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Weight Management Toolkit for Patients on Methadone

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This is to certify that the doctoral study by

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Walden University
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Abstract

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MS, University of Maryland, 2013

BS, University of Maryland, 2007

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Methadone is a mu-opioid agonist used in the treatment of patients with an opioid use disorder in an outpatient addiction treatment clinic. A recognized knowledge gap exists among nurses managing overweight and obese patients in an outpatient methadone treatment center in the northeastern United States. The goal of this project was to develop a weight management toolkit to assist nurses in the identification, evaluation, and management of overweight and obese patients receiving methadone treatment at the center. The evidence-based weight management toolkit incorporated practice guidelines from the American Heart Association, American Association of Clinical Endocrinologists, America College of Cardiology, and the Obesity Medical Association. The project was evaluated by 8 content experts in primary care and addiction medicine. A 5-point Likert-scale survey was used to measure experts' responses. The survey evaluated the relevance of the weight management educational toolkit in relation to nurses' preparedness to assess, identify, and manage patients on methadone treatment with negative weight gain. Results indicated that toolkit content was beneficial in guiding nurses on the use of evidence-based guidelines to promote weight management treatment for patients on methadone. The toolkit supports social change by providing nurses with the tools necessary to increase their knowledge and skills to manage patients' weight gain on methadone, thus promoting improved patient outcomes.

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Dedication

I dedicate this project to my darling husband Victor Abimbola Olugboja for his unconditional love and support which has made this possible. To my two lovely children, Folajimi Elizabeth Olugboja and Victor Emmanuel Olugboja, both of you are my world, your love, support and all the vigil you kept with me throughout this journey is much appreciated. You definitely know, I love you so much. To my Mom, thanks for putting up with me and standing by me despite all odds. God bless you all.

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Table of Contents

List of Tables

Section 1: Nature of the Project

Introduction

Opioid use disorder (OUD) is a significant public health issue that has been associated with increased morbidity and mortality (Whelan & Remski, 2012). OUD affects the lives of millions of people in the United States. On average, 105 people die every day as a result of drug overdose (Centers for Disease Control and Prevention [CDC], 2016). In fact, approximately 6,748 individuals across the United States seek treatment every day in emergency rooms for misuse or abuse of drugs (CDC, 2017). Drug overdose was recorded as the leading cause of injury and death among people between the ages of 25 and 64 years (Whelan & Remski, 2012). Death from opioid overdose was estimated to have a 26% increase from 2013 to 2014 in the United States (CDC, 2016). Treatment of opioid dependency increases patients' functionality and is cost effective compared to illicit drug use. Both medication and cognitive behavior therapy have proven to produce good results in patients with opioid dependency. Two of the most commonly used (medication-assisted therapies [MATs]) for the treatment of this disorder are buprenorphine and methadone.

Methadone is commonly used when treating opioid withdrawal. Researchers have found methadone, a mu-opioid agonist, to be more effective than other treatments due to its high-performance activity at the mu–receptor (Whelan & Remski, 2012). Also, other benefits of methadone compared to buprenorphine are its lower abuse potential and lower overdose tendency when used with other respiratory depressants such as benzodiazepine and alcohol (Whelan & Remski, 2012).

Despite the effectiveness of methadone medication in the treatment of OUD, it has many side effects that impact patients' treatment outcome. One of these side effects is negative weight gain. According to Mysels and Sullivan (2010) in their systematic review, methadone is associated with significant weight gain due to the mu-opioid receptor activation in the brain that is associated with increased preference for sweets, potential insulin resistance, and hyperglycemia. Even with the side effect of weight gain, methadone has been proven to be a safe and effective treatment for opioid dependency. Methadone, an opioid similar to opium or heroin, is used to reduce craving and withdrawal symptoms associated with illicit drug use. It also allows patients addicted to the illicit drug to recover and function in the community.

One study evaluated the course of weight variations in patients addicted to opiates with more than 6 months of being subjected to a maintenance dose of naltrexone (antagonist) and methadone (agonist) (Fenn, Laurent, & Sigmon, 2015). It was concluded that a measure of change in body weight from the baseline of 3 to 6 months into the maintenance of both naltrexone (antagonist) and methadone (agonist) occurred (Ho & Rovzar, 2016). It was also observed that the mu-opiate receptor agonism is associated with significant weight gain while the mu-antagonist is related to weight loss and weight neutrality (Fenn et al., 2015).

Increased consumption of energy-dense, nutrient-poor foods, and a sedentary lifestyle have led to a sharp and unprecedented rise in the rate of overweight observe in methadone treatment. An average of 17.4 pounds of weight gain was recorded for methadone treatment. Based on reviewed articles, in the course of 6 months of

methadone maintenance, patients were seen to have gained weight of at least 10 pounds (Fenn et al., 2015). Second, the preference for sweet foods was found to play a significant role in increased fat and weight that result in overweight (Drewnowski, Mennella, Johnson, & Bellisle, 2012). The brain reward center in those who are addicted is activated such that they attain psychological and physical void base on the reward center inactivity (Radfar, Cousins, Shariatirad, Noroozi, & Rawson, 2016). As such, food is thought of as the replacement drug because it fills the void by increasing the activity of the reward center (Radfar et al., 2016). Increase in weight due to methadone ingestion can affect patients' health outcomes, length of stay in treatment, and the rate of patients' hospitalization.

Problem Statement

The risk of complication and death rises with an increase in weight that co-occurs with MAT. Even moderate excess weight between 10 and 20 pounds among individuals of average height raises the risk of death among adults of ages 30 to 64 years (Atella et al., 2015). Though studies showed weight gain on methadone treatment, most articles do not address the issue of weight gain related to the use of medications to treat addiction. For patients recovering from opiate addiction with negative weight gain, most health care workers in addiction treatment are not well versed in methadone treatment and its adverse effects on patients' weight. Mulder, Lokhorst, Rutten, and van Woerkum (2015) stated that nurses self-reported lack of communication skills and self-efficacy in the management of patients with weight loss. Rao et al. (2011) classified barrier to

identification and management of weight gain as nurses' lack of knowledge, skills, and practical tools.

The clinic setting for this project was an integrated addiction treatment center that offer services such as MATs, mental health, and primary care. The clinic population is underserved with patients comprising approximately 90% African American, 5% Latino, and the remaining 5% Caucasian. The majorities of these people are illiterate with low education levels, are unemployed, and are often engaged in crimes. More than half of the patients in the clinic are overweight. Some of the patients during presentation at intake look underweight and unkempt, and their appearance changes after a few months of methadone treatment and consistency in clinic. One of the risks for overweight patients on methadone is the preference for sweet foods and this is observed in patients at my clinic through food and candy cravings. Last, another risk factor for weight gain in this targeted population is the lack of good nutrition and a sedentary lifestyle, which is a result of a low socioeconomic background and homelessness.

Purpose Statement

Negative weight gain is an issue associated with severe health consequences that have become an economic burden to public health. Factors such as limited physical exercise, and insufficient consumption of vegetables and fruits among patients on methadone treatment, can result in overweight (Trescot, 2016). The burden of being overweight is manifested through premature disabilities and deaths, social stigmatization, loss of productivity, and increased health care costs when it advances to obesity. Currently, more than $150 billion was estimated to be direct and indirect costs for

treating overweight, and its related comorbidities (Attella et al., 2016). In this regard, weight prevention at the primary and secondary level should be encouraged at methadone induction, maintenance, and stabilization of the treatment (Hollis, Glaister, & Lapsley, 2014).

All nurses should be well versed in weight management treatment because patients on methadone experience weight gain, which can result in metabolic syndrome and other health complications. Through this project, I answered the question of whether the participants of a staff education weight management toolkit perceived an increase in skills, knowledge, and confidence on assessment and management of patients on methadone with side effect of negative weight gain. A weight management toolkit will help to inform nurses on the ways to manage patients with negative weight gain attributed to methadone treatment. Addition of weight management toolkit and staff education should assist nurses in the management of patients on methadone treatment. My purpose in this DNP project was to develop an evidence-based weight management toolkit that incorporates physical activities, nutritional counseling, healthy eating, and referral resources for the staff nurses caring for patients in an outpatient addiction clinic.

Significance and Relevance

The incidence of overweight is associated with chronic diseases such as diabetes, metabolic syndrome, cardiovascular disease, cancer, and others (Li, Blume, Huang, Hammer, & Ganz, 2015). Multiple studies reported that approximately 43.1% of patients treated with methadone were overweight with a body mass index (BMI) of between 25 and 29.9 (Mysels, Vosburg, Benga, Levin, & Sullivan, 2011; Okruhlica, & Slezakova,

2012). The prevalence of overweight in patients on methadone treatment when it progresses to obesity may lead to physical disability and sometimes premature death. Therefore, the need for health promotion and disease prevention program is significant in on addiction treatment (Vallecillo et al., 2017). Opioid overdose, according to CDC, was reported as one of the top five public health issues (CDC, 2016).

Methadone is an effective treatment strategy to meet the risk associated with OUD. In the process of drug addiction, treatment is geared toward regaining of functionality by the patients, but methadone results in an undesirable effect of weight gain among the patients undergoing treatment. As patients stay longer in treatment, the craving for sugars and fats increase drastically; these affect the body weight of the individuals. Research shows that weight gain associated with high BMI results in obesity, cancers, and diabetes, which are all chronic ailments that put the health of individuals at risk (Borrell & Samuel, 2014).

The effects of weight gain and increased BMI on patients' health coupled with the issue of addiction further place an increased burden on their health. Also, various evidence from researches showed that the health care professionals poorly address overweight due to a knowledge gap (Rao et al., 2011). Most of the reviewed articles support the use of an evidence-based lifestyle modification toolkit for weight management that incorporates prevention at both primary and secondary level. The weight management toolkit (Appendix A) adapted in this project will act as a template to prevent and manage overweight/obesity in the addiction treatment that can be implemented by the nurses.

