the previously unrecognized obesity problem. An important goal for this project was to understand the current perceptions and practices related to the care of obese residents and to educate mental health professionals about the importance of obesity management.

### Section 3: Collection and Analysis of Evidence

#### **Introduction**

Obesity is a public health problem throughout the world. A substantial volume of literature indicates being obese is a major cause for future health problems. Obesity is a leading cause of death in the United States; now contributing to the national public health burden (CDC, 2010). The CDC (2010) estimated one in every three adults and one in every six children are obese. Furthermore, obesity is linked to the diagnosis of mental disorder(s), as PLWMD are obese at a much higher rate than the general population (Katekaru et al., 2015). For example, obesity rates for the general population are 20% for men and 27% for women. In contrast for PLWMD, the obesity rates are nearly double, with 41% for men and 50% for women (McKibbin et al., 2014). Therefore, developing strategies to prevent new obesity cases and to manage existing cases is critical to reduce obesity in PLWMD.

The TSK Hospital was faced with need to manage the psychiatric condition of PLWMD concurrently with obesity, a physical condition. However, mental health professionals lacked clinical practice guidelines for the treatment and management of obesity in PLWMD. The purpose of this project was, therefore, to improve obesity awareness and clinical management practices of mental health professionals working at the TSK Hospital, an inpatient psychiatric hospital. Mental health professionals need to have increased awareness about the obesity problem in PLWMD. They also need to be able to offer counseling to residents regarding the consequences of being obese. Mental health professionals at the TSK Hospital were faced with many problems when

attempting to approach obesity treatment and management with their patients (personal communication, January 26, 2016). Also, current best practices and mental health professional perceptions regarding obesity management have not been widely explored, and published results are sparse (Lichwala-Zyla, Price, Dake, Jordan, & Price, 2009).

The purpose of this project was to explore the perceptions and understand the practices of mental health professionals at the TSK Hospital as they relate to the obesity management for PLWMD. Primary data were collected from state psychiatric hospital professionals with the use of a reliable and validated pre- and postsurvey instrument. The necessary participant size was deemed to be  $N = 50$  respondents from the mental health professionals working at the TSK Hospital. The survey was administered to the participants by the project leader during the hospital weekly lunch and learning time. This was followed by an obesity management education program. After 30 days, a postsurvey evaluation was distributed to participants to measure the change in their perceptions and clinical practice specific to obesity management.

### **Practice-Focused Questions**

At the TSK Hospital, the practice upon resident admission was to obtain an initial weight, height, and BMI. Then, the staff dietician places residents on nutritional diets based on their current BMI, or the recommended dietary requirements for proper weight control. The organizational goal for this practice was to provide residents with tailor diets to maintain the proper weight; that is, to stabilize or reduce the weight.

However, mental health professionals working at the TSK Hospital indicated the typical resident weight tended to increase while hospitalized (personal communication,

January, 2016). An estimation by the dietitians is approximately 50% of residents gained weight during their hospitalization (personal communication, January, 2016). The average weight gained was estimated at five pounds per month, or 15 pounds over a 3-month period (personal communication, January, 2016). At the beginning of this project, the mental health professionals did not incorporate obesity management (or overweight management) into their care plans. An obesity, or overweight, diagnosis was uncommon for residents of the TSK Hospital prior to this project. Psychiatrists focused their assessment and clinical management on the mental component of resident care without acknowledging the presence of obesity. Therefore, obesity identification and management at the TSK Hospital was an important gap for this intervention project.

The implementation of the obesity awareness and management program was intended to ensure obese residents were rapidly identified and appropriately managed with the best available evidence-based strategies. The practice-focused questions posed for the project were as follows:

1. What are the current perceptions and practices of mental health professional working in a state psychiatric hospital about managing resident obesity?
2. How will an evidence-based educational program focused on obesity identification and management strategies for residents of a state psychiatric hospital change the perceptions and practices of mental health professionals?

## **Project Design**

This project incorporated a pre- and postsurvey, strategy to measure the main objectives of the project—to enhance state psychiatric hospital professionals’ perceptions and practices as they relate to patient care, quality treatment, and prevention of obesity in patients with mental illnesses—and answering the two practice-focused questions. The pre survey was provided, the education was developed and presented, and then the post survey was provided (see Appendix F and Appendix C).

### **Participants**

Through e-mail invitations and soliciting volunteers for participation with a snowball process, 50 participants from the TSK Hospital volunteered to participate in this project (see Appendix D). The participants included professions from varied medical areas, including psychiatrists, nurse professionals, and physicians.

### **Procedure**

Following an explanation about the DNP project, a 19-item survey instrument related to the professional perceptions and practices of obesity management was distributed to volunteer participants in individual envelopes with no identifying data. Completed surveys were returned sealed in the same unmarked envelopes, in a conveniently placed and secured box at the hospital. If a volunteer decided not to participate, they were asked to return the unused survey in its envelope in the same box. Once all the participants, returned the self-report presurvey regarding their practices and perceptions with respect to obesity management and weight reduction, the data was analyzed by comparing the results of the pre and the post survey.

At the completion of this step was followed by the implementation of an educational program based on best practices and evidence to improve obesity management. After 30 days, the participants completed the same survey again, and the results of these pre- and postsurveys were compared with use of paired *t* tests.

### **Survey Instrument**

A 19-item survey was used to assess psychiatrists' perceived level of preparation for advising and treating patients with obesity. Seventeen questions dealt with perceptions and practices of mental health providers; two demographic questions were developed by myself as the DNP student (i.e., Items 18 and 19). The survey has a reliability coefficient of the 5 *As* (ask, assess, advise, agree, assist),  $r = 0.81$ , efficacy expectation  $r = 1.00$ , outcome expectation  $r = 0.88$ , and barriers  $r = 0.95$ . The instrument was forwarded to a panel of experts to assess content validity, the list of experts can be found in Appendix E (C. Lichwala-Zyla, personal communication, January 2007). I obtained approval via e-mail April 29, 2016, to use a modified tool (see Appendix C).

### **Measure**

The surveys contained items to determine the perception of the participants regarding obesity prevention and management interventions for people with mental illnesses. The results of the pre- and postsurveys were analyzed with Statistical Analysis System (SAS), using paired *t* tests.

### **Protection**

The project included an evaluation with a pre- and postsurvey and an education program specific to obesity identification and management. The project protocol was

approved by the Walden University Institutional Review Board (Approval # 10-11-16-0507762). For all volunteer participants, a signed consent form was obtained prior to beginning the project. Prior to the data collection process, all participants were provided with information about the project topic, including the benefits and risks for participation. Furthermore, the form and manner in which data collection would be conducted was explained as was the procedures to maintain data confidentiality. The deidentified data remain securely stored on my password-protected computer hard drive, to which only the project leader has access. All data were treated confidentiality, following the guidelines of the Institutional Review Board (IRB) of Walden University. There were no breaches in confidentiality and no reported adverse events.

### **Analysis and Synthesis**

The analysis and synthesis of the data collected as part of this DNP project was completed by the project leader. The raw data taken from the completed surveys was analyzed using the paired *t* tests. The project's goal was to enhance mental health professionals at a state psychiatric hospital perceptions and practices related to resident care, including the quality of clinical management for obese residents. Based on the results of the project, including the literature review, an evidence-based clinical guideline was developed for the hospital, for adoption consideration by the hospital director.

## Section 4: Findings and Recommendations

### **Findings, Discussion, and Implications**

Obesity is a common problem among PLWMD in the United States. Given the increasing rate of obesity among PLWMD, effective interventions are essential to promote awareness about this problem and to help educate health care professionals manage obesity. The peer-reviewed literature provided the etiology for obesity in PLWMD, including poor diet, metabolic issues, inadequate physical activity, and antipsychotic medications. However, very few studies evaluated prevention strategies for mental health professionals to identify, control, and manage obesity in PLWMD.

The purpose of this DNP project was to positively impact obesity identification and management practices for PLWMD. Specifically, the project included a pre- and posttest assessment of obesity perceptions and obesity management practices among mental health professionals working at a state psychiatric hospital. Between the assessments, an evidence-based educational program was implemented to increase awareness about the prevalence of obesity in mental health, explore perceptions about current obesity practices, and address knowledge deficits in obesity management was developed and implemented. Two practice-focused questions guide this project:

1. What are the current perceptions and practices of mental health professional working in a state psychiatric hospital about managing resident obesity?
2. How will an evidence-based educational program focused on obesity identification and management strategies for residents of a state

psychiatric hospital change the perceptions and practices of mental health professionals?

To answer these questions, the pre- and postsurvey design was implemented. A validated survey instrument was provided to the participants before and after the implementation of an educational training program. The participants ( $N = 50$ ) took the 19-item survey to assess the perceived level of preparation for advising and treating patients with obesity.

This section provides a comprehensive discussion of the project findings and the implications for positive changes in obesity management practice. In this section, the results of the pre- and posttests are described. An evaluation is presented specific to the improvements in the knowledge, perception, and/or clinical practice of mental health professionals regarding obesity identification and management for PLWMD.

