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Adolescent Obesity Intervention in an Outpatient Primary Care Setting

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Walden University
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Abstract

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MS, Walden University, 2014

BS, University of Houston Victoria, 2010

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Lack of education in the outpatient setting related to causes, complications, and prevention of obesity is associated with high rates of obesity in adolescents 12 to 19 years of age. The gap in the adolescents' and family members' knowledge of obesity contributes to the adolescents' high calorie consumption and the development of obesity. The purpose of this project was to develop a staff education guideline for use by clinicians to educate adolescents and their families on how to develop nutritious food plans and decrease obesity. The project practice question asked whether educating the primary care providers in the primary care setting increased the effectiveness of clinicians' efforts to educate adolescents and families on proper nutrition, obesity, and healthy eating. Development of the educational guideline was guided by Pender's health promotion model and Bandura's self-efficacy theory to effect the behavioral change needed to achieve the project goals. The pre- and posttest design was used with Jump Up & Go! Physical Activity and Nutrition Survey results for data collection from the electronic medical records of 20 adolescents. Results were analyzed using descriptive statistics and revealed that the staff educational guideline was 90% effective in increasing the clinicians' efforts to educate adolescents and families about obesity. Results also showed that the program was 80% effective in increasing adolescents' and family members' knowledge of obesity, assisting them in making nutritious choices to decrease obesity. The social change implications of the adolescent obesity staff educational guidelines are aligned with using evidence-based practice guidelines to increase provider efforts to empower adolescents and their families to eat well and stay healthy.

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Dedication

To God Almighty, the Provider, the Giver of knowledge, wisdom and understanding. To my precious children Ifeanyichukwu, Chidubem, Chizaramekpere and Chigozirim Agu who have travelled this rigorous way of achieving the highest educational level with me from their embryonic stage until today. To my mother Mrs. Roseline Awamba who left everything to stay with me to take care of my children through my educational journey. To my late grandfather Mr. Ogbuzuru Nweze who prophesied today. To my beloved brother Mr. Fidelis Awamba of a happy memory who envisioned today but like a Moses who saw the Promised Land but did not enter it, you did not live to see today. Brother Fide may you continue to be resting in the blossom of the Lord until we meet to part no more. To all my friends and well-wishers who has contributed in making this journey a successful one. Thank you all.

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Section 1: Nature of the Project

Introduction

Obesity has been described as a body mass index (BMI) greater than 30 kg/m2, while morbid obesity has been defined as a BMI greater than 40 kg/m2 (Hurt, Kulisek, Buchanan, & McClave, 2010). More specifically, adolescent obesity has been identified as a multifarious issue that requires multidisciplinary intervention and *systems thinking* (Canadian Task Force on Preventive Health Care, 2015). Obesity disposes the adolescent population to higher risks of developing diseases that normally seen in adults, such as cancer, liver disease, neurological disorders, cardiovascular complications, asthma, sleep apnea, and orthopedic complications (Levi, Segal, St. Laurent, & Kohn, 2011). Nearly 215,000 children and adolescents under age 20 years of age in the United States were recorded to have diabetes in 2010, while 2 million adolescents between the age 12 and 19 of age have been diagnosed with early-onset diabetic diseases (Levi et al., 2011). Lack of knowledge has been linked to the high-calorie consumption among the adolescents as well as the development of obesity among the same population (Sahoo et al., 2015). The knowledge deficiency among adolescents originated from a lack of primary-care education awareness that contributed to the absence of skills and self-knowledge required to prevent obesity among adolescents (Chan & Woo, 2010). The project focused on educating the primary care clinicians so that they can educate the adolescents and their families on the impacts of diet in the development of obesity. Section 1 explored the problem statement, purpose, nature of the project, significance, and the summary of nutrition and adolescent obesity.

Problem Statement

Regardless of ethnicity, obesity is one of the most significant health issues affecting children of all ages, especially the school-age population in the United States, regardless of ethnicity (Finkelstein, Graham, & Malhotra, 2014). According to the National Health and Nutrition Examination Survey (NHANES), childhood obesity is one of the fastest-growing public health issues in the United States (Centers for Disease Control and Prevention [CDC], 2014). In fact, the proportion of overweight children has increased from 6.5% in 1980 to 17.1% in 2004 (Finkelstein et al., 2014). Lightwood et al. (2009) projected that the aggregate healthcare costs incurred due to adolescent obesity will reach $254 billion by the year 2020. Moreover, of this amount, $208 billion will arise from lost productivity related to untimely death or disease and $46 billion from medical expenses. Lightwood et al. further projected that current rates of adolescent obesity would lead to a 5% to 15% rise in adult obesity by the year 2035, increasing the incidence of coronary heart disease (CHD) to more than 100,000 cases per year. According to a Youth Risk Behavior Survey (YRBS) conducted in 2013 by the CDC, 17.9% of adolescents in Harris County, Texas, are obese and have an average BMI above or equal to the 95th percentile, as compared to 15.7% of adolescents statewide (Houston State of Health, 2015).