As stated earlier, the longer a patient stays in treatment the further it complicates the issue of overweight. Thus, the toolkit is aimed at empowering nurses to gain knowledge of when and how to better manage the patients to ensure minimum or zero weight gain. The toolkit focuses on guiding the nurses on how to address the negative effects of weight gain by encouraging patients to engage in a healthy lifestyle, physical activity, and general healthy behaviors. Due to the low socioeconomic population that is being served in the clinic, a need exists for patients to be referred to the counselor for resources that will help them obtain healthy food and housing. Furthermore, developing an evidence-based toolkit for nurses' use in the weight management of patients on methadone can help mitigate the risk seen in addiction treatment and the adverse effects of weight gain associated with it.

Also, as BMI increases health care cost increases, studies show that health cost increased due to health care consumption cost and lost work productivity (Dee et al., 2014). Therefore, addressing the risk associated with the negative effect of methadone treatment will outweigh the societal and costly effects of overweight and OUD.

Implications for Social Change

The focus of this project was based on developing a weight management toolkit for nurses' use in the management of OUD patients who are experiencing negative weight gain due to methadone treatment.

From different studies, I identified that patients subjected to methadone treatment have an increased tendency to gain negative weight. Increased craving for foods high in fats and sugars, increased appetite, increased retention of water, and accumulation of

wastes in the body have been associated with methadone that leads to side effects among patients (Atella et al., 2015). The increase in body weight is reflected by an increase in the BMI that is associated with derangements in the glycemic control of non-insulin-dependent diabetes mellitus.

Lifestyle modification is an intensive evidence-based tool that incorporates good nutrition, exercise, and behavior modification to promote weight loss for overweight and projection to obesity. as well as healthy weight maintenance for patients on methadone (Blonstein et al., 2013). Integration of evidence-based practice (EBP) technique is based on research and best clinical practice, which guide the nurses in making best clinical judgments, in the treatment of patients for better treatment outcome (Majid et al., 2011). EBP encourages nurses to adopt new health care approaches to treatment than the traditional way of decision making in practice. Majid et al. (2013) concluded that having the right set of skill/information is pertinent in providing quality of care to patient in any population. A toolkit that mimics the American Heart Association (AHA), and the America College of Endocrinology (ACE) and American Association of Clinical Endocrinologist (AACE) clinical guidelines, when used by the nurses, will be beneficial and instrumental in guiding the patients in the management of weight gain. The expected results, on the implementation of the weight management toolkit, are improved patient treatment outcomes and reduced health care expenditures.

An increased need exists for nurses to have information about better assessment skills as well as increased self-efficacy to inform patients of the need to engage in physical activities and to consume high levels of vegetables and fruits while in

methadone treatment. Nurses who actively engage patients in weight management during addition treatment can result in improved clinical outcomes and better treatment management (Fillingham, Peters, Chisholm, & Hart, 2014). My goal in this project was to provide a leadership role in designing an EBP program that will effectively educate the nursing staff on weight loss management of patients receiving addiction treatment. Nursing staff, through increased knowledge on weight management and life style modification, can create a positive social change for the patients receiving addiction treatment.

Summary

Methadone is an opioid has been in extent since 1950s, used in the treatment of opioid dependency. Methadone treatment administered to opiate addicts is essential in eliminating the withdrawal symptoms alongside the cravings for opioids. Furthermore, increased death rates resulting from opioid dependence are highly reduced with methadone maintenance treatment. Lastly, criminal activities both perpetrated on and by opioid users are also highly reduced. Despite that, methadone treatment is associated with side effects. Most studies identified negative weight gain as a side effect of methadone treatment among patients in treatment. The weight gain can result in complications such as overweight, diabetes, cancer and other metabolic diseases. This is crucial considering the health conditions of these individuals that are already at risk based on their addiction history. There is need to develop a weight management toolkit that will direct the patients in adopting strategies that will help to counter the negative weight gain. These strategies include engaging in physical exercise, focusing on eating healthy foods such as fruits and

vegetables, and reducing junk food consumption. For these strategies to be successful, nurses must be knowledgeable on identifying and implementing weight management intervention to better help patients in the targeted health care setting.

Section 2: Background and Context

Introduction

The focus of the DNP scholarly project was to develop a weight management toolkit for use in a methadone clinic by nurses in the evaluation and management of patients with the issue of weight gain due to methadone treatment. Despite the effectiveness of methadone in the treatment of OUP, the issue of negative weight gain cannot be overlooked, especially for patients who are overweight before the initiation of methadone treatment. Being overweight is an increasing public health issue that has been related to poor health outcomes, reduced quality of life, and increases cause of death when it progresses to obesity.

Concepts, Models, and Theories

Nursing care of overweight patients is based on health behavior promotion and disease prevention. These include educating patients on healthy nutrition, increased physical activity, and increasing nurses' knowledge of tool for taking weight biometric as well as the right application of this metric in determining patients' weight for better management. The use of theory is an important part of advance practice nursing (APRN) that helps to guide research and clinical practice through enhancement of communication with various disciplines in the management of complex health problem. I developed a toolkit to empower nurses on the management of overweight patients in addiction setting

The theoretical model in research helps the researcher come up with the research questions and conduct investigations to find out the problem that needs to be resolved (Amato et al., 2013). Through the theoretical framework, the researcher can test a

hypothesis. In this project, I used the self-efficacy theory (Appendix E) to analyze the issue of nurses' inability to recognize and address the issue of negative weight gain in substance abuse patients. Weight gain as a result of methadone treatment is the major issue or problem that prompts the need for the development of the education toolkit. All concepts of self-efficacy theory are crucial in developing and evaluating nurses' ability to properly implement the toolkit in the care of patients on methadone with weight issue.

Self-efficacy theory (SET) is a midrange theory, coined in Bandura's social cognitive theory, social learning theory, and self-concept. Bandura's SET model is defined as the belief in an individual ability to perform a certain task requires achieving a desired and expected outcome; the performed attribute is considered an important predictor of behavior change (Williams & Rhodes, 2016; Zhu, Norman, & While, 2013). The SET model hypothesized that an individual with confidence in their capabilities to perform a task would consider a difficult threat as a task to be mastered than a threat to avoid (Williams & Rhodes, 2016).

Self-efficacy theory according to Williams and Rhodes (2016) is influenced by four assumptions. These are as follows:

- Experience: An application of skill to solve previous problem with an outcome increase an individual confidence while failure to achieve lower confidence.
- Modeling: Obtaining knowledge from watching another people's experience.

- Social persuasion is applied through third person intervention that is positively oriented toward improving an individual confidence to achieve goal. This factor can be identified in the role of nurses in helping the patient achieving improved quality of life through health behavior promotion and prevention.
- Perceived barrier to self-efficacy that can affect an individual ability to perform a task.

The important factors of individual health behavior are knowledge, skills, health belief, attitude, and social support. These factors directly influence self-efficacy and nurses' weight management practice. Self-efficacy, according to Zhu et al. (2013) has been found to be related to nurses' perceived skills, perceived barrier, team work beliefs, and empowerment. Perceived skills referred to the assumption that nurses with the perception of possessing adequate skills or equip with adequate skills in patient care will greatly promote weight management intervention in clinical practice (Zhu et al., 2013). Perceived barrier, on the other hand, is considered to be that lack of knowledge and resources hindering nurses' roles in evaluating patient. Also, lack of team work culture can impede clinical practice. SET model operates directly on motivation and action to influence these factors in helping nurses to provide effective weight management intervention for overweight and obese patients.

The SET model enables nurses to implement the content of the weight management toolkit to promote personal efficacy in patients' care that allows proper engagement of patients in weight management treatment. Providers who have knowledge

of the relationship between patients' weight gain and initiation of methadone treatment will have confident to empower themselves as well as the patient in taking an active role in disease management. The use of SET model will help nurses to determine their value, thereby enhancing their ability to properly use learned skill in clinical practice. Other benefits of the use of the theoretical framework include developing a weight management toolkit that helps to reduce the personal, social, economic, and social burden of other diseases associated with overweight or obesity.

According to Zhu et al. (2013), the goal of applying SET model to the selected health issue is for the nurses to be able to provide knowledgeable and skilled care to patients on disease management. This will increase nurses' awareness about patients' disease state, thereby helping patients in making concrete decisions about their treatment. Secondly, the nurses will be able to facilitate self-directed management of disease state for maximization of patients' health and wellness (Zhu et al., 2013). Last, the nurses will be able to promote a private-public relationship for the service delivery models in the selected population (Artino, 2012)

Relevance to Nursing Practice

General Literature

An analysis of methadone-related weight gain. Research has been conducted to describe the changes in weight in patients receiving methadone treatment. According to Fenn et al. (2015), a sample of 96 patients was observed for a 6-month period to examine the effects of methadone on weight gain. The study results indicated that on average, the patient's weight increased by 10 pounds during the period methadone was administered.

The authors explained that the weight increase was caused by an increase in food consumption and the need to take sugars resulting from the methadone. Jones et al. (2010) also conducted a study to investigate the change in BMI of patients before and after a 4-year methadone treatment. The study involved a sample of seven females and 23 males. The study was meant to identify whether the effects of methadone treatment varied based on gender. The findings indicated that BMI of males decreased whereas that of the females increased significantly showing that gender determined the impact of methadone treatment. The authors also claimed that the effects might be biased because the sample size was small including only seven women. Fenn et al. (2015) found results that differed from Jones et al. (2010). Well-being records of 96 nonpregnant adults dependent on opioids were selected in an outpatient methadone treatment program for six months of investigation. Critical increments in BMI were discovered after the initiation of methadone treatment. The mean BMI expanded from 27.2 to 30.1 kg/m in the methadone treatment patients (Fenn et al., 2015). A significant distinction between female and male weight increase was seen among female patients adding 28 pounds contrasted with men who had an average increase of 12 pounds (Fenn et al., 2015). Thus, the study showed that methadone treatment resulted in weight gain in both male and female, though the increase was higher in women (Fenn et al., 2015).