### **Data Analysis**

Data analysis was conducted with the use of Statistical Analysis System (SAS), University Edition, to compare pre- and postsurvey results. Means and standard deviations were used to describe participant responses about perceptions and practices on advising and treating obese, and overweight, residents. A  $p$  value of  $< 0.01$  was considered significant. Paired  $t$  tests were used to determine the difference in the means of the responses to the survey questions before and after the education. McNemar's test was used to evaluate if the professional's responses were the same before and after the educational intervention by analyzing their pre- and postsurvey responses. The test determined if there were any differences in the professionals' perceptions and practice of obesity management after they had participated in an educational intervention.

## Findings and Implication

### Findings

The goal for this DNP project was to improve the perceptions and practices of mental health professionals specific to obesity management for PLWMD at a state psychiatric hospital. In order to accomplish this goal, two practice-focused questions that asked: (a) What are the current perceptions and practices of mental health professional working in a state psychiatric hospital about managing resident obesity? and (b) How will an evidence-based educational program focused on obesity identification and management strategies for residents of a state psychiatric hospital change the perceptions and practices of mental health professionals?

To answer these practice-focused questions, a pre- and postsurvey design was implemented using a 19-item validated survey instrument. The instrument assessed perceptions and practices of mental health professions about obesity before and after the implementation of an evidence-based educational program. The participants answered the same survey questions before the educational intervention and a second time within 30 days after the intervention. Although the results of the pretests were intended to establish baseline knowledge and awareness of obesity, they served to inform the development of the educational program and to answer the practice-focused questions.

### Item Analysis Summary

**Item 1.** The first question asked participants to describe their position towards assisting overweight/obese patient to lose weight. The pretest results for Question 1 indicated that a majority of the participants selected *Have not seriously thought about*

*assisting my patients who are overweight or obese to lose weight* (76%). After educational training, 42% of the respondents selected *Have been thinking about assisting overweight or obese patients in losing weight within the next 6 months*. This result showed a change in the professional's responses after the educational intervention. Of the  $n = 38$  participants (76%) who had responded with Choice 1 (see Table 2) in the presurvey, meaning that they had not seriously thought about assisting overweight or obese patients in losing weight, 13.15% (5/38) selected Choice 1 again in the postsurvey, but 50% (19/38) selected Choice 2, indicating that they had been assisting overweight or obese patients to lose weight for over 6 months. In addition, 18.43% (7/38) indicated that they had made formal plans to assist overweight and obese patients to lose weight within the next few months. Finally, 18.43% (7/38) of participants indicated that they had been assisting overweight or obese patients to lose weight for over 6 months (see Table 2).

The analysis indicated a statistically significant difference between the pre- and postsurvey results (McNemar's test statistic = 43.00,  $p$  value < 0.0001) regarding the mental health professionals' knowledge on assisting their obese patients to lose weight after the educational intervention. Based on the result, there was an increase in the professional's perception and knowledge after the educational intervention.

Table 2.

*Frequency Table for Question 1*

<b>Item</b>	<b>Pretest</b>	<b>Posttest</b>
<b>Choice 1:</b> <i>Have not seriously thought about assisting my patients who are overweight or obese to lose weight.</i>	76%	10%
<b>Choice 2:</b> <i>Have been thinking about assisting overweight or obese patients in losing weight within the next 6 months.</i>	26%	42%
<b>Choice 3:</b> <i>Have made formal plans to start within the next months to assist overweight or obese patients to lose weight.</i>	0%	26%
<b>Choice 4:</b> <i>Have been assisting overweight or obese patients to lose weight for 6 months or less.</i>	0%	22%
<b>Choice 5:</b> <i>Have been assisting overweight or obese patients to lose weight for over 6 months.</i>	0%	0%
<b>Choice 6:</b> <i>Used to assist overweight or obese patients to lose weight, but I no longer assist them with this problem.</i>	0%	0%

**Item 2.** Based on Question 2, *t* tests were used to determine if the majority of mental health professionals identified and documented their visibly overweight or obese patients' weight status. The mean on the pretest was 19.4 (*SD* = 11.56%), and the mean on the posttest was 63.2% (*SD* = 18.16%). The results showed a statistically significant increase (one-sided *p* value < 0.0001, paired *t* test) in the rate by which the mental health professionals identified or documented their patients' weight status. The mean response rate increased as a result of the educational intervention. Based on this result, there was an increase (43.8%) in the response rate of the professionals after the educational intervention (CI: 95%, 37.64% and 49.95%).

**Item 3.** Participants were asked, *To what percentage of your visibly overweight or obese patients do you give a clear, strong, and personalized message urging them to lose weight?* I used descriptive statistics to find out if mental health professionals, before and after the educational intervention, gave clear, strong, and personalized messages to their patients who were visibly overweight or obese, urging them to lose weight. The mean on the presurvey was 9.4% ( $SD = 9.13\%$ ), and the mean on the postsurvey was 62.6% ( $SD = 18.5\%$ ). The analysis showed a statistically significant increase (one-sided  $p$  value,  $p < 0.0001$ , paired  $t$  test) in the number of mental health professionals who gave a clear, strong, and personalized message to the majority of their patients who were visibly obese urging them to lose weight after the educational intervention. Based on the result, there was a difference in means (53.2%) between pre- and posttest after the educational intervention (CI: 95%, 48.15% and 58.25%).

**Item 4.** Participants provided responses on the percentage of visibly overweight or obese patients who were willing to make an effort toward losing weight. Descriptive statistics were used to determine the difference between the pre- and postsurvey in their management of obesity in their patients. The mean on the presurvey was 9.0% ( $SD = 8.63\%$ ), and the mean of the postsurvey was 62.6% ( $SD = 15.95\%$ ). The analysis indicated a statistically significant increase in the mean of the response rate between the pre- and the posttest (one-sided  $p$  value  $< 0.0001$ , paired  $t$  test). The result indicated a significant increase (52.6%) in the professionals' assessment of their obese patients who were willing to lose weight after the educational intervention (95% CI: 47.98% and 57.22%).

**Item 5.** This question focused on the frequency of obese patients who were willing to lose weight and use behavioral counseling services from the health care professionals. The mean of the presurvey was 9.0% ( $SD = 9.53\%$ ), and the mean of the postsurvey 57.0% ( $SD = 16.19\%$ ). The mean response rate was estimated to be 48% greater for participants after educational intervention (one-sided  $p$  value  $< 0.00001$ , paired  $t$  test). The analysis showed that a significant statistical difference existed (one-sided  $p$  value  $< 0.00001$ , paired  $t$  test) in the perceptions of mental health professionals regarding the use of behavioral counseling of their obese or overweight patients after completing the educational intervention. The increase (48%) in the mean of the postsurvey indicated a significant difference in the participants' perceptions on the use of behavioral counseling of their obese or overweight patients after completing the educational intervention (95% CI: 42.52% and 53.48%).

**Item 6.** This question identified the percentage of obese patients who received assistance from their health care professionals through problem-solving skills. The mean of the presurvey was 8.0% ( $SD = 9.48\%$ ), and the mean of the postsurvey was 56.0% ( $SD = 16.66\%$ ). The analysis indicated a statistically significant difference (one-sided  $p$  value  $< 0.0001$ , paired  $t$  test) in the mental health professionals' perceptions regarding the use of problem-solving skills to help obese or overweight patients to lose weight after the educational intervention. The increase (48%) in the mean of the postsurvey indicated a significant difference in the participants' perceptions of their use of problem-solving skills to help obese patients to lose weight after the educational intervention (95% CI: 43.34% and 55.46%).

**Item 7.** This question aimed to report percentage of obese patients who received assistance in losing weight through social support. The mean of the presurvey was 10.4% ( $SD = 11.06\%$ ), and the mean of the postsurvey was 59.8% ( $SD = 7.08\%$ ). The analysis showed a statistically significant difference in the mean of the response rate between pre- and posttest (one-sided  $p$  value  $< 0.0001$ , paired  $t$  test) in the participants' perceptions of the use of social support to assist obese or overweight patients to lose weight after the educational intervention. The result indicated a significant increase (9.4%) in the mean of the postsurvey in the participants' perceptions of the use of social support to assist obese or overweight patients lose weight after the educational intervention (95% CI: 43.34% and 55.46%).

**Item 8.** This question aimed to identify the percentage of obese patients who were assisted to lose weight through changes in psychiatric medication. The mean of the presurvey was 9.2% ( $SD = 10.07\%$ ), and the mean of the postsurvey was 58.4% ( $SD = 17.65\%$ ). The analysis showed a statistically significant increase (one-sided  $p$  value  $< 0.0001$ , paired  $t$  test) in the mental health professionals' rate of identifying the percentage of overweight or obese patients who were assisted in losing weight through changes in psychiatric medication after the educational intervention. The increase (43.46%) in the mean of the postsurvey response rate indicated a significant difference in the participants' perceptions regarding assisting obese or overweight patients through changes in their psychiatric medication as a means of losing weight after the educational intervention (95% CI: 43.46% and 54.94%).