The practice problem is a lack of obesity education provided to adolescents 12 to 19 years of age treated in the outpatient care setting. Houston State of Health (2013) reported that 79% of high school adolescents in Harris County consume fewer than the recommended five servings of fruits and vegetables daily. The 2013 CDC YRBS reported that roughly one in four adolescents in Harris County consume sugary drinks one or more times daily (Houston State of Health, 2015). Regardless of the different strategies implemented to control the caloric intake

among adolescents, such as school lunch modification, removing high-calorie snacks from school vending machines, and imposing taxes on high-caloric diets, the obesity prevalence among the adolescent populations is still rising (Story, Nanney, & Schwartz, 2009). Educating adolescents and their families will assist them in understanding the problem of adolescent obesity and the need to make a lifestyle change.

Purpose Statement

The purpose of this project was to educate the primary care clinicians on ways to teach the adolescents and families about nutritious dietary choices, lifestyle changes, and their relationship to obesity in the adolescent population followed in a clinic located in Harris County, Texas. The project was intended to create a primary care educational intervention program that would focus on educating the primary care providers on how to encourage the adolescent population and their family to eat well and stay healthy (Tiedje et al., 2014). Strategies included developing increased awareness and the clinicians' education on ways to improve the skills of adolescents and their families and empower their adolescent patients to improve their dietary choices. Further strategies also included educating adolescents and their family members about the importance of eating nutritious food; decreasing the consumption of sugary drinks and fatty foods; and increasing their water, fruit, and vegetable consumption (Kumanyika, Parker, & Sim, 2010). Approaches such as school meal adjustments, increasing school physical activity time, removing high calorie foods from the school vending machines, and imposing taxes on sugary and high-calorie diets have been implemented; however, a gap remained as little nutrition-related education or primary care awareness has been given to this targeted group to explain the reasons and the importance of the implemented school meals, increased school physical activity time,

removal of high-calorie from vending machines, and imposing high taxes on high-calorie and high- sugary diet policies (Story et al., 2009). There has been an urgent need for an appropriate primary care education awareness intervention that will educate the primary care clinicians on how to teach the adolescent and their families on how to make nutritious diet choices and decrease the incidence of obesity.

Seventy-nine percent of high school adolescents in the state of Texas consume less than five servings of fruits and vegetable daily. They drink more soda, watch more television, and eat fewer family meals together than the national average by approximately 3% in each category (The State of Health in Houston/Harris County, 2013). Sahoo et al. (2015) recognized the relationship between adolescent obesity and a lack of understanding about the dietary impact on obesity that existed within the population. In line with these findings, the project practice question was as follows: Does educating the primary care providers in the primary care setting increase the clinicians' effort in educating adolescents and families on proper nutrition, obesity, and healthy eating? By imparting knowledge and skills related to primary care education on adolescence obesity, the clinicians were able to educate the population in the primary care setting on how to make healthy dietary choices, eat well, and stay healthy.

Nature of the Doctoral Project

The primary care intervention project in preventing adolescent obesity was implemented at the Family and Pediatric clinic, which is an outpatient primary care facility located in Harris County, Texas. The project used the before (pretest) and after (posttest) design, with a convenience sample of 4 clinicians employed in the clinic, who deliver care to the adolescents between the ages 12 to 19 years, who consume 2-3 sugary drinks in a day, eat little or no

servings of fruit and vegetables, and has a body mass index (BMI) equal to or greater than the 85th percentile. An educational session was conducted for the clinician participants in the primary care facility, and their progress was monitored for the six weeks of the interventional program. The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire was used to collect data from participants. The survey questionnaire was focused on questions regarding the clinicians' effort on educating the adolescents about obesity, nutritious foods as well as in assessing the adolescents' current dietary patterns. The literature review was conducted using the following sources: PubMed, CINAHL, Nursing Journals @Ovid, Medline, CDC, NHANES, the Healthy people 2020 website, and the Houston State of Health website. Search terms and phrases for the literature review included obesity, adolescence obesity, childhood obesity, diet and obesity, and consequences of adolescent obesity. The data were analyzed using a percentage difference in comparing the difference between the pretest and posttest survey results.

Pender's HPM was employed as the framework that guided the project, with its primary focus on the principles that encouraged the clinicians to educate their patients to live healthy lifestyles and make healthy nutritional choices (Nursing Theory, 2013). The primary care effort to increase adolescent and family knowledge and skills on obesity and on the importance of making nutritious dietary choices involved increased general awareness of obesity risk factors by increasing the providers' effort on educating the population on proper nutrition. The planning, implementation and evaluation of the DNP project were guided by the DNP Essential VI (the disciplinary collaboration for advancing patient and population health effects) as well as the

DNP essential VII [improving clinical prevention; the population and the nation's health] (Chism, 2010).

Significance

Obesity is a modifiable condition that affects the life of adolescents in ways that can cause adult obesity and the onset of numerous health conditions (Hruby & Hu, 2015). Lack of knowledge about this condition has been linked to the high calorie consumption among the adolescent and the development of obesity in the general population (Sahoo et al., 2015). The stakeholders involved in the project were four clinicians employed in the facility who deliver care to adolescents (a) who are between 12 and 19 years of age, (b) who consume diets that consist largely of sugar and fat, and (c) who eat little or no servings of fruits and vegetables daily. The purpose of the project was to increase the awareness of primary care providers regarding ways to properly assess the nutrition status of adolescents and educate them about the negative impacts of diet that lead to obesity.

Adolescent obesity has