Mysels et al. (2011) reviewed studies that research into weight changes in patients on naltrexone contrasted with methadone. Well-being records of 36 patients dependent on opioid were investigated for 6 months. Both gatherings demonstrated a remarkable increase in weight contrasted with a standard weight (Mysels et al., 2011). At 6 months,

the patients on methadone treatment had a mean increase in weight of 3.67%, and the naltrexone patients had a 4.63% increase compared to the standard weight (Mysels et al., 2011). Amato, Davoli, Minozzi, Ferroni, Ali, and Ferri (2013) examined the long-term effect of methadone treatment on patient weight. The examination included 42 patients taking part in a methadone support program in Slovakia. Critical increments in mean BMI change were seen following 1 year and a lower increase between 1 and 2 years.

Furthermore, no measurable noteworthy weight changes were found approximately 1 and 4 years after selection into treatment. These discoveries show weight gain is substantial in the first 1 to 2 years of treatment. There is no association found between a patient weight gain during methadone treatment and the methadone dosage admitted.

Overweight as a public health issue. In research that examined the relationship between BMI values and mortality risk in U.S. adults, the researchers used data from Third National Health and Nutrition Examination Survey (NHANES III) linked to the National Index mortality (NHANES III – NDI) with $N = 16,868$ in a regression analysis to estimate the rate of disease advancement and CVD-specific mortality in overweight and obesity patients (Borrell & Samuel, 2016). This study included the record of individual ages 18 years and older, with variables such as social demographic status, race, health behavior, cause of death and BMI classified according to federal guidelines. The analysis was done using Cox proportional hazard regression, controlling variable such as sex, age, race to calculate the hazard ratio of CVD-specific mortality risk compared to overweight and obesity in relation to normal weight adult (Borrell & Samuel, 2016).

Even though, there is a recorded higher death rate for adult regardless of BMI value, with the controlled variable such as age, gender, sociodemographic status; significant higher death rate was noted in overweight and obesity individuals compared to their normal weight counterpart. It was concluded that overweight and obese individuals were attributed to 3.7 years earlier all-cause mortality risk; and 1.6 years CVD risk than in normal weight (Borrell & Samuel, 2016). Also, all-cause mortality risk was found to advance 7.1 years, which is attributed to obesity compared to the normal weight counterparts (Borrell & Samuel, 2016).

There has been a significant increase in the health care expenditure as a result of increased prevalence of overweight and obesity. Dee et al. ((2014), conducted a systematic review of 5 articles published in 2001, to examine the cost-effectiveness of excess weight gain on direct and indirect health care expenditure. The article reviewed in the study used estimation of population attributable fraction (PAF) method and longitudinal and cross-sectional approaches to draw dataset, linking BMI measurement to health care spending pattern and disease-related absentee occurrence (Dee et al., 2014). An estimation that treatment of condition caused by overweight and obesity accounted for an increased in total health care expenditure more of which were found to be related to indirect cost of about 54% to 59% compared to direct cost

Specific Literature

Weight management toolkit. According to Goodplaster et al. (2010), a weight management program that includes diet modification incorporated with physical activity component helped reduce the prevalence of health conditions as a result overweight. In a

single-blind randomized study (*N*=130 in adult 18 years and above, the treatment group received lifestyle intervention (dietary intervention) consisting of physical activity, while the control group received lifestyle intervention (dietary intervention) with delayed physical activity. The dietary component of the weight management program included energy intake of 1200 to 2100 cal/d based on participant's initial weight, 20% to 30% fat, 50%to 55% carbohydrate and 20% to 25% protein; while the physical component was 60minutes brisk walking for 5 days in a week through for the prescribed time of the two groups (Goodplaster et al., 2010). The study concluded that six months into the study, more than 80% of the treatment group lost 5% of their baseline weight compared to 60% of the control group. Twelve months to the treatment modality of diet and physical activity intervention, more than 30% of participant achieved and maintained 20% weight loss and about 10% participant were also noted with 30% weight loss. It was deducted that weight management intervention significantly reduced the risk associated with overweight.

In another study that did a systematic review and meta-analysis of articles to evaluate the effect of lifestyle intervention with physical activity (PA) component on metabolic risk factors and quality of life of obese individuals. The study analyzed 3,170 articles, of which 56 met the criteria based on the peer-reviewed article of obese adult 18 years and above. Different variables such as lifestyle intervention (diet, nutritional education or recommendation of counseling including PA, and lastly, outcomes, such as anthropometric parameters (body weight, waist circumference) or cardiometabolic risk factors or quality of life were tested and measured (Baillot et al., 2015). Among the 56

selected articles, supervised exercised sessions were used in 28 studies; non-supervised used in 18 articles, 38 studies with caloric restriction, while 11 studies are with no intervention (Baillot et al., 2015). The significant $p<0.001$ of lifestyle intervention was found according to the length of intervention on physical activity, nutrition and behavior modification to be beneficial for an individual with overweight and obesity. Most analyzed studies showed the mean weight loss of 8.9kg and 2.8kg in BMI with improvement in individual quality of life due to reducing the risk of complication seen with overweight.

The California Medical Association (CMA) in conjunction with the California Association of Health Plans (CAHP) developed a Toolkit for weight management of overweight among adult population. The Toolkit contains information on preventive measure, early identification, and treatment of individuals with overweight and obesity. The content of the weight management Toolkit is best practice information on communication technique; office resources; assessment strategy; weight management components such as physical activity, diet, behavior management and others; patient education resources and provider resources. The Toolkit is designed to provide the medical provider with ideas, resources, and techniques to evaluate, treat, manage and implement health-related activities. The link to the Toolkit is as followed: https://www.lacare.org/sites/default/files/files/Adult_Obesity_Provider_Toolkit(1).pdf.

Jensen et al. (2014), described the guidelines developed by America College of Cardiologist (ACC), AHA in collaboration with National Heart, Lung And Blood Institute (NHLBI) for the management of overweight. The clinical practice guideline is

intended for medical providers' use in making clinical decision that can be beneficial to patient in various setting. The guideline consists of recommendation such as nutrition, physical activity, behavior modification and others for weight management to reduce the complication of overweight.

Also, Garvey et al. (2016) reviewed the guideline from AACE and ACE; the recommendation is meant to help providers in making an evidence-based clinical decision with their clinical judgment to better manage overweight for better outcome. The approach of this guideline is such that help providers determine the severity of the weight-related complication in order to select the best treatment modality through the use of algorithm (Garvey et al., 2016).

Importance of Nurses Knowledge. Zhu et al. (2013) conduct a survey using a convenience sampling of 588 Registered Nurse (RN) of which 399 were selected to explore nurses' performance in weight management in relation to self-efficacy theory. Participants were selected using self-completed questionnaires that consist of five scales that examined six psychological factors that influence weight management practice of RN. These factors were nurses' self-efficacy, perceived barriers, professional role identity, teamwork beliefs, perceived skills and attitudes toward obese people.

Sargent, Forrest and Parker (2012) conducted a systematic review of the effectiveness of nurse's delivered lifestyle interventions in primary care in the treatment of chronic disease risk factors associated with overweight. Inclusion criteria included studies that described intervention with a lifestyle change component delivered to adult patients in primary health care (PHC) and with the reported outcome on risk factors

associated with overweight such as anthropometric, physiology, behavior or psychosocial. 3,491 papers were searched in database of which 31 articles describing studies were selected based on the inclusion criteria the result of the study found no difference in PHC nurse-led lifestyle intervention compared to that of other health professional. Also, counseling was found to be effective than health screening when provided by the nurses. The authors concluded that nurse's directed lifestyle intervention that includes weight, dietary, physical activity behavior and others result in better treatment outcome (Sargent, Forrest & Parker, 2012)

Local Background and Context

The project was conducted in an outpatient treatment center (OTP) clinic located in the northeast of the United States. The OTP clinic provides addiction treatment with the use of methadone and Suboxone to adult patient from age 18 years and above. The patients in this clinic setting are of low socioeconomic status most of which are of African ethnics, under-privilege, homeless and poor. The patients in this clinic have other comorbidities such as mental illness, trauma, sexual transmitted disease that can further result in poor health outcome. The staff consists of one medical director, six family nurse practitioners, two psychiatrist nurse practitioner, eight registered nurses and thirty social workers. Identified population for the scholarly project was the key stake- holders from the OTP clinic who will work in support of the project to contribute their expertise, providing program evaluation.

Definition of Terms

The following are definitions of terms used in this project:

Methadone: an opiate agonist medication utilized for treating opioid dependency.

Naltrexone: an opiate antagonist medication for treating opioid dependency.

BMI: the ratio between weight and height that is calculated by dividing weight in kilograms by the square of height in meters; the indexes indicates underweight and obesity.

Drug dependency: an adaptive state that develops in individual due to repeated drug utilization.

Drug addiction: the chronic relapsing disease of the brain characterized by compulsive use of medication regardless of the drastic consequences.

Opioid use dependency (OUD): a medical condition characterized by an individual problematic opioid use that result in significant impairment and distress (CDC 2014).

Lifestyle modification: This is term used when an individual change a long-term habit of eating and physical activity to better address health situation such as overweight and obesity.

Role of the DNP Student

I developed the scholarly project in alignment with the first and seventh Essentials of doctor prepared advanced practice registered nurse (APRN). I identified practice issues and developed an evidence-based tool to address the issue. As the leader of the project, my role was to develop a weight management toolkit for nurses' use in the management of patient on methadone treatment in addiction program. This toolkit is for health promotion and disease prevention of patients in the population. As a nurse practitioner, I

worked with other interdisciplinary team Nurse Practitioners, who are expert in the addiction treatment to plan, develop, implement as well as evaluate the toolkit. I gathered data through review of existing literature on the identified issue to better determine and develop tools for nurses to utilize in clinical practice for patient with negative weight gain.

The DNP student has been working in methadone treatment center for four years, and a trend of patients' preference for sweet taste among the patients and increased weight among them, months after initiation of treatment was witnessed. A trend of low retention in treatment, frequent hospital admission as well as patients complain of retention of fluid and overweight among the overweight and obesity population were noted, this led me to research the issue. As a DNP student, the plan was to assess barrier to weight management in this setting by examining nurses' perception and knowledge of overweight and obesity in methadone clinic, in which a knowledge gap is found.