**Item 9.** This question provided the data to evaluate the percentage of overweight and obese patients who used prescription drugs to achieve weight loss. The mean of the presurvey was 5.4% ( $SD = 7.333\%$ ), and the mean of the postsurvey was 62.8% ( $SD = 12.46\%$ ). The analysis indicated a statistically significant increase (one-sided  $p$  value  $< 0.0001$ , paired  $t$  test) in the rate of mental health professionals' assisting their overweight and obese patients with prescription drugs to achieve weight loss after completing the educational intervention. The increase of 57.4% in the mean of the postsurvey indicated a significant change in the participants' perception, after they had completed the educational intervention, regarding the provision of assistance to their obese and overweight patients through the use of prescription drugs to achieve weight loss (95% CI: 53.23% and 61.57%).

**Item 10.** This question provided the data to evaluate the percentage of overweight or obese patients who were referred to outside centers, including but not limited to Weight Watchers, Jenny Craig, physicians' weight loss centers, and hospital programs to assist them with losing weight. The mean of the presurvey was 6.8% ( $SD = 9.35\%$ ), and the mean of the postsurvey was 32.3% ( $SD = 17.36\%$ ). The analysis showed a statistically significant increase (one-sided  $p$  value  $< 0.0001$ , paired  $t$  test) in the response rate of mental health professionals who referred their overweight and obese patients to outside centers, including but not limited to Weight Watchers, Jenny Craig, physicians' weight loss centers, and hospital programs to assist them with losing weight after the educational intervention. Based on the result, the increase of 52.2% in the mean of the postsurvey indicated a significant change on the part of the mental health professionals

who referred their overweight and obese patients to outside centers, after they had completed the educational intervention (95% CI: 48.05% and 56.3%).

**Item 11.** This question was specific to identifying the percentage of overweight or obese patients who were scheduled for follow-up visits for the purpose of monitoring their weight status. The mean of the presurvey was 8.2% ( $SD = 10.44\%$ ), and the mean of the postsurvey was 60.4% ( $SD = 14.84\%$ ). The analysis showed a statistically significant increase in the mean response rate ( $p < 0.0001$ , paired  $t$  test) of mental health professionals who scheduled follow-up visits for the purpose of monitoring their obese and overweight patients' weight status. The increase of 52.2% in the mean of the postsurvey indicated a significant change in the response rate of mental health professionals who used follow-up visits to assist obese and overweight patients to lose weight, after they had completed the educational intervention (95% CI: 48.05% and 56.35%).

**Item 12a.** This question provided the data to examine the participants' confidence in their actions to assist obese or overweight patients to lose weight. Among the  $N = 50$  respondents,  $n = 28$  (56%) chose *no confidence at all* (*NCA*) on the presurvey. Of these 28 respondents, none chose *NCA* on the postsurvey, but 3.6% (1/28) chose *slightly confident* (*SC*), 21.4% (6/28) chose *moderately confident* (*MC*), 46.4% (13/28) chose *MC*, and 28.6% (8/28) chose *highly confident* (*HC*). The  $t$  test statistic (40.40) showed a statistically significant difference between the pre- and postsurvey responses regarding the participants' confidence in their ability to ask their obese or overweight patients if they were concerned about their weight ( $p < 0.0001$ ). The mean of the postsurvey

responses was shown to be 2.30% greater for the same respondents, after the educational intervention (95% CI: 1.92 to 2.68).

**Item 12b.** For this question, the  $n = 26$  respondents who had selected *NCA* on the presurvey, none chose *NCA* or *SC* on the postsurvey, but 11.45% (3/26) chose *MC*, 73.07% (19/26) chose *C*, and 15.38% (4/26) chose *HC*. The  $t$  test statistic (42.33) indicated a significant difference between the pre- and postsurvey in the participants' confidence regarding their advising obese or overweight patients about weight management ( $p < 0.0001$ ). The mean of the postsurvey responses was 2.18% greater for the same respondents, after they had completed the educational intervention (95% CI: 1.82 and 2.55).

**Item 12c.** Among the  $N = 50$  respondents,  $n = 16$  (32%) chose *SC* in the presurvey. Of these 16 respondents, 6.25% (1/16) chose *NCA* in the postsurvey, 6.25% (1/16) chose *SC*, 37.5% (6/16) chose *MC*, 31.25% (5/16) chose *C*, and 18.75% (3/16) chose *HC*. The  $t$  test statistic (36.88) indicated a significant difference between the pre- and postsurvey responses regarding the participants' confidence in assessing their obese or overweight patients' willingness to lose weight ( $p < 0.0001$ ). The mean of the responses for same respondents was shown to be 1.50% greater for the postsurvey, after they had undergone the educational training (95% CI: 1.17 and 1.83).

**Item 12d.** For the  $n = 17$  respondents who selected *SC* in the presurvey, none chose *NCA* in the postsurvey, but 17.64% (3/17) chose *SC*, 58.82% (10/17) chose *MC*, and 23.53% (4/17) chose *C*. The  $t$  test statistic (38.00) indicated a significant increase between the pre- and postsurvey in the participants' confidence in assisting their obese or

overweight patients in attempting to lose weight ( $p < 0.0001$ ). The result supports the conclusion that the respondents' confidence in assisting their patients in their attempts to lose weight was higher on the postsurvey ( $p < 0.0001$ ), following the intervention. The mean response for same respondents was shown to be 1.08% greater on the postsurvey, after they had undergone educational training (95% CI: 0.84 to 1.32).

**Item 12e.** Among the  $N = 50$  respondents,  $n = 22$  (44%) chose *SC* in the presurvey. Of these 22 respondents, 9.1% (2/22) chose *NCA* in the postsurvey, 68.18% (15/22) chose *SC*, 9.1% (2/22) chose *MC*, and 13.67% (3/22) chose *C*. The  $t$  test statistic (30.25) showed a significant increase between the pre- and postsurvey results regarding the participants' confidence in arranging follow-up visits for their obese or overweight patients ( $p = 0.0008$ ). The results showed that the mean of the postsurvey responses was 0.86% greater than the mean of the presurvey responses, after educational training (95% CI: 0.62 and 1.10).

**Item 13a.** This question evaluated how likely it was that professionals would be asking, advising, assessing, assisting, or arranging for their overweight or obese patients to lose a sizable amount of weight. Of the  $N = 50$  respondents, 17 (34%) chose *likely* on the presurvey. Of these 17 respondents, 47.06% (8/17) selected *likely* on the postsurvey as well; the rest selected *very likely*. McNemar's test statistic (37.25) showed a significant increase between the pre- and postsurvey responses regarding the participants' asking their obese and overweight patients if they were concerned enough about their weight to engage in activities that will result in weight loss ( $p = 0.0008$ ). The mean of the

postsurvey responses was significantly greater (1.10%), after the respondents had undergone educational training (95% CI: 0.85 and 1.35).

**Item 13b.** This question was meant to identify whether the participants advised obese and overweight patients about weight management and whether they examined the barriers that prevented them from doing so. Of the  $n = 15$  respondents who had selected *likely* in the presurvey, 13.33% (2/15) selected *not sure* in the postsurvey, 33.33% (5/15) selected *likely*, and 53.33% (8/15) selected *very likely*. McNemar's test statistic (31.28) showed a significant increase between the pre- and postsurvey responses regarding the likelihood of the participants' advising their obese or overweight patients' on weight management ( $p < 0.0001$ ). The results showed that the mean of the postsurvey responses was significantly greater (1.20%) for the same respondents, after they had undergone educational training (95% CI: 0.87 and 1.53).

**Item 13c.** This question was meant to identify the participants' ability to assess their patients' willingness to lose weight. Among the  $N = 50$  respondents,  $n = 14$  (28%) chose *likely* in the presurvey. Of these 14 respondents, 35.7% (5/14) selected *likely* in the postsurvey as well; 7.14% (1/14) selected *unlikely*, and the rest selected *very likely*. McNemar's test statistics (33.11) showed a significant increase between the pre- and postsurvey responses regarding the participants' advising their obese or overweight patients' on weight management ( $p < 0.0001$ ). The mean of the postsurvey responses was significantly greater (1.24%) for the same respondents, after they had received educational training (95% CI: 0.90 and 1.58).

**Item 13d.** This question identified if professionals were assisting their overweight and obese patients to lose weight with the use of weight-loss medications or by referring them to outside centers or both. Of the  $n = 10$  respondents who selected *likely* on the presurvey, six or 60% (6/10) selected *very likely* on the postsurvey. McNemar's test statistic (33.11) indicated a significant increase between the pre- and postsurvey responses regarding the participants' assisting their obese or overweight patients' weight loss efforts with the use of weight loss medications and by referring them to outside centers ( $p < 0.0001$ ). The mean of the postsurvey responses was significantly greater (1.24%) for the same respondents after the educational training intervention (95% CI: 0.90 and 1.58).

**Item 13e.** This question identified if professionals were arranging follow-up visits for their patients. Among the  $N = 50$  respondents,  $n = 10$  (20%) chose *likely* in the presurvey. Of these 10 respondents, 30% (3/10) selected *likely* on the postsurvey, 10% (1/10) selected *not sure*, and the rest selected *very likely*. McNemar's test statistic (40.57) indicated a significant increase between the pre- and postsurvey responses regarding the participants' assisting their obese and overweight patients to lose weight with the use of weight loss medications and by referring them to outside centers ( $p < 0.0001$ ). The mean of the postsurvey responses was significantly greater (1.68%) for the same respondents after the educational training intervention (95% CI: 1.38 and 1.98).