Summary

Overweight management must be a topic of conversation that health care providers have with their patients to facilitate weight loss by providing the tools and patient education needed to achieve positive patient results. Nevertheless, the article analyzed within this literature review indicated that the studies available on this topic are scarce and methodically robust. It is impossible to draw conclusions or attempt to replicate the study as concrete details regarding the interventions provided. Although any form of training is needed to see positive results, the article was unable to determine the degree of obesity

management training and education of nursing students. Further studies are needed to determine the impact of training on obesity management.

Section 3: Collection and Analysis of Evidence

Introduction

The purpose of this scholarly project was to develop an educational program using a weight management toolkit to promote nurses' assessment, identification, and management of patients in methadone treatment with negative weight gain, an effect of methadone treatment. The project entailed toolkit content development and evaluation by an expert panel. The clinic identified a need for staff education regarding patients receiving methadone treatment and experiencing side effects, including weight gain.

Practice-Focused Question(s)

In this project, I had a goal of developing a toolkit for staff education for nurses working in an outpatient mental health clinic. I answered the following question: Will participants of a staff education weight management toolkit perceive an increase in skills, knowledge, and confidence on assessment and management of patients on methadone with side effect of negative weight gain?

Sources of Evidence

In 2015, evidence-based clinical protocol guidelines were developed by AACE and ACE in the comprehensive treatment of patient with overweight for an end goal of improving patient health outcome (Garvey et al., 2016). The toolkit content included the EBP guidelines on weight management to ensure that nurses are equipped with appropriate weight management techniques such as biometric measurement, physical activity, proper nutritional content and biometric measurement to help their patient deal with the effects of methadone treatment. The toolkit was designed to incorporate nutrition

and exercise that nurses will learn and later use to help in patients' care. The weight management toolkit' was designed as a resource for nurses caring for patients receiving methadone treatment. The clinic was supportive of implementing the toolkit for nursing education and orientation to the clinic. This implementation will take place after I graduate. The weight management toolkit was developed based on staff educational needs related to the care of patients receiving methadone and experiencing weight gain related to the treatment. This weight gain is affecting patients' outcomes and compliance with continuing the methadone treatment. Nurses need to be educated regarding the potential side effects of methadone and patient education on life style modifications. The clinic does not have intervention, or a plan aimed at addressing the issue of negative weight gain in the targeted population.

The content of the weight management toolkit includes current clinical practice guidelines (CPGs) developed by AACE/ACE and American Medical Association (AMA) in 2015. The first Consensus Conference on Obesity (CCO) that included health professional organization, government regulatory agencies, employer, health insurers, pharmaceutical representative, research organization, disease advocacy organization and health professional educator was held in 2014. The outcome of the CCO was presented through a mandated evidence-based recommendation. This recommendation proposes a comprehensive management of overweight and obese patients that will result in an improved patients' treatment outcome (Garvey et. al, 2016). The goal of the CCG is directed at screening, diagnoses, clinical evaluation, treatment selection, therapy selection

and treatment goal. The recommendation will be useful for nurses to use, given the lack of tools on weight gain and overweight management in the clinic

In planning for the development of the weight management toolkit, literature search of Google Scholar, CINHAL, Walden University library, PubMed, and Medline Scholar for articles that study weight gain in patients on methadone treatment, overweight and obesity risk, as well as the knowledge gap in nurses practice, were reviewed. Literature obtained from these resources were gathered and applied to the scholarly project and the educational program content. Also, a current evidence-based weight management toolkit was applied to the development of the weight management toolkit and educational program specific to the needs of the clinic staff.

Project Design and Methods

The scholarly project was a staff education project using toolkit for management of patients on methadone and has a goal of improving nurses' skill in identification and management of patients with negative weight gain on methadone treatment in an outpatient addiction clinic. I have been working in the OTP clinic for almost 5 years, and I found that patients on initiation of methadone normally gain weight few months into the treatment. This negative weight gain occurs in patients that are no longer chasing illicit drug on the street. Also, patients do crave for sweet food after the initiation of methadone treatment; this is a mostly seen with patient going from one office to the other sweet food. The majority of patients in the clinic setting is homeless, jobless, and economically disadvantaged and is thereby unable to obtain healthy food and, at the same time, live a sedentary lifestyle. All these factors contribute to patients' increase in weight while on

methadone. There is no plan or intervention documented to care for patients with this side effect. I collaborated with other experts in the clinic to develop a weight management toolkit focus on equipping nurses with necessary weight management material useful in the assessment and management of the side effect of weight gain. The toolkit was developed as a staff education project guided by the Walden University DNP Staff Education Manual.

According to Waligo, Clarke, and Hawkins (2013), lack of involvement of internal stakeholders (e.g., participants from the target group) has been found to cause ineffectiveness and failure in implementation of program. I assumed the project leader role for the group of stakeholders expressing interest and support in this project. It was important for the project leader to be successful through key support of the target population and recognition of their viewpoint to ensure smooth program planning and implementation, as well as resources and support (Waligo et al., 2013). With this viewpoint, the toolkit was developed in collaboration with other experts who are well knowledgeable in primary care and management of patients on addiction treatment. The toolkit educational program was presented to a panel of experts to evaluate content and make recommendations for modification as needed

Participants

The selection criteria for the experts participating in the project included years of experience, expertise in their field of practice, and a requirement to be actively involved in daily patient care. The expert team for the education program review was made up of interdisciplinary professionals that included the medical director for the clinic, five

family nurse practitioners, a staff nurse, and a counselor who are expert in their field of practice.

The panel of experts who also served as stakeholders for this project included a medical doctor (MD) with 20 years in primary care and 10 years in addiction treatment. The MD is the medical director of OTP, and he played an important role in content development and evaluation. Also, other medical practitioners involved in the evaluation of the toolkit were four family nurse practitioners (FNPs) with experience ranging from 4 to 6 years in both primary care and addiction treatment; a psychiatric mental health nurse practitioner (PMHNP) with more than 6 years' experience, and a registered nurse with 8 years of addiction treatment experience. Last, one counselor with approximately 15 years of clinical experience in addiction treatment was part of the toolkit content developer. As the project leader, I have almost 5 years' experience in both addiction and primary care treatment. I am board certified as a family nurse practitioner. For the sustainability of the project, the project leader to identified best approaches such as planning, design, development, and evaluation tool that helped in completing the project. The program problem and goals of the weight management toolkit was communicated orally to the expert panel before the educational program.

Procedures

The 8 expert panel members were asked to participate in the review of the educational toolkit program on weight management. The program consisted of an hour-long PowerPoint presentation educating the participants on the weight management toolkit (Appendix A). A 5-point Likert scale questionnaire was used to measure the

participants perceived knowledge, skill, and confidence regarding the educational tool kit. The Likert scale type survey provided a scoring system ranging from strongly agree (5 points), agree (4 points), neutral (3 points), disagree (2 points), and strongly disagree (1 point). The questionnaire also included a question asking for program comments and recommendations. After the presentation, each panel member completed the pen and paper survey on the educational program content, including recommendations for content changes as needed. Survey results was made anonymous (Appendix D)

Protections

The project leader applied for and obtained approval for the study from the Walden University IRB. A site agreement form was completed by the clinic chief operating officer (COO) and submitted with the Walden IRB application. This site agreement provided the authorization for project implementation at the clinic.

This project is a staff education manual that did not make use of any interventions for patients. Expert panel members were asked to participate, and participation was voluntary. Prior to participating in the educational program and completing the pen and paper questionnaire, the participants were given the Consent for Anonymous Questionnaire (Appendix D). The experts were made aware that they can withdrawal anytime during the project. Also, the experts' response was made anonymous and confidential during the planning and implementation of the project. The response will be kept for five years under lock and key in a file cabinet.

Analysis and Synthesis

The project leader recorded tracked and organized data for the data analysis. Data generated by the questionnaire was analyzed and presented using descriptive statistics with graphical representation. The comments and recommendations were presented and evaluated for trends. Analysis of the project content and learner objectives provided recommendations for modification and change to the educational program. I planned to present the results to clinic leadership to provide data to support the implementation of this education project to all clinic nursing staff.

Summary

The purpose of this project was to develop a toolkit for staff education on weight management for patients receiving methadone treatment. The weight management toolkit applied the guidelines from the ACC/AACE/AHA/NHLBI to support the educational content. This toolkit will be used by nurses who take care of patients on methadone treatment. The nurses require proper training on ways to better manage the weight of patients on methadone treatment. The content of the project with the weight management toolkit was delivered in a Toolkit Education Slide (Appendix C) PowerPoint presentation. To a panel of experts with, a 5-point Likert scale survey used to evaluate administered to measure the usefulness of the weight management toolkit. The of this project was to equip the nursing staff with current education regarding weight management to better care for patients experiencing the side effects of weight gain with methadone treatment. Ultimately, the potential outcome will be to improve patient care through nursing staff education.

Section 4: Findings and Recommendations

Introduction

The purpose of the scholarly project was to develop a weight management toolkit for nurses' use in the prevention and management of patients in outpatient addiction settings on methadone treatment with negative weight gain. I designed and developed this project to address the knowledge gap of nurses in a methadone clinic in the management of overweight and obesity patients.

Findings and Implications

The toolkit is developed to provide guidelines for nurses to use to educate patients with negative weight gain because of methadone treatment. The toolkit was designed and given to eight expert panel members to evaluate. The expert panels consisted of one medical director; four family nurse practitioners; one psychiatric nurse practitioner; one counselor, and one registered nurse, all of whom are professionals in the field and met the defined criteria. The experts participated in the review of the educational toolkit program on weight management (Appendix A). The education consisted of a one-hour PowerPoint presentation on the contents of the weight management toolkit.

A 5-point Likert scale questionnaire was used to measure the expert panel's perceived knowledge, skills, and confidence regarding the educational toolkit. The Likert-scale type survey used for the project provided a scoring system as follows: 5 (strongly agree), 4 (agree), 3 (neutral), 2 (disagree), and 1 (strongly disagree). The 10-question evaluation form consists of questions that assess the toolkit content. The eight experts were asked to complete the pen and paper survey on the educational program content

which includes the recommendation for content changes. The responses were anonymous and were completed and returned after the PowerPoint presentation

The 10-item questionnaire was designed to evaluate how much the weight management toolkit content prepared nurses to assess, identify, and manage the patients in methadone treatment with negative weight gain. The responses from the content reviewers regarding the weight management toolkit are generally positive. The feedback obtained from the evaluation confirms the relevance of the project as well as its relevance to the nurses for health promotion and prevention through weight management. All the eight expert reviewers answered and gave their response to the questionnaire. Participant responses for rated items are presented in Table 1 and comments are summarized in Table 2.

Table 1

Participant Results (N = 8): Rated Items

Question	1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree	Mean & *SD*
1. Negative weight gain in patients during methadone treatment poses a big risk to their treatment outcome.	0	0	1	2	5	4.5 7.37
2. Negative weight gain reduces patient's retention in treatment	0	0	2	1	5	4.4 7.30
3. Encouraging patients on healthy behaviors for weight loss will help to improve their health outcome.	0	0	0	2	6	4.8 8.98
4. Incorporating the weight assessment toolkit in existing patients' assessment help to provide better evidence-based treatment to our patient population.	0	0	1	1	6	4.6 9.00
5. Staff should receive in-service training on overweight screening, assessment and management of weight management annually.	0	0	0	2	6	4.8 8.98
6. Nurses' personal bias can contribute to patient's interest in addressing the issue of	0	1	2	1	4	4.0 5.74

being overweight in the clinic.						
7. Identifying self-bias in patient treatment and addressing the issue can greatly improve patients' care.	0	0	0	4	4	4.5 6.82
8. Nurses can serve as patient educators and facilitators to help patients make lifestyle changes that will prevent weight gain and other health complication.	0	0	1	0	7	4.8 10.69
9. I plan to include a weight assessment as part of patient care in the future.	0	0	1	3	4	4.4 6.15
10. Participating in the educational weight management toolkit program will change the way I care for patients on methadone treatment.	0	0	1	3	4	4.4 6.15

Table 2

Participant Comments and Feedback (N = 8)

Question	Comment
1. Negative weight gain in patients during methadone treatment poses a big risk to their treatment outcome.	• Suggest patient socioeconomical background also affecting treatment outcome in methadone treatment. • The impact of negative weight gain in methadone treatment can greatly impact patient treatment outcome. • The purpose of the toolkit was clearly stated by presenting "negative weight gain related to methadone treatment" as a problem that needed intervention. • A clear augment for suggested interventions was made.

2. Negative weight gain reduces patient's retention in treatment.	• The content of the weight management toolkit identifies effect of negative weight gain. • Question 2 is a repetition of Question 1. Patient may not continue with methadone treatment with the impact of weight gain on their health.
3. Encouraging patients on healthy behaviors for weight loss will help to improve their health outcome.	• The content of the toolkit outlines and discusses applicable instrument that could be incorporated into essential patient assessment. • The toolkit content will be a yardstick or standard for nurses' practice in the targeted population. • Suggest changing "will' in the objective to 'may' –stated there is no guarantee in patient doing what they are being told always.
4. Incorporating the weight assessment toolkit in existing patients' assessment help to provide better evidence-based treatment to our patient population.	• Recommendation for toolkit to be backed up with adequate advocacy and also to be included into clinic policy as a requirement to be used for appropriate and patient's centered care.
5. Staff should receive in-service training on overweight screening, assessment and management of weight management annually.	• Agreed with the content, providing staff with in-service training will afford them the opportunity to be well informed about current guidelines.
6. Nurses' personal bias can contribute to patient's interest in addressing the issue of being overweight in the clinic.	• Recommended assessing management bias in weight gain in patient on methadone treatment that can affect health outcome.

7. Identifying self-bias in patient treatment and addressing the issue can greatly improve patients' care.	• Same as Question 8.
8. Nurses can serve as patient educators and facilitators to help patients make lifestyle changes that will prevent weight gain and other health complication.	• Recommendation made to add referral to dietitian as part of comprehensive treatment of weight gain addressed in the toolkit.
9. I plan to include a weight assessment as part of patient care in the future.	• Ongoing education is essential for best treatment outcome.
10. Participating in the educational weight management toolkit program will change the way I care for patients on methadone treatment.	• Same as Question 9.

Analyses of Evaluation Result

Questions 1 to 8 were designed to measure the expert reviewer (N=8) opinion on the appropriateness and effectiveness of the content of the weight management toolkit. The last two questions (N = 8) measured the content evaluators' willingness to embrace and implement the toolkit in their practices. Question 1 was responded to by all the experts, one out of the eight with the mean of 4.5, (N = 8) and *SD* of 7.37 was neutral about negative weight in the patient on methadone being a risk to patients' treatment. Four out of eight with the mean of 4.5, (N= 8) and *SD* of 7.37 agreed that negative weight gain affect patient treatment with other co-morbidity that may interfere with treatment; and the remaining five out of eight with the mean of 4.5 (N- 8) and *SD* of 7.37 strongly agreed that negative weight gain poses a big risk to patients. All expert reviewers

answered Question 2. Two out of eight with the means of (4.4 = 8) and the *SD* of 7.30 were neutral to the fact that negative weight gain does result in patients' low retention rate in methadone treatment. One out of eight with the mean of 4.4 (*N* = 8) and the *SD* of 7.30 agreed that low retention rate is seen with patients on methadone treatment because of side effect of weight gain and five out of eight with means of 4.4 (*N* = 8) and *SD* of 7.30 strongly agreed. The variation seen in expert opinion to Questions 3 and 5 were similar, two out of eight with the mean of 4.8 (*N* = 8) and *SD* of 8.98 agreed to the content of the toolkit about the advantage of encouraging patients in healthy behavior and need for nurses to receive yearly in-service training on component of the toolkit for better treatment outcome while six out of eight with means of 4.8 (*N* = 8) and *SD* of 8.98 strongly agreed. Question 4 examined the expert's opinion on the ability of the weight management toolkit to provide better evidence-based treatment in the patient on methadone treatment when incorporated into their assessment. One expert out of eight with the mean of 4.6 (*N* = 8) and the *SD* of 9.00 response was neutral; while one in eight with the means of 4.6 (*N* = 8) agreed; and, six in eight with the means of 4.6 (*N* = 8) and the *SD* of 9.00 agreed strongly. Question 6 and 7 provided insight on the nurses' personal bias on patient treatment and management of negative weight gain during methadone treatment. Question 6 explored expert's opinion on the weight management toolkit identifying nurses' personal bias as an issue in patients' lack of interest in addressing overweight in the targeted population. The response in question 6 varies greatly from other question. One out of eight expert reviewer with the mean of 4.0 (*N* = 8) and *SD* of 5.74 disagreed with the opinion that nurses' self-bias can contribute to patients not

addressing the issue of overweight. Two out eight with the mean of 4.0 ($N = 8$) and *SD* of 5.74 rendered opinion as neutral; while one out of eight with means of 4.0 ($N = 8$) and *SD* of 5.74 agreed; and four out of eight with the mean of 4.0 ($N = 8$) and *SD* of 5.74 agreed strongly with opinion that nurses' personal bias can increase the patient's lack of interest in addressing the issue of overweight. Question 7 opinioned the expert on whether identifying and addressing health worker personal bias can greatly improve patients' care. Four of eight participants with the mean of 4.5 and *SD* of 6.82 agreed while the remaining four participants strongly agreed that identifying and addressing the issue of self-bias can significantly improve patients' care in the targeted population. Question 8 examined nurses' ability to serve as a change agent through educating patients on lifestyle changes to prevent weight gain in the proposed population. The response generated a different variation with one out eight ($N = 8$) participants with the mean of 4.8 and *SD* of 10.69 neutral; while seven out of eight ($N = 8$) with the mean of 4.8 and *SD* of 10.69 agreed strongly. Question 9 and 10 examined participants perception of the educational toolkit and their willingness to include it patient's treatment in the future. The variation noted in these two questions were similar, one out of eight ($N = 8$) with the mean of 4.4 and *SD* of 6.15 with opinion of neutral; three out of eight ($N = 8$) with the mean of 4.4 and *SD* of 6.15 agreed while four out of eight ($N = 8$) with the means of 4.4 and *SD* of 6.15 strongly agreed to both questions.

Implications

Patients on methadone treatment with increased tendency for undesired weight gain are faced with challenges that lead to low retention in treatment, increase health cost

due to frequent hospitalization and poor health outcome. The toolkit mimics the AHA, ACC, AACE clinical guidelines, when use by the nurses, it will be beneficial and instrumental in guiding the patients in the management of weight gain. Also, the use of weight management toolkit enables the nurses working in addiction clinic educate their patients on lifestyle modification and coordinate their care with counselor that will provide referral for further needed resources. Integration of the evidence-based weight management toolkit will guide the nurses in making best clinical judgments for better treatment outcome. The expected outcome, when the weight management toolkit is implemented is improved treatment outcomes and reduced health care expenditures.

There is an increased need for nurses to have information, better assessment skills as well as increased self-efficacy to inform patients of the need to engage in physical activities and consume high levels of vegetables and fruits while in methadone treatment. Nurses who actively engage patients in weight management treatment will encounter an improved clinical outcomes and better treatment management (Fillingham, Peters, Chisholm, & Hart, 2014). An educated nurse can help expand the dissemination of weight management information to the clinic patients. Addressing nurses' bias can increase patient's interest in addressing their weight management issue, this will further aide medical providers in the drive to teach overweight patient in methadone treatment on how to properly manage their disease and make them aware of the risk involved negative weight gain and its complications. The toolkit will significantly help in prevention and early management of overweight patients upon implementation. Educating staff and

patients on negative weight gain with methadone treatment has the potential to improve patient outcomes, thus promoting a positive social change.

Strength and Limitation of the Project

One of the strengths of the weight management toolkit was the use of content experts in the methadone clinic to evaluate the content of the weight management toolkit. The content experts used for the study include a medical doctor, family nurse practitioner, psychic nurse practitioner, counselor, and register nurse. All the content experts evaluated the toolkits using their different knowledge-based which give the toolkit a wide-based knowledge, and this helped to determine the appropriateness and quality of the toolkit. The content of the weight management toolkit includes necessary information that tends toward prevention and management of weight gain which will be useful in the treatment of patients in the methadone clinic.