**Item 15.** The question was used to establish the frequency by which the participants assisted obese and overweight patients who had comorbid conditions such as diabetes, hypertension, and coronary artery disease, compared to patients with obesity

only. The respondents frequently selected *do not assist obese patients to lose weight* (50%). After educational training, 64% of the respondents selected *more often than patients without such conditions* on the posttest. This demonstrates a change in the posteducation responses. Of the  $n = 25$  respondents who selected Choice 1 (see Table 2) on the presurvey, none selected Choice 1 or Choice 4 on the postsurvey, but 84% (21/25) selected Choice 2, and 16% (4/25) selected Choice 3. The analysis indicated a statistically significant increase (McNemar's test statistic = 32.4444,  $p < 0.0001$ ) in the number of participants assisting their obese or overweight patients with comorbid conditions, compared to obese patients without comorbid conditions, after the educational training intervention. These results, based on the respondents' choices, suggested that the increase was associated with the educational intervention.

**Item 16.** The data from this question determined the participants' perceptions of whether typical weight gain from psychotropic medications was a major or a moderate health concern. The  $N = 50$  participants selected *a moderate health concern* with a frequency of 40% on the presurvey. After educational training, 62% of the respondents selected *a major health concern* on the postsurvey. The results indicates a change in the posteducation response. Of the  $n = 20$  respondents who selected Choice 2 on the presurvey, none selected Choice 4 on the postsurvey, but 55% (11/20) selected Choice 1, 35% (7/20) selected Choice 2, and 10% (2/20) selected Choice 3. The analysis showed a statistically significant difference between the pre- and postsurvey (McNemar's test statistics = 12.89,  $p = 0.00448$ ). The result showed that the participants perceived weight gain from psychotropic medications as a major health concern after educational training.

**Item 17.** The data from this question tested the participants' perceptions on whether weight gain was typically associated with the use of psychotropic medications (which could lead to a lack of medication compliance by patients). The respondents frequently (64%) selected *a moderate barrier to medication compliance*. After educational training, 52% of respondents selected *a major barrier to medication compliance*. This change in the responses demonstrated a change in posteducational perceptions regarding the impact of psychotropic medications on weight gain among the respondents. Of the  $n = 32$  respondents who selected Choice 2 on the presurvey, none selected Choice 3 on the postsurvey, but 53.125% (17/32) selected Choice 1, and 46.875% (15/32) selected Choice 2. This result indicated a statistically significant difference between the pre- and postsurvey (McNemar's test statistics = 16.55,  $p = 0.0009$ ). Based on this result, the participants perceived weight gain from psychotropic medications as a major health concern after educational training; they also perceived weight gain to be typically associated with the taking of psychotropic medications.

**Item 18.** This item aimed to identify if the health care professional received formal education in weight management for clients with mental illnesses. All participants indicated that they had no such formal education on weight management. After the educational program, all the participants ( $N = 50$ ) indicated that they had formal education on weight management for obese patients with mental illnesses.

**Item 19.** The data from this item as used to measure the participants' level of satisfaction regarding the adequacy of their education in promoting weight management among obese patients with mental health issues on a scale of 1 - 4. Based on the result,

100% of the participants ( $N = 50$ ) indicated that the education was adequate in promoting weight management among patients with mental disorders.

### **Discussion of Findings**

The association between mental disorders and obesity is complex. As the literature review revealed, obesity can be caused by certain mental health disorders, other researchers found that people with psychiatric conditions were susceptible to obesity (De Wit et al., 2010). The purpose of this DNP project was to implement an educational training program to improve health care professionals' perceptions and practices regarding weight management among psychiatric patients. The results of this project indicated that mental health professionals could play a critical role in monitoring weight gain among their patients and in the delivery of obesity or overweight management practices. In addition, the posttest scores indicated that constant education and training of mental health professionals on how to assist obese or overweight patients with weight management can be used effectively to reduce the rate of obesity among patients with mental illnesses.

The findings presented in this DNP project also indicate social support is a key component of weight management programs among psychiatric patients. Providing constant social support for people with mental disorders regarding weight loss can improve their self-esteem and reducing depressive symptoms. This finding is consistent with Johnson, Carson, Affuso, Hardy, and Baskin (2014), who reported social support promoted healthy eating habits among patients. Furthermore, the authors found obese children with mental health conditions such as depression or low self-esteem could be

encouraged to take part in physical activity and eat healthy foods to attain significant weight loss. Therefore, mental health professionals should consider the psychosocial aspects of mental health disorders when assisting patients to lose weight. Factors such as stigma, confidence, social isolation, and self-esteem can significantly affect the patients' weight status.

Based on the findings, an educational program effectively improve mental health professionals' willingness to assist obese patients to lose weight. In addition, mental health professionals are tasked with developing formal plans to assist obese and patients to lose weight. Therefore, mental health institutions need to provide education and professional development workshops for mental health professionals to improve their awareness and knowledge about obesity and improve their weight management skills. This finding is congruent with Jay, Gillepsie, Schlair, Sherman, and Kalet (2010), who argued that residency programs should provide health professionals with adequate preparation to ensure effective control of obesity. Also, Lichwala-Zyla et al. (2009) found that various barriers to weight management existed, including inadequate training of professionals, poor compliance by patients, fear of offending patients, and lack of clear obesity guidelines and practice tools. The promotion of behavioral and cognitive therapies to assist obese psychiatric patients manage their weight is an important strategy to improve their overall health and wellness.

Because patients who take antipsychotics have an increased risk of obesity, mental health professionals need to ensure that obese patients with mental health issues are prescribed antipsychotic medications which have a low propensity of casing weight

gain. This project demonstrated the importance of educating health professionals about the importance of assessing patients for obesity and discouraging the use of antipsychotics medication which contribute to their obesity. Identification and documentation of cases of obesity are also important in the control and management of obesity among people with mental illness. After the educational program, there was a significant improvement in the professionals' identification and documentation of obesity among people with mental illness.

### **Implications for Positive Change**

Quality improvement projects are effective in promoting positive patient outcomes in different health care settings (Hughes, 2008). Aselton, Joerg, and Affenito (2013) argued DNP-prepared nurses can influence health policies to result in significant changes in the health care system. Due to the inadequacy or lack of obesity education, professional development specific to obesity management need to be developed for clinical professionals.

This DNP project demonstrated the effectiveness of an evidence-based education program to increase awareness about obesity and to encourage the implementation of obesity management. This DNP project can serve as a model for other psychiatric hospitals to duplicate, thus expanding positive mental health practices across the country. According to Zaccagnini and White (2011), an effective evidence-based intervention must agree with a patient's values and cultural beliefs in order be used and incorporated into their lifestyle. Therefore, mental health professionals should tailor their interventions

to accommodate the health beliefs of their patients and families to maximize patient engagement in obesity management.

This DNP project demonstrates that mental health professionals should effectively monitor and document obesity, including any adverse consequences arising from weight control and management interventions (Chacon et al., 2011). The findings from this DNP project can empower other mental health professionals to contribute to positive changes at their own state psychiatric hospital, therefore further reducing the rate of obesity in different settings. Mental health professionals can use this project as a referential model to develop effective interventions to effect positive change among obese patients.

### **Recommendations**

Based on the findings from this DNP project, there are five key recommendations for mental health professionals in the management of their obese patients. First, all mental health professional working in state psychiatric hospitals should be required to demonstrate minimum competency in obesity management. Second, professional development and educational programs specific to the obesity management need to be provided annually by state psychiatric hospitals. This education need to include not only medical management, but also social and behavioral support strategies. Third, evidence-based guidelines and tools need to be adopted by state psychiatric hospitals to help mental health professionals identify and manage obesity. Fourth, mental health professionals need to be encouraged to consider the side-effects specific to weight gain when prescribing antipsychotic medications. Medication profiles, especially in polypharmacy need to be balanced with the obesity profile of the patient. Finally, state

psychiatric hospitals need to expand quality improvement programs to include obesity management, including health record audits and obesity data monitoring.

### **Strengths and Limitations of the Project**

This DNP project has several strengths and limitations. A major strength of the project is that the development of the educational program was based on current evidence and national guidelines on obesity management among for people with mental illness. Therefore, the educational sessions were able to equip the participants with vital skills and knowledge of obesity management for patients with mental health issues. According to Zaccagnini and White (2011), advanced nursing practice requires the use of current and complete evidence effectively to guide clinical decision making. I also conducted a comprehensive review of the literature and made it part of this DNP project. Through the literature review, I as the DNP student was able to incorporate the most current evidence into the educational program, thereby improving the quality of the educational sessions.

A major limitation of this DNP project was the use of a small sample size ( $N = 50$ ). The use of a small sample for the pre- and posttests introduced the potential for bias, thereby limiting the generalizability of the findings (Kuhberger, Fritz & Scherndl, 2014). Also, the health care professionals' knowledge might have improved based on other sources besides this educational program because of the lengthy time laps between pre- and postsurveys.