Also, the result of the evaluation was able to validate the toolkit content to be significant in addressing the learning needs of the nurses that work in a methadone clinic. Implementing the educational toolkit will help to increase the competency level of novice nurses. The limitation of the toolkit was the inability to implement with the staff and therefore the usefulness has not yet been validated in the proposed population. The educational toolkit will be implemented after graduation with assessment of outcomes to occur after 3 months of use. Another limitation is the limited research on weight gain in methadone treatment and effect of weight gain in methadone treatment.

Recommendations

Future study is needed in the field of addiction, especially that which pertains to weight gain in the patient on methadone treatment. Reviewing the pharmacokinetics of methadone, it is not fully understood what constitutes a negative weight gain when the drug is initiated in patients with an OUD. There is a need for additional research into the drug's causal effect. Research on other reasons for weight gain in this targeted population is needed to explore and identify possible factors affecting weight gain in patients with addiction disorders.

Section 5: Dissemination Plan

Dissemination is an important aspect of DNP scholarly project. It is a process whereby research findings are translated into clinical practice after vigorously assessing the design, applicability and its design (Curtis, Shaban, & Considine, 2017). The dissemination of evidence-based research findings allows integration of knowledge from diverse disciplines to solve an identified clinical problem and improve health care outcomes. The goal of the weight management toolkit after its implementation is to increase the knowledge of nurses working in the addiction clinic on health promotion and prevention of patients with negative weight gain resulting from methadone treatment. Expanding the knowledge of the nurses will advance nursing practice and improve patient's treatment outcome.

The dissemination of the project will take place after my graduation. The project will be disseminated during the nurses' monthly meeting in a written format through a PowerPoint presentation. Most of the expert evaluators, six of eight, agreed that the toolkit should be included in nurses' in-service, the toolkit will be incorporated into nurses' orientation package in the future, through this, they can be well prepared in providing expected care for patients.

The project findings may be presented in various organization and conferences such as Substance Abuse and Mental Health Service Administration (SAMHSA); Tuerk Conference on Mental Health and Addiction Treatment; and, American Association for the Treatment of Opioid Dependency (AATOD). The result from the project will be presented as a poster in the American Society of Addiction Medicine (ASAM). The study

findings, implication and discussion may also be disseminated in journals such as the *Journal of Addiction and Addictive Disorders*, *Journal of Addiction and Recovery*, and *International Journal of High Risk Behaviors and Addiction*.

Analysis of self

The DNP program has impacted in me the knowledge to become a change agent in the nursing field. According to American Association of College of Nursing (2006), the Institute of Medicine (IOM) called for health professionals that will lead and promote quality health care delivery systems through EBP, which will result in safe, effective, patient-centered care and timely patient care through effective collaborative efforts. As a practitioner, the DNP program has helped me to evolve as a leader, role model, and social change agent. In my present practice, I have seen myself become a transformational leader that influences others in patient care, interdisciplinary patient management, EBP, and policy decisions. Asa scholar, I have been able to apply the knowledge gained from the DNP program to promote and deliver quality patient-centered care by leading an evidence-based educational project that can result in positive social change for both nurses and patients. In my practice, I have continued to embark on various quality improvement projects and health care policy changes that result in improved quality of care for the patient. The program has made me become a change agent in my field of expertise.

My DNP project has enabled me to grow as a researcher. I was able to identify a practice problem in my clinical setting, research literature from different sources and disciplines. I applied the knowledge gained from the review of searched literature to

solve the identified practice problem. I was able to translate the knowledge to develop an evidence-based educational toolkit that has the potential to improve nursing practice, quality of care, and treatment outcomes for the targeted population.

Summary

The goal for the scholarly project is to promote social change and improve the treatment outcome of the patient on methadone by impacting the nurses who care for these patients with weight assessment and management knowledge. Nurses play an important role in the treatment of the patient with an OUD on methadone treatment. The gap in knowledge of nurses in this clinic setting can impede the treatment outcome of such patients. Providing an educational weight management toolkit to assist the nurses in the management of the patients with negative weight gain in methadone treatment has the potential to improve patient's treatment outcome and retention in treatment.

Eight professional content experts with experience in the care of the patients with OUD and on methadone treatment evaluated and validated the content of the weight management toolkit. Seven of the eight content experts strongly agreed that nurses could serve as a patient's educators and facilitators to help patients make lifestyle changes that will increase their health outcome. Also, four of eight content evaluators strongly indicated that they would include the educational toolkit in their patient's assessment. Content experts provided evaluation results supporting the use of the toolkit in the clinic setting. The weight management educational tool kit will be implemented to all clinical nursing staff in their monthly meeting.

References

Amato, L., Davoli, M., Minozzi, S., Ferroni, E., Ali, R., & Ferri, M. (2013). Methadone at tapered doses for the management of opioid withdrawal. *The Cochrane Library*, *28*(2):CD003409. doi:10.1002/14651858.CD003409.pub4

American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice*. Washington, DC: Author.

Artino, A. R. (2012). Academic self-efficacy: from educational theory to instructional practice. *Perspectives on Medical Education*, *1*(2), 76-85. http://doi.org/10.1007/s40037-012-0012-5

Atella, V., Kopinska, J., Medea, G., Belotti, F., Tosti, V., Mortari, A. P., Fontana, L. (2015). Excess body weight increases the burden of age-associated chronic diseases and their associated health care expenditures. *Aging*, *7*(10), 882-892. doi.org/10.18632/aging.100833

Bishop, B. T. (2016). *Readiness and recovery: Switching between methadone and buprenorphine/naloxone for the treatment of opioid use disorder* (Masters thesis). Massey University, Wellington, New Zealand.

Blonstein, A. C., Yank, V., Stafford, R. S., Wilson, S. R., Rosas, L. G., & Ma, J. (2013). Translating an evidence-based lifestyle intervention program into primary care: Lessons learned. *Health Promotion Practice*, *14*(4), 491-497. http://doi.org/10.1177/1524839913481604

Borrell, L. N., & Samuel, L. (2014). Body mass index categories and mortality risk in US adults: the effect of overweight and obesity on advancing death. *American*

Journal of Public Health, *104*(3), 512-519. doi: 10.2105/AJPH.2013.301597

Centre for Disease Control and Prevention, (2016). Substance Use Disorder. Retrieved from https://www.cdc.gov/pwud/substance-treatment.html

Centre for Disease Control and Prevention, (2017). Adult Obesity Causes and Consequence. Retrieved from https://www.cdc.gov/obesity/adult/causes.html

Curtis, K., Fry, M., Shaban, R. Z., & Considine, J. (2017). Translating research findings to clinical nursing practice. Journal of clinical nursing, 26(5-6), 862 872. doi:10.1111/jocn.13586

Dee A, Kearns K, O'Neill C, et al. The direct and indirect costs of both overweight and obesity: a systematic review. *BMC Research Notes*. 2014;7:242. doi:10.1186/1756-0500-7-242.

Dexter, L., Jones, H., Carrol, A.L., & Ohman, C. (2008). Adult Obesity Provider Kit. Retrieved from https://www.lacare.org/sites/default/files/files/Adult_Obesity_Provider_Toolkit(1)

Drewnowski, A., Mennella, J. A., Johnson, S. L., & Bellisle, F. (2012). Sweetness and food preference. *The Journal of nutrition*, *142*(6), 1142S-1148S. doi:10.3945/jn.111.149575.

Fenn, J. M., Laurent, J. S., & Sigmon, S. C. (2015). Increases in body mass index following initiation of methadone treatment. *Journal of Substance Abuse Treatment, 51*, 59-63. doi:10.1016/j.jsat.2014.10.007.

Fillingham, A., Peters, S., Chisholm, A., & Hart, J. (2014). Early training in tackling patient obesity: a systematic review of nurse education. *Nurse Education Today,*

34(3), 396 – 404. doi:10.1016/j.nedt.2013.06.020.

Garvey, W. T., Mechanick, J. I., Brett, E. M., Garber, A. J., Hurley, D. L., Jastreboff, A. M., . . . Reviewers of the AACE/ACE Obesity Clinical Practice Guidelines. (2016). American Association of Clinical Endocrinologists and American College of Endocrinology comprehensive clinical practice guidelines for medical care of patients with obesity. *Endocrine Practice*, *22*(s3), 1-203. doi/10.4158/EP161365.GL.

Gearhardt, A. N., Corbin, W. R., & Brownell, K. D. (2009). Food addiction: an examination of the diagnostic criteria for dependence. *Journal of addiction medicine*, *3*(1), 1-7. doi:10.1097/ADM.0b013e318193c993.

Goodpaster, B. H., DeLany, J. P., Otto, A. D., Kuller, L., Vockley, J., South-Paul, J. E., . . . Lang, W. (2010). Effects of diet and physical activity interventions on weight loss and cardiometabolic risk factors in severely obese adults: a randomized trial. *Jama*, *304*(16), 1795-1802. doi.10.1001/jama.2010.1505.

Henderson, J., Sword, W., Niccols, A., & Dobbins, M. (2014). Implementing stakeholder informed research in the substance abuse treatment sector: Strategies used by Connections, a Canadian knowledge translation and exchange project. *Substance Abuse Treatment, Prevention, and Policy*, *9*(1), 1. Doi:10.1186/1747-597X-9-21.

Hodges, B.C., & Vudeto, D.M. (2011). *Assessment and planning in health programs*. Sudbury, MA: Jones & Bartlett

Hollis, M., Glaister, K., & Lapsley, A. J. (2014). Do practice nurses have the knowledge to provide diabetes self-management education? *Contemporary nurse*, *46*(2), 234-

241doi:10.5172/conu.2014.46.2.234.

Jensen, M. D., Ryan, D. H., Apovian, C. M., Ard, J. D., Comuzzie, A. G., Donato, K. A., . . . Loria, C. M. (2013). 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults. *Circulation*, 01-cir. doi/pdf/10.1161/01.cir.00004377.71477.ee

Jones, H. E., Kaltenbach, K., Heil, S. H., Stine, S. M., Coyle, M. G., Arria, A. M., ... & Fischer, G. (2010). Neonatal abstinence syndrome after methadone or buprenorphine exposure. *New England Journal of Medicine*, *363*(24), 2320-2331.

Li, Q., Blume, S. W., Huang, J. C., Hammer, M., & Ganz, M. L. (2015). Prevalence and healthcare costs of obesity-related comorbidities: evidence from an electronic medical records system in the United States. *Journal of medical economics*, *18*(12), 1020-1028. doi: 10.3111/136998.2015.1067623

McFadden, K. M. (2010). Cross-addiction: From morbid obesity to substance abuse. *Bariatric Nursing and Surgical Patient Care*, *5*(2), 145-178.doi: 10.100212327-6924.12390.

Majid, S., Foo, S., Luyt, B., Zhang, X., Theng, Y.-L., Chang, Y.-K., & Mokhtar, I. A. (2011). Adopting evidence-based practice in clinical decision making: nurses' perceptions, knowledge, and barriers. *Journal of the Medical Library Association : JMLA*, *99*(3), 229–236. http://doi.org/10.3163/1536-5050.99.3.010

Mulder, B. C., Lokhorst, A. M., Rutten, G. E., & van Woerkum, C. M. (2015). Effective nurse communication with type 2 diabetes patients: a review. *Western journal of nursing research*, *37*(8), 1100-1131. Doi: 10.1177/0193945914531077.

Mysels, D. J., & Sullivan, M. A. (2010). The relationship between opioid and sugar intake: A review of evidence and clinical applications. *Journal of opioid management*, *6*(6), 445.

Mysels, D. J., Vosburg, S., Benga, I., Levin, F. R., & Sullivan, M. A. (2011). The course of weight change during naltrexone vs. methadone maintenance for opioid-dependent patients. *Journal of Opioid Management*, *7*(1), 47-53.

Okruhlica, L., & Slezakova, S. (2012). Weight changes of patients in methadone maintenance treatment during four-year period. *Cas Lek Cesk*, *151*(8), 389-391.

Rao, G., Burke, L. E., Spring, B. J., Ewing, L. J., Turk, M., Lichtenstein, A. H., ... & American Heart Association Obesity Committee of the Council on Nutrition. (2011). New and Emerging Weight Management Strategies for Busy Ambulatory Settings: A Scientific Statement from the American Heart Association Endorsed by the Society of Behavioral Medicine. *Circulation*, *124*(10), 1182-1203.

Sargent, G. M., Forrest, L. E., & Parker, R. M. (2012). Nurse delivered lifestyle interventions in primary healthcare to treat chronic disease risk factors associated with obesity: a systematic review. *Obesity Reviews*, *13*(12), 1148–1171. http://doi.org/10.1111/j.1467-789X.2012.01029.x

Substance Abuse and Mental Health Services. (2015, October). *Substance use disorder*. Retrieved from http://www.samhsa.gov/disorders/substance-use

Sussman, S., & Black, D. S. (2008). Substitute addiction: A concern for researchers and practitioners. *Journal of Drug Education*, *38*(2), 167-180. doi/10.2190/DE.38.2.e

Trescot, A. M. (2016). Opioid pharmacology and pharmacokinetics. In *Controlled*

Substance Management in Chronic Pain (pp. 45-62). New York, NY: Springer International Publishing.

Vallecillo, G., Robles, M. J., Torrens, M., Samos, P., Roquer, A., Martires, P. K., . . . Pedro-Botet, J. (2017). Metabolic syndrome among individuals with heroin use disorders on methadone therapy: prevalence, characteristics, and related factors. *Substance abuse*, 1-6. doi/abs/10.1080/08897077.2017.1363122.

Waligo, V. M., Clarke, J., & Hawkins, R. (2013). Implementing sustainable tourism: A multi- stakeholder involvement management framework. *Tourism Management*, *36*, 342-353. doi.org/10.1016/j.tourman.2012.10.008

Webb Hooper, M., Dietz, N. A., & Wilson, J. C. (2017). Sociocultural risk factors for elevated perceived stress among African American smokers. *Journal of Health Disparities Research and Practice*, *9*(4), 13.

Whelan, P. J., & Remski, K. (2012). Buprenorphine vs. methadone treatment: A review of evidence in both developed and developing worlds. *Journal of Neurosciences in Rural Practice*, *3*(1), 45–50. http://doi.org/10.4103/0976-3147.91934.

Williams, D. M., & Rhodes, R. E. (2016). The confounded self-efficacy construct: Conceptual analysis and recommendations for future research. *Health psychology review*, *10*(2), 113-128. doi/abs/10.1080/17437199.2014.941998

Zhu, D. Q., Norman, I. J., & While, A. E. (2013). Nurses' self-efficacy and practices relating to weight management of adult patients: a path analysis. *The International Journal of Behavioral Nutrition and Physical Activity*, *10*, 131. http://doi.org/10.1186/1479-5868-10-131

Appendix A: Weight Management Toolkit for Nurses' Use in Caring for Patients on Methadone Treatment

Weight Management Toolkit for Nurses' Use in Caring for Patients on Methadone Treatment

Purpose and Scope

The toolkit is intended to provide direction to nurses caring for patient in methadone treatment. The guideline contains recommendations from AAHA, ACC. The toolkit was developed taking into consideration individual nurses' competency level which is based on their skill set, knowledge, attitude, and judgment. The toolkit is a staff education tool intended for use by the nurses to help patients on methadone treatment with negative weight gain to make better decision about their health care. The most important outcome of this guideline is to motivate and support nurses working in addiction treatment to better identify weight gain in patients. It is also designed to encourage them to intervene with those identified as overweight individual in a sensitive and nonjudgmental manner for better treatment outcome.

Goals

- Bridging the gap in nurses' knowledge
- Addressing overweight, a public health burden in addiction population
- Reducing the burden by addressing overweight in patient on methadone treatment through lifestyle modifications
- Improving patient's treatment outcome which will increase their retention in treatment and reduce patient frequent hospital visit.

Factors contributing to weight gain after initiation of methadone treatment

- Change in metabolism
- Increase in food consumption.
- Risk of metabolic syndrome due to use of psychotropic.
- Unhealthy eating habit

Reasons for overweight assessment in Opioid use disorder treatment

- Improve patient treatment outcome while on methadone
- Improve retention rate
- Reduce hospitalization and frequent visit to the emergency room
- Improve healthy eating and physical activity awareness
- Identify risk factors and potential health issue associated with weight gain

Appropriate and quick assessments of overweight

- BMI calculation and interpretation
- Rational for measuring waist circumference
- Waist circumference measurement and interpretation

Classification of Overweight and Obesity by BMI, Waist Circumference, and Associated Disease Risks

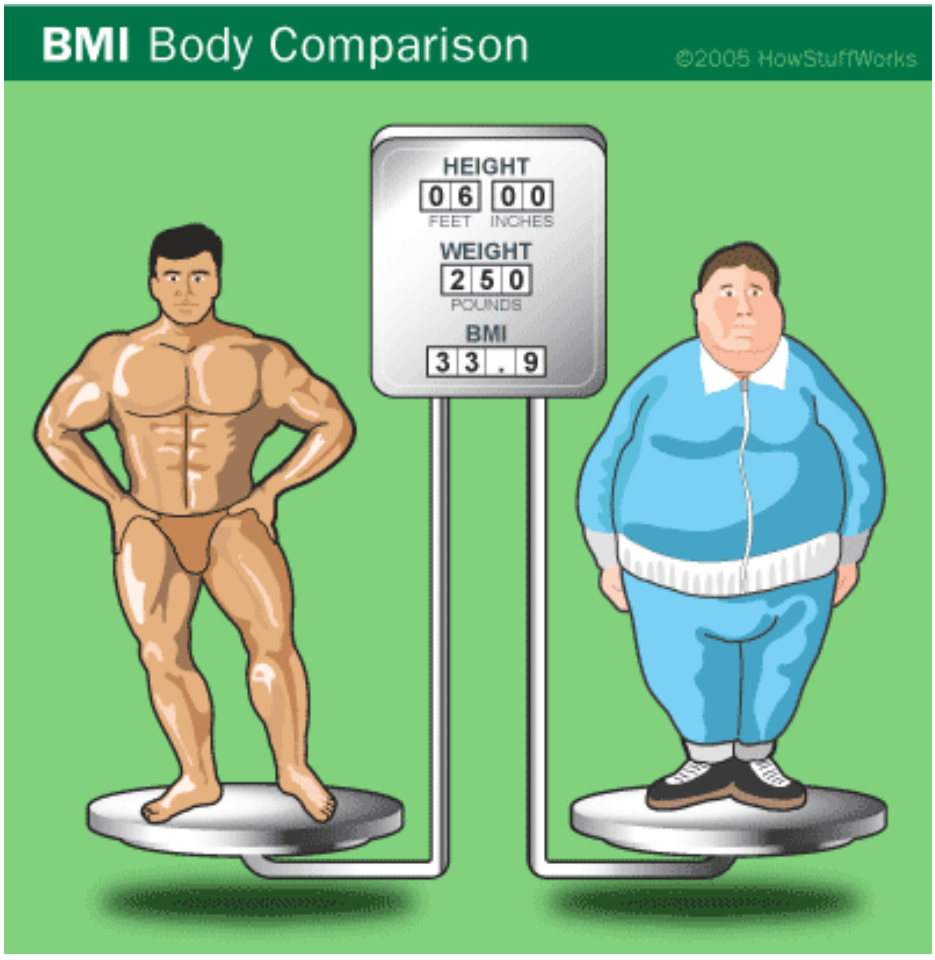
			Disease Risk* Relative to Normal Weight and Waist Circumference	
	BMI (kg/m^2)	Obesity Class	Men 102 cm (40 in) or less Women 88 cm (35 in) or less	Men > 102 cm (40 in) Women > 88 cm (35 in)
Underweight	< 18.5		-	-
Normal	18.5 - 24.9		-	-
Overweight	25.0 - 29.9		Increased	High
Obesity	30.0 - 34.9	I	High	Very High
	35.0 - 39.9	II	Very High	Very High
Extreme Obesity	40.0 +	III	Extremely High	Extremely High

* Disease risk for type 2 diabetes, hypertension, and CVD.
+ Increased waist circumference can also be a marker for increased risk even in persons of normal weight.