### **Recommendation for Future Projects**

Based on the findings of this project, a gap exists in both practice and research regarding improvement in the care and management of obese or overweight patients with

psychiatric conditions. Therefore, future projects should focus on various barriers that stand in the way of effective behavioral and lifestyle changes of obese psychiatric patients and how to overcome them. Future researchers should replicate this project and make more detailed studies, also with larger sample sizes, to facilitate a clearer and more comprehensive understanding of obesity in psychiatry. In addition, future projects should employ surveys and involve other health care professionals who care for mental health patients. The need also exists for an institution wide adoption of an educational program to facilitate improvement in health care professionals' knowledge and skills regarding the weight management of their patients. The educational programs should be extended to other health care staff, including dietitians, social workers, psychologists, and activity therapists at the facility.

### **Project Evaluation**

The evaluation plan of this DNP project was based on the participants' responses on the pre- and postsurveys, which were conducted before and after the implementation of the educational training program. These pre- and postsurveys were aimed at assessing the health care professionals' knowledge, perceptions, and practices regarding the management of obesity among people with mental illness. The presurveys helped to expose potential gaps in the knowledge, practices, and perceptions of health care professionals regarding obesity in psychiatric care. I conducted a statistical analysis using percentages, frequencies, and *t* tests. Based on the findings of this study, I could offer some recommendations for effective methods and strategies to improve the care of obese psychiatric patients.

### **Summary**

The purpose of this project was to implement an educational program to improve health care professionals' knowledge, perceptions, and practices regarding the weight management of obese or overweight patients with mental health conditions. The findings of this project demonstrated that health care professionals play an important role in ensuring that obese and overweight patients are adequately supported and assisted in losing weight. However, barriers to effective weight management among psychiatric patients still exist. As this project revealed, the need exists for timely identification and documentation of visible overweight or obesity among mental health patients. In addition, health care professionals should provide adequate social support, education, and encouragement to obese and overweight patients to assist them in losing weight. After the implementation of the educational training program, a significant improvement could be documented in the health care professionals' knowledge, perceptions, and practices regarding weight management of their obese patients with mental illnesses. Therefore, I as the DNP student recommended the adoption of the educational training programs in all units of the state hospital to assist obese psychiatric patients with weight management and reduce the rate of obesity at the facility.

## Section 5: Dissemination Plan

### **Introduction**

For dissemination purposes, a poster presentation will developed to share the project results to various stakeholders during lunch hours and learning times at the hospital. In addition, the project results will be shared throughout the hospital through the newsletter. Furthermore, the project will be disseminated by an abstract submission to one professional conference and three publications. An abstract will be submitted to the American Psychiatric Nurses Association, 31st Annual Conference "Whole Health Begins with Mental Health." Then, the scoping literature review will be developed into a manuscript for publication to describe the gap in the literature specific to obesity awareness and management in PLWMD. Finally, the results of the project education program will be developed into a manuscript for publication. Through these activities, the DNP Essential III (AACN, 2006), emphasizing the importance of disseminating evidence-based practice results to advance knowledge and improve health outcomes, will be addressed.

### **Analysis of Self**

#### **As a Scholar**

During the development of this DNP project, I have experienced tremendous growth as a scholar. With the aim of transitioning into nursing practice, the educational aspect of the DNP has adequately prepared me through clinical experience, knowledge, and expertise, acquired throughout this degree program. During the development of this DNP project, I have improved my ability to use critical thinking and leadership skills to

enhance patient outcomes. Zaccagnini and White (2011) argued that advanced practice nurses (APNs) should be adequately trained and educated to develop effective interventions and enact necessary changes in health care. In addition, APNs should be able to exert major impacts in various health care settings (Zaccagnini & White, 2011). Therefore, by combining my leadership skills, evidence-based decision making, and clinical training, I am in a better position to introduce important changes in health care to improve patient outcomes.

### **As Professional**

During the process of implementing this DNP project, I experienced substantial growth as a health care professional. Although being a DNP professional is challenging, it is important that all DNP professionals have adequate knowledge of the impact of obesity on all patients. The ever-changing health care system requires DNP professionals to use current information and also improve their ability to translate findings from projects into practice. Through the development, design, and implementation of this DNP project, I enhanced my knowledge, competencies, and expertise; hence, I am well-equipped to formulate interventions to facilitate change in the health care sector. As a health professional, I am also better placed to contribute to the development of policies that can improve the quality of care and patient outcomes.

### **As Project Developer**

As a DNP student, I developed an evidence-based educational program for the management and control of obesity for people with mental illness. The role of the DNP program prepares students for nursing practice where they will face real-life health

problems. I designed, developed, and implemented this DNP project with the guidance and support of my preceptors, chair, and top executives at the practice facility. As a DNP student, I completed my education with the development of this DNP project. During the design and development of this DNP project, I enhanced my communication, interpersonal, and teamwork skills. Despite challenges during the designing of the DNP project, the feedback was important for the implementation of the educational program.

### **Summary**

Health care professionals have an important role to play in the care of obese and overweight patients with mental disorders. Due to the serious consequences of obesity on a health and wellness, this comprehensive education program addressed obesity awareness and management for obese PLWMDs. This DNP project demonstrated that mental health professionals can improve their knowledge and clinical skills on critical health issues through effective and continuous education and professional development. Through the implementation of this DNP project, the project leader demonstrated the ability to perform as a clinical nurse scholar, mental health professional, and project leader. In addition to improving obesity awareness and management strategies for mental health professionals, the project emphasized the adoption of a holistic approach to caring for the mental disorder concurrently with obesity. Similar projects need to be considered to improve obesity awareness and management strategies for other psychiatry settings.

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## Appendix A: Literature Review Summary

Table 1A

*Literature Review Summary*

<b>Full Reference</b>	<b>Theoretical/Conceptual Framework</b>	<b>Research Method</b>	<b>Analysis &amp; Results</b>	<b>Conclusions</b>	<b>Grading the Evidence</b>
Brown, S., Kim, M., Mitchell, C., & Inskip, H. (2010). Twenty-five year mortality of a community cohort with schizophrenia. <i>British Journal of Psychiatry</i> , 196: 116-121.		Cohort study		Individual with schizophrenia have a mortality risk that is 2 to 3 times than the general population.	1
Brown, C., Goetz, J., Hamera, E., & Gajewski, B. (2014). Treatment response to the RENEW weight loss intervention in schizophrenia: Impact of intervention setting. <i>Schizophrenia research</i> , 159: 421-425.		RCT	The intervention group experienced a modest weight loss of 4.8lbs at 3 months, 4.1 lbs at 6 months and a slight weight gain of 1.5 lbs at 12 months. The control group gained a total of 6.2 lbs at 12 months.	The result shows that the settings in which individuals received services may act as a support or hindrance towards response to weight loss interventions.	1

*(table continues)*

Full Reference	Theoretical/Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
Bonfioli, E., Berti, L., Goss, C., Muraro, F., & Burti, L. (2012). Health promotion lifestyle interventions for weight management in psychosis: a systematic review and meta-analysis of randomised controlled trials. <i>BioMed Central Psychiatry</i> , 12:78, 1-12		Systematic review and meta-analysis of RCT	Show the effect towards the experimental group. At the end of the intervention phase there was an 0.98 kg/m reduction in the mean BMI of psychotic subjects.	Preventive and individual lifestyle interventions that include diet and physical activity prove to be effective in reducing weight. Physical screening and monitoring programs are well accepted by patients and be implemented in a variety of settings	I
Cabassa, L. J., Ezell, J., & Lewis-Fernandez, R. (2010). Lifestyle interventions for adults with serious mental illness: A systematic literature review. <i>Psychiatric Services</i> , 61:774-782.		A systematic literature review: single group report and RCTs	Reviewed twenty-three articles, most intervention used behavioral techniques to improve dietary habits and increase physical activity. Twenty studies reported significant improvements in either weight loss or metabolic.	Physical health of people with SMI should be part of the field of actions of psychiatric practitioners. Healthy life style with healthy nutrition and regular physical activities is efficacy in achieving good physical health in individuals with severe mental illness.	II

(table continues)

Full Reference	Theoretical/Conceptual Framework	Research Method	Analysis Results	Conclusions	Grading the Evidence
Chacon, F., Mora, F., Gervas-Rios, A., & Gilaberte, I. (2011). Efficacy of lifestyle interventions in physical health management of patients with severe mental illness. <i>Annals of general psychiatry</i> , 10:22, 1-10.		A systematic literature review:		Physical health of people with SMI should be part of the field of actions of psychiatric practitioners. Healthy life style with healthy nutrition and regular physical activities is efficacy in achieving good physical health in individuals with severe mental illness.	I
Daumit, G. L., Dicherson, B. F., Wang, N., Dalcin, A. D., Jerome, G. J., Anderson, C. M., Young, D. R., Frick, K. D., ...Apple, L. J. (2013). A behavioral weight-loss intervention in persons with serious mental illness. <i>The new England Journal of medicine</i> , 368:1594-602.	Social cognitive and behavioral self-management theories.	RCT	Of 291 participants who were randomly selected, 58.1% had schizophrenia, 22.0% had bipolar, and 12.0% had major depression. Data on weight 18 months were obtained from 279 participants; weight loss in the intervention group increased progressively over 18-month study period and differed significantly from the control group	Showed that overweight and obese adults with serious mental illness who participated in psychiatric rehabilitation programs, a behavioral weight-loss intervention incorporating weight management counseling and group exercise significantly reduced participant weight over a period of 18 month	I