Nurses' related activities

Calculating BMI

Weight in kilograms (kg) divided by the square of height in meters (m^2).	**BMI = Weight (kg) / Height squared (m^2)**
Weight in pounds (lbs) divided by the square of height in inches (in^2) multiplied by 703.	**BMI = Weight (lbs) / Height squared (in^2) x 703**


BMI Body Comparison
©2005 HowStuffWorks
HEIGHT
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WEIGHT
250
POUNDS
BMI
33.9

Waist circumference measurement

Intervention

- Nurse should measure objective patient's weight and height during every encounter
- Correlate blood pressure with increase in weight
- Gather patient's subjective report and evaluate for possible increase in weight
- Take patient's 24-hour diet recall
- Include weight assessment tools into existing patient assessment.
- Assessment and regular update of patient's medication list.
- Make referral to the counselor for food pantry and possible housing resources.

General clinical, environmental issues that will add value to the outcome of the intervention:

- Staff should receive in-service training on negative overweight screening and assessment, calculating BMI and measuring waist/hip circumference to assure those consistent procedures are used. *Staff should know the formula for calculating BMI as well as how to use a BMI chart and online BMI calculator.
- Include links to online calculators, charts, and downloadable handouts in this section.

Prepare the office

- Exam tables that accommodate obese patients
- Scales that will hold and measure people up to 300 pounds or more in private weighing area
- Large blood pressure cuffs
- Reading materials in waiting rooms that promote healthy lifestyles as opposed to magazines with pictures of decadent cakes, other high-fat foods, or super-skinny models

Brief assessment of nurses' personal bias

Identification of factors contributing to patient's lack of motivation to address overweight

The nurses should be able to identify and challenge their own biases toward overweight individuals

The tendency to label overweight individuals as lazy, unintelligent, or lacking motivation. This attitude should be taken into consideration that many factors that contribute to overweight are beyond patients' control.

Patient-related activities

Healthy Lifestyle Changes:

Eat better

Eating healthy foods has vital health benefits which include weight loss and decrease prevention. To start eating better, try these tips:

Eat the rainbow. Make half of what's on your plate fruit and vegetables:

- Eat low-carb vegetables: Broccoli, Spinach, Cabbage, Lettuce, Cauliflower, Kale, and Celery.

Eat Lean Protein and healthy Fat:

- Meat-Beef, chicken, pork, lamb, etc.
- Fish and Seafood – Salmon, trout, shrimp, etc.
- Eggs- Omega-3 enriched or pastured eggs.

Cut back on Sugars and Starches:

- Substitute refined grains with whole grains, like oatmeal, whole wheat bread, and brown rice.
- Cut back on Carbs (Starch): Soda, juice, candy.
- Instead of sugary drinks, choose unsweetened tea, low-fat milk, or water.

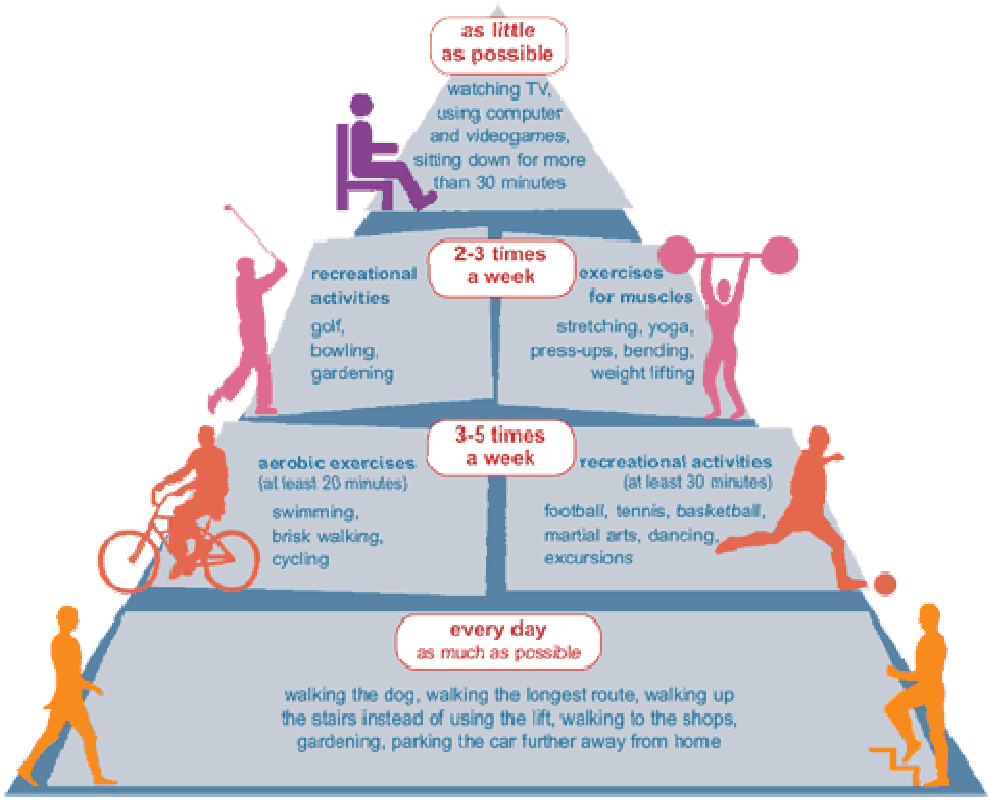
Engage in physical activity and exercise:

- 2 hours and 30 minutes/a week of moderate-intensity activity that raises your heart rate and makes you sweat. Brisk walking, biking (with a helmet), swimming, and playing tennis or basketball are fun choices that you can do with others for support.
- 1 hour and 15 minutes per week of vigorous-intensity aerobic activity.
- You can spread the 150 minutes out in short spurts over the week. Do house or yard chores briskly, walk the dog at a quick pace, or dance

<u>Other lifestyle modifications to prevent and manage weight gain</u>

Dietary Sodium Reduction	1. *Reduce dietary sodium intake to no more than 100mmol per day (2.4g sodium or 6g sodium chloride).*
Drink enough water and get enough sleep	2. *8-ounce glasses (2 liters)* 3. *Sleep range for an adult is 7-8 hours* 
Moderation of alcohol consumption	4. *Limit alcohol consumption to no more than 2 drinks (1oz or 30mls ethanol, e.g., 24 oz. beer, 10 oz. wine) per day.*

Different Physical Activities Patients can Engage in



Referral for resources: Counselors to coordinate referral for necessary resources such as food pantry, housing for patients in the clinic

Appendix B: Explanation of the Toolkit Content

The goal of this project is to develop a weight management toolkit fashion according to AHA/ACC/NHLBI/AACE guideline. The project will be adapted from an adult obesity provider toolkit and other graphics information found on the internet. The adapted toolkit was developed by the California Medical Association (CMA) Foundation and California Association of Health Plans (CAHP. In my target population, proper management of negative weight gain with methadone treatment will increase patients treatment outcome, reduce hospital admission, reduce relapse in treatment and improve patient quality of life (Mysels et al., 2011). The toolkit contains lifestyle modification information, physical activity, and referral resources through the social worker. The toolkit will serve as a reference guide for nurses to use in identifying and managing negative weight gain with methadone treatment. The component of the toolkit is as followed:

- The goal for the adaptation of the weight management toolkit for nurses' use in caring for patient on methadone treatment will be discussed.
- Factors contributing to weight gain after initiation of methadone treatment: This section will discuss reasons for weight gain in the patient on methadone treatment
- Appropriate and quick assessment of negative weight gain include: -
    - : The weight biometric measuring guide for nurses' use in patients' assessment
        - BMI classification
        - BMI calculation.

    - Waist circumference measurement
    - The right measurement technique
- Nurses' intervention: The activities for evaluation of patients during nurses-patients' encounter will be outlined here. This include-
    - good office environment.
    - Right measuring equipment.
- Assessment of nurses' personal bias: the nurses disposition to weight gain that can affect patients' care will be discussed in this section
- Patients' related activities: these include various information to aid patients in weight management, which include: -
    - Healthy nutrition.
    - Physical activity and activities prescription.
    - Dietary sodium restriction,
    - Hydration and sleep prescription.
    - Limited alcohol consumption.
- Referral to social worker for resources for food and housing.

Appendix C: Toolkit Presentation Slides

Toolkit education slide.bola.ppt.pptm

Appendix D: Toolkit Educational Questionnaire

Toolkit Survey Questions

Please read each of the following statements and check the appropriate box that corresponds to your level of knowledge, skills and confidence regarding the weight management toolkit for patients in the clinic. Your response will be kept anonymous and confidential.

Please use the following scale for your responses.

1= Strongly Disagree 2= Disagree 3=Neutral 4= agree 5= Strongly Agree

		1	2	3	4	5
1	Negative weight gain in patients during methadone treatment poses a big risk to their treatment outcome					
2	Negative weight gain reduces patients' retention in treatment					
3	Encouraging patients on healthy behaviors for weight loss will help to improve their health outcome					
4	Incorporating the weight assessment toolkit in existing patients' assessment help to provide better evidence-based treatment to our patient population					
5	Staff should receive in-service training on overweight screening, assessment and management annually.					
6	Nurses' personal bias can contribute to patient's lack of interest in addressing the issue of being overweight in the clinic.					
7	Identifying self-bias in patient treatment and addressing the issue can greatly improve patients' care.					
8	Nurses can serve as patient educators and facilitators to help patients make lifestyle changes that will prevent weight gain and other health complications.					
9	I plan to include a weight assessment as part of patient care in the future					
10	Participating in the educational weight management toolkit program will change the way I care for patients on methadone treatment					

Appendix E: Bandura SelfEfficacy Theory