(table continues)

Full Reference	Theoretical/Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
De Hert, M., Cohen, D., Bobes, J., Cetkovich-Bakmas, M., Leucht, S.,... Ndeti, D. M., (2011). Physical illness in patients with severe mental disorders. Barriers to care, monitoring and treatment guidelines, plus recommendations' at the system and individual level. <i>World Psychiatry</i> , 10:138-151		Review/ guidelines		The adoption of the recommendation will contribute to significant improvements in medical and psychiatric health outcome of patient with severe mental illness.	III
De Wit, L., Luppino, F., Van Straten, A., Penninx, B., Zitman, F., & Cuijpers, P. (2010). Depression and obesity: a meta-analysis of community-based studies. <i>Psychiatry Research</i> , 178(2), 230-235		Meta-analysis of cross sectional studies		Showed there is significant link between depression and obesity than general population.	I

(table continues)

Full Reference	Theoretical/Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
<p>Epling, J. W., Morley, C. P., &amp; Ploutz-Snyder, R. (2011). Family physician attitudes in managing obesity: A cross-sectional survey study. <i>BioMed central research notes</i>, 4:473, 1-8.</p> <p>Gillespie, ., &amp; Jay, M. (2010). Applying the principles of professionalism to preventing, Identifying, and treating obesity. <i>American medical association</i>, 12(4): 278-285</p>		<p>Cross-sectional survey study</p>	<p>75 family physicians' respond to survey on beliefs about obese patients and causes of obesity. The result showed systemic barriers to obesity management.</p>	<p>Survey shows that difference in beliefs related to the causes of obesity exist. More intense approach to obesity management like the chronic care model is suggested.</p>	<p>III</p>
<p>Gillespie, ., &amp; Jay, M. (2010). Applying the principles of professionalism to preventing, Identifying, and treating obesity. <i>American medical association</i>, 12(4): 278-285.</p>		<p>A systematic review.</p>		<p>It suggests that residency programs must better prepare physicians to address the obesity epidemic</p>	<p>I</p>

(table continues)

Full Reference	Theoretical/ Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
Green, A. C., Janoff, S. L., Yarborough, B. H., & Yarborough, M. T. (2014). A 12-week weight reduction intervention for overweight individuals taking antipsychotic medication. <i>Community mental health Journal</i> , 50:974-980. Doi 10.1007/s10597-014-9716-9.		Randomized control trial. Evidenced – based 12 week weight loss intervention	Mean weight in intervention participants declined from 213.3 to 206.6 pounds, while control participants' weight was unchanged.	The study showed ability to recruit, assess, intervene with, and retain participations taking antipsychotic medications in a comprehensive lifestyle intervention targeting dietary and exercise change	I
Holt, R. I. G., Pendlebury, J., Wildgust, H. J., & Bushe, C. J. (2010). Intentional weight loss in overweight and obese patients with severe mental illness: 8-year experience of a behavioral treatment program. <i>Journal of clinical psychiatry</i> , 71(6):800-805.		From 2000 to 2008, 113 patients with severe mental illness with a mean age of 43.8 referred themselves to the clinic. The response to the program was assessed by the paired student <i>t</i> test	Fifty subjects of the 142 total patient episodes (35%) dropped out within 3 months. Sixty-four subjects completed 1 year of the program. There were progressively significant reductions in mean weight and BMI throughout the time of monitoring.	Life style advice within a group setting may be effective in long term management of obese and overweight patients with severe mental illness.	I

(table continues)

Full Reference	Theoretical/ Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
Jay, M., Kalet, A., Ark, T., McMacken, M., Messito, M., Ritchter, R., Schlair, S., Sherman, S., Zabar, S., & Gillespie, C. (2009). Physicians' attitude about obesity and their associations with competency and specialty: A cross sectional study. <i>Biomed central health services research</i> , 9: 106, 1-11. Doi: 10.1186/1472-6963-9-106	A cross sectional study.399 physicians surveyed.  Survey; National Ambulatory Medical Care survey.	A cross sectional study.399 physicians surveyed	More than 40% of physicians had a negative reaction towards obese patients, 56% felt qualified to treat obesity, and 46% felt it was a success.  Weight counseling falls from 7.8% of visits in 1995-1996 to 6.2% of visits in 2007-2008. Greater reduction in odds of weight counseling receipt were observed among those with hypertension, diabetes, and obesity, individuals who stand the most chance to gain weight.	Physicians' attitudes towards obesity are associated with competency, specialty, and years since postgraduate training.  Prevalence of weight counseling in primary care have significantly reduce despite increase rates of overweight and obesity in the United States.	III
Lichwala-Zyla, C., price, J. H., Dake, A. J., Jordan, T., & Price, J. A. (2009). Psychiatrists 'perceptions and practices in treating patients' obesity. <i>Academic Psychiatry</i> , 33:370-376	Self -efficacy Trans theoretical theory (TTM) of change	Surveys	236 psychiatrists were surveyed; most did not have formal training during medical school on treating obese patients, most felt confident to ask, advice, assess, assist, and arrange regarding weight loss problems	Patients no longer have their psychiatrists' provide cursory assistance with obesity. Weight management training should be incorporated into psychiatric residency training and continuing education programs.	I

(table continues)

Full Reference	Theoretical/ Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
Megna, J. L., Schwartz, T. L., Siddiqui, U. A., & Rojas, M. H. (2011). Obesity in adults with serious and persisted mental illness: A review of postulated mechanisms and current interventions. <i>Annals of Clinical Psychiatry.</i> , 131-140.		Systematic review.	Non- pharmacologic and pharmacologic factors contribute to obesity development in adults with serious and persisted mental illness. The results obtained are far promising with non-pharmacologic interventions showing slight superiority.	Improved therapeutic methods are needed to address the effects of obesity on individuals with serious and persistent mental illness. Factors that will contribute to the promotion are a better understanding of the mechanism involved, earlier intervention.	II
Mohammed, A., Nagaiah, G., & Jitendra, A. S. (2014). Prevailing practices, attitude, & awareness regarding micronutrients among health professionals in Telangana. <i>Indian Journal of community health</i> , 26:2, 245-249.		Cross sectional study: A predesigned and pretested anonymous self-administered survey.	70% of doctor said that they had enough knowledge about prescribing and counseling to patients regarding micronutrients.	There is a need to restructure about imparting micronutrients education among doctors. Greater efforts should be aimed towards imparting micronutrients in doctors and other health professional enables them to contribute positively towards a healthy society	III
Sebiany, A. M. (2013). Primary care physicians knowledge and perceived barriers in the management of overweight and obesity. <i>Journal of family community medicine</i> , 20(3):147-152.		A cross-sectional study. A hundred and forty -nine physicians were surveyed.	87% of physicians responded. More than 2/3 saw themselves as key players in obesity management. 1/3 thought] they were well-prepared to treat obesity. 83% had negative attitudes toward the concept of overweight and obesity. 76.9% of physicians discussed diet control and exercise, with a low-calorie diet.	Better training is required to improve some areas of awareness and management of the conditions.	I

(table continues)

Full Reference	Theoretical/ Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
Standford, F. C., Johnson, E. D., Claridy, M. D., Earle, R. L., & Kaplan, L. M. (2015). The role of obesity training in medical school and residency on bariatric surgery knowledge in primary care physicians. <i>International Journal of family medicine</i> , doi:10.1155/2015/841249.		Cross-sectional web-based survey.	Younger primary (age 20-39) were more likely to have received some obesity training than those aged 40-49 or those 50+.	There is a need for educational programs to improve physicians' knowledge and competency in training patients with obesity	I
Sugawara, N., Yasui-Furukori, N., Yamazaki, M., Shimoda, K., Mori, T., Sugai, T., Suzuki, Y., & Someya, T. (2014). Psychiatrists' attitudes towards metabolic adverse events in patients with schizophrenia. <i>PLoS ONE</i> 9(1): e86826. Doi:10.1371/journal.pone.0086826		Surveys	The overall response rate was 30.5%. Of the respondents 85.2% reported concern prescribing antipsychotics that have risk of increasing blood glucose; 47.6% reports frequency of monitoring patients treated with antipsychotic based on experience, 20.6% reports that the rate of monitoring is sufficient to decrease metabolic rate	Psychiatrists practicing in Japan are aware and concern about metabolic risks for patients treated with antipsychotics.	II
Udo, I., Mooney, M., & Newman, A. (2011). Prevalence of obesity and metabolic syndrome in a long-stay psychiatric unit. <i>Irish journal of psychological medicine</i> , 20, 205-208. Doi:10.1017/150790966700011666.		All the residents in the long-stay unit were screen. Their BMI calculated. Waist and circumference and blood were investigated	Found prevalence of 33% for BMI and a prevalence of 66% for metabolic syndrome. These are higher than those of the general Irish middle aged population and the accepted estimate of a general psychiatric population.	There is a high prevalence of BMI obesity and metabolic syndrome in long stay psychiatric residents.	I

(table continues)

Full Reference	Theoretical/ Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
Usher, K., Park, T., Foater, K., & Buettner, P. (2012). A RCT undertaken to test a nurse-led weight management and exercise intervention designed for people with serious mental illness who take second generation antipsychotics. <i>Journal of Advanced Nursing</i> , 69(7), 1539-1548. doi: 10.1111/jan.12012		An experimental RCT	The control group received a 12-week healthy lifestyle booklet; in addition the intervention group received weekly nutrition and exercise education, exercise sessions, and nurse support. Participant (n=101) were assessed at baseline and 12 weeks	The result of the study shown that healthy lifestyle changes could have a positive effect on weight.	I
Warner, C. h., Warner, C. m., Morganstein, J., Appenzeller, G. N., Rachal, J., & Grieger, T. (2008). Military family physician attitude toward treating obesity. <i>Military medicine</i> , 173: 978-984.		A cross-sectional study	Of the 1,186 members invited to participate, 477(40.2%) responded. Compared with previous studies, there was increased awareness of obesity-associated health risk and physicians sense of obligation to counsel patients.	Physicians are better affect current treatment practices. Increase awareness, training, and are required to combat the continuing increase in obesity rates.	I

(table continues)

Full Reference	Theoretical Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
Welsh, J. A., Nelson, J. M., Walsh, S., Sealer, H., Palmer, W., & Vos, B. M. (2015). Brief training in patient – centered counseling for healthy weight management increases counseling self-efficacy and goal setting among pediatric primary care providers: Results of a pilot program. <i>Clinical Pediatrics</i> , 54(5), 425-429.		Pilot study; A total of 36 PCPs attended a brief training.	Self-reported effectiveness at obesity prevention and treatment increased from 16.7 to 44.4 % and from 19.4 to 55.6%. Self – efficacy in counseling and motivating patients increased from 3.9 to 16.4% to 80.6% and 27.8% to 63.9%.	Brief training in patient - centered counseling appears to increase self - efficacy and the frequency and quality of weight-related counseling provided by PCPs.	I
Zhu, D., Norman, I. J., & While, A. E. (2013). Nurses' self-efficacy and practices relating to weight management of adult patients: A path analysis	Bandura's self-efficacy theory	A self-report survey, sample 588 RNs	The survey response rate was 71.4% ( $N = 420$ ). The respondents reported a moderate level of weight management practices. Self-efficacy directly and positively predicted the weight management of the RNs and mediated the relationships between perceived skills, perceived barriers, professional role identity and teamwork beliefs, and weight-management practices.	Self-efficacy theory appears to be useful in understanding the weight management practices of RNs, interventions targeting the enhancement of self –efficacy may be effective in promoting RNs' professional performance in managing overweight and obese patients.	III
Zhongshu, Y., & Glen, L. X. (2015). Managing obesity in patients with mental illness: A literature review and implication for clinical practice. <i>Current Psychiatry Reviews</i> , 11, 290-297.		Systematic review		Both lifestyle interventions and pharmacological interventions have been demonstrated to provide benefit for moderate weight loss of 2-3 kg, and there is growing evidence supporting their benefits for similar degrees of weight-gain prevention	II

(table continues)

Full Reference	Theoretical Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
Naslund, J. A., Aschbrenner, K. A., Scherer, E. A., Pratt, S. I., Wolfe, R. S., & Bartels, S. J. (2016). Lifestyle intervention for people with severe obesity and serious mental illness. American Journal of preventive medicine, 50(2):145-153. Doi.org/10.1016/j.a mepre.2015.07.012		Data from three trials of the 12- month IN SHAPE intervention	Participants ( $N = 192$ ) were diagnosed with schizophrenia spectrum (53.1%) or mood (46.9%) disorders. After 12 months, the overall sample showed significant weight loss; differences among BMI groups were not significant (severe obesity, 2.57%, overweight, 0.83%, or 7.62%). One third of participants with severe obesity achieved greater than 5% weight loss, which was comparable across groups. More participants with severe obesity (20%) achieved greater than 10% weight loss, compared to overweight (2.9%).	People with severe obesity and serious mental illness benefited similarly from participation in lifestyle intervention as did those in lower-BMI groups.	I
Bleich, S. N., Bennett, W. L., Gudzune, K. A., & Cooper, L. A. (2012). National survey of US primary care physicians' perspectives about causes of obesity and solutions to improve care. <i>British Medical Journal</i> , 2, e001871. doi:10.1136/bmjop en-2012-001871		National cross- sectional online survey	Primary care providers supported additional training and practice- based changes such as reporting BMI to assist them in improving obesity care.	Results show a perceived need to improve medical education relating to care of obese patients.	I

(table continues)

Full Reference	Theoretical Conceptual Framework	Research Method	Analysis & Results	Conclusions	Grading the Evidence
Mazur, A., Matusik, P., Revert, R., Nyankovskyy, S., Socha, P., & Binkowska-Bury, M. (2013). Childhood obesity: Knowledge, attitudes, and practices of European pediatric care providers. <i>Pediatrics</i> , 132, e100-e108.		A cross-sectional survey	The study showed that most primary health care providers were convinced of their crucial role in obesity management but did not feel sufficiently competent to perform effectively.	The study highlighted insufficient implementation of national guidelines of obesity management, regardless of country or health care system.	II
Sherson, E. A., Jimenez, E. Y., & Katalanos, N. (2014). A review of the use of the 5 As model for weight loss counseling: Differences between physician practice and patient demand. <i>Family Practice</i> , 31(4), 389-398.		A systematic review	Majority of patients wanted to discuss weight loss with their physicians; with their assistance, arranging aspects of the 5 As being most desired.	There were some significant limitations to the available evidence, including a limited number of studies addressing patient preferences, and inconsistent assessment of all aspects of the 5 As.	II
Kraschnewski, J. L., Sciamanna, C. N., Stuckey, H. L., Chuang, C. H., Lehman, E. B., Hwang, K. O.,... & Nembhard, H. B. (2013). A silent response to the obesity epidemic: Decline in U.S. physician weight counseling. <i>Medical Care</i> , 51, 186-192.		Survey. National Ambulatory Medical Care survey.	Weight counseling falls from 7.8% of visits in 1995-1996 to 6.2% of visits in 2007-2008. Greater reduction in odds of weight counseling receipt were observed among those with hypertension, diabetes, and obesity, individuals who stand the most chance to gain weight	Prevalence of weight counseling in primary care has significantly reduced despite increasing rates of overweight United States.	III

*Note.* RCT = Randomized control trials. SMI = Severe mental illness. PCP = Primary care providers. RN = Registered nurse. 5 As = ask, assess, advise, agree, and assist.

## Appendix B: Letter of Permission to Use and Modify Survey Tool

To

Dear Dr X,

I am working on my DNP project capstone titled education of state psychiatric hospital practitioners on obesity management of individual with mental illness. I am requesting permission to use your 35-item survey which you developed based on several health behavior models and 5 As strategy for addictive behavior in my evidence-based project. I found the tool when searching the literature. I will be doing obesity training for state psychiatric hospital practitioners, assessing their knowledge and attitude in treating their obese patients. I will be happy to share my paper with you upon completion of the project. I hope to take the class in summer of 2016. Thanks so much, looking forward to hearing from you.

To

Apr 29 at 7:32 AM

Hi, Please feel free to use the instrument per your needs. It is interesting that you contacted me at this point. I am writing a brief article that includes nutrition and obesity for people with mental illness. All the best, X

To

Apr 29 at 3:19 PM Hello,

I have received your voice mail and this email. I am happy to have you use the instrument but sadly, I no longer have an electronic copy of it but I scanned the survey from the dissertation of the doctoral student who did it (which is attached). I have also copied the article in case you need that as well.

Good luck with your research.

---

To

May 2 at 9:11 AM

Good morning. I forgot to asked for your permission also to modify and use the instrument. Looking forward to hearing from you. Thanks so much for all the help.

To

May 2 at 9:28 AM No problem at all. Feel free to use the instrument in any way that suits your research purposes.

---

## Appendix C: Questionnaire

## Advising and Treating Overweight and Obese Patients

**Directions:**

Please do not put any identifying marks on this survey.

For each of the following statements, please circle or mark the response that most accurately describes *your opinion*. We are interested in group data only. Your responses will remain completely confidential.

1. Which of the following statements best describes your position toward assisting overweight/obese patients to lose weight?

       I have not seriously thought about assisting my patients who are overweight/obese to lose weight.

       I have been thinking about assisting my overweight/obese patients in losing weight within the next six months.

       I have made formal plans to start within the next months to assist my overweight/obese patients to lose weight.

       I have been assisting my overweight/obese patients to lose weight for six months or less.

       I have been assisting my overweight/obese patients to lose weight for over six months.

       I used to assist my overweight/obese patients to lose weight but I no longer assist them with this problem.

2. What percentage of your visibly overweight/obese patients do you **identify and document** their weight status?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

3. What percentage of your visibly overweight/obese patients do you give a **clear, strong, and personalized message** urging them to lose weight?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

4. What percentage of your overweight/obese patients do you assess whether they are **willing to make an effort** to lose weight?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

5. What percentage of your overweight/obese patients, who are interested in attempting to lose weight do you or your staff use **behavioral counseling** to help them lose weight?  
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

6. What percentage of you overweight/obese patients do you **assist by encouraging** them to use problem-solving skills for weight loss?  
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

7. What percentage of your overweight/obese patients do you **assist by providing and/or arranging for social support** to help them lose weight?  
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

8. What percentage of your overweight/obese patients do you assist by **changing their psychiatric medications** to help them lose weight?  
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

9. What percentage of you overweight/obese patients who are interested in losing weight do you prescribe **weight loss drugs** (e.g., Orlistat) to help them lose weight?  
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

10. What percentage of your overweight/obese patients who are interested in losing weight do you **refer to outside centers** (e.g. Weight Watchers, Jenny Craig, Physicians Weight Loss Centers, hospital programs, etc.)?  
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

11. What percentage of your overweight/obese patients who are interested in losing weight do you **schedule follow-up visits** to monitor for their weight control?  
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

12. How **confident** are you in your **ability to do** the following actions with your overweight/obese patients? (Please circle one for each statement).

**NCA** = Not confident at all; **SC** = Slightly confident; **MC** = Moderately confident; **C** = Confident; **HC** = Highly Confident

Action	NCA	SC	MC	C	HC
<b>Asking</b> your patients if they are concerned with their weight					
<b>Advising</b> your patients on weight management					
<b>Assessing</b> your patients' willingness to lose weight					
<b>Assisting</b> your patients in their attempts to lose weight					
<b>Arranging</b> follow-up visits for your patients					

13. How likely do you think it is that **doing the following** activities will result in your overweight/obese patients **losing significant** (10% or more of their overweight/obese initial body weight) **amounts of weight**?

A. <b>Asking</b> your patients if they are concerned with their weight	Very unlikely	Unlikely	Not sure	Very likely	Likely
B. <b>Advising</b> your patients on weight management	Very unlikely	Unlikely	Not sure	Very likely	Likely
C. <b>Assessing</b> your patients' willingness to lose weight	Very unlikely	Unlikely	Not sure	Very likely	Likely
D. <b>Assisting</b> (using weight loss medications, referring patients to outside centers) your patients in their attempts to lose weight	Very unlikely	Unlikely	Not sure	Very likely	Likely
E. <b>Arranging</b> follow-up visits for your patients	Very unlikely	Unlikely	Not sure	Very likely	Likely

14. If you **do not advise** the majority of your overweight/obese patients about weight management, please identify what prevents you from doing so (**check all that apply**):

- Fear of offending my patients.  
 It is the job of the patients' primary care physician.  
 It is the responsibility of health care professionals who specialize in nutrition.  
 Lack of clear guidelines and practice tools.  
 Constraints of time.  
 Difficulties in reimbursement.  
 Patients would be offended if I addressed reimbursement issues.  
 Limited medical training on this issue.  
 Poor patient compliance.  
 Cultural differences regarding weight and body size.  
 I do assist them in making contact with weight control centers.  
 Other (please identify \_\_\_\_\_).

15. Compared to obese patients **without** comorbid conditions, how often to you assist obese patients who obesity is combined **with** comorbid conditions such as diabetes, hypertension, and coronary artery disease to lose weight?

- I do not assist** obese patients to lose weight  
 **more often** than patients **without** such conditions  
 the **same frequency** as patients **without** such conditions  
 **less frequently** than patients **without** such conditions

16. The typical weight gain from **psychotropic medications** is:

- A **major** health concern.  
 A **moderate** health concern.  
 A **minor** health concern.  
 Not a health concern.  
 Not sure.

17. The typical weight gain associated with the use of **psychotropic medications** is:

- A **major** barrier to medication compliance.  
 A **moderate** barrier to medication compliance.  
 A **minor** barrier to medication compliance.  
 Not a barrier to medication compliance.  
 Not sure.

18. Have you had any formal education in weight management of clients with mental health issues?

Yes \_\_\_\_\_ No \_\_\_\_\_ Not Sure \_\_\_\_\_

If yes, where did you receive your education? (check all that apply)

continuing education course(s)

professional program (MD, RN, MSW, etc.)

professional conferences/conventions

professional journals

other (please identify): \_\_\_\_\_

If you responded yes above, please respond to question # 19.

19. On a scale of 1-4, with 4 being *very adequate*, how would you rate how adequate do you feel your education was on how to assist clients with mental health issues in weight management?

1-not adequate at all

2-not very adequate

3-somewhat adequate

4-very adequate

---

Thank you for completing the survey. Your professional courtesy is greatly appreciated!  
Adapted from Psychiatrists' Perceptions' and Practices in Treating Obesity (Source:  
Lichwala-Zyla et al., 2007).

Appendix F: Obesity Management Training Based on Evidence-Based Practice  
Slide 1

# **Obesity management program based on best practice and evidence**

Presented by Ellis Opusunju DNP student  
Walden University  
October 14, 2016

Slide 2

## **Learning Objectives**

- Upon completion of this training, the participants will be able to:
- Provide information about key health problems with obesity in the mentally ill.
- Address effort to improve obesity management in the mentally ill.
- Provide information regarding prevention and management of obesity.
- Discuss evidenced based recommendation for obesity management.
- Identify patients at risk with regards to obese/overweight in the facility.
- The role of mental healthcare practitioners in obesity management.

Slide 3

## **Introduction**

- There is an epidemic of overweight and obesity in the United States.
- Results from 2005 – 2006 National Health and Nutrition Examination Survey (NHANES).
- In adults, there is general consensus that excess weight is measured using standard categories of Body Mass Index (BMI).
- BMI calculation.
- Important to address the problem of suboptimal medical treatment for patients with SMI,

Slide 4

## **Obesity Prevalence Amongst Individuals with Severe Mental illness**

- Comparison to the general population.
- The prevalence of obesity.
- The enormity of the obesity problem.
- Growing consensus of concern about obesity-related medical illness in individuals with SMI.
- Address weight and obesity in the mentally ill.

Slide 5

## **Causes of Obesity in the mentally ill**

- Studies have showed that physical inactivity and unhealthy diets are common among the severe mentally ill.
- Numerous studies report on high prevalence of overweight and obesity.
- Life style factors, many atypical antipsychotic medications.

Slide 6

## **Clinical Pearl**

- Cases
- Pt A admission weight 160 now weighs 217
- Pt B admission weight 198 now weighs 260.
- Pt C admission weights 190 now weighs 214
- Pt D admission weights191 now weighs 228
- Pt E admission weights 200 now weighs 228

Slide 7

## **Other risk factors**

- Residential treatment facilities.
- Residential care.
- Treatment settings.

Slide 8

## **Increasing Prevalence of Obesity in the Mentally Ill is of grave concern**

- 1 in 5 individuals in the U.S. having a diagnosable behavioral health disorder.
- Prevalence study conducted on obesity and people with severe mental illnesses.
- Study of 276 persons with mental illnesses.
- Addressing the problem of suboptimal medical treatment for patients with SMI.

Slide 9

## **Rising level of Obesity will impact other aspect of their health**

- Overweight and obese individuals are at risk
- Mental health professionals need to take special care.
- Evidence about the mentally ill patients.
- The NASMHPD reports.
- Obesity epidemic.
- NASMHPD reports reviews evidence-based management approaches

Slide 10

## **Obesity linked to comorbidity**

- Effect of excess weight
- Higher prevalence of obesity in the mentally ill individual
- Prevalence of these problems is particularly high in the SMI
- Implication of no weight management
  - Type 2 diabetes, heart disease, hypertension,
  - stroke, gastro esophageal reflux (acid reflux), gout,
  - osteoarthritis,
  - breathing difficulties such as sleep apnea, and premature death

Slide 11

## **Preventing Obesity**

- Individuals with behavioral health issues are at increased risk.
- The American Medical Association (AMA) guides to healthcare providers .
- screen their clients for overweight and obesity during intake
- Behavioral healthcare providers should always screen.
- Impact of counseling.

Slide 12

## **Evidence Based Recommendations**

- Screen patients for overweight and obesity.
- Measure body mass index
- U. S. Preventive Services Task Force (USPSTF) recommendation.
- A body mass index (BMI) of 30 kg/m or higher.
- All adults 18 years or older be screen for obesity

Slide 13

## **Interventions**

- Behavioral management activities
- Adopting a daily exercise routine
- Other ways of managing obesity in patients with SMI.
- Effects of antipsychotic medication.
- Other options with Psychotropic medications.

Slide 14

## **Conclusion**

- To address the problem of suboptimal medical treatment for patients with SMI.
- What mental health practitioners can do.
- Diet changes
- Result of sustained weight loss

Slide 15

## **Questions/Response**

- Comments?
- Observations?
- Contributions?
- Thoughts?

Slide 16

## **Thank you!**

- Thank you all for taking the time!
- Thank you all for the great care for our patients!

Slide 17

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Slide 18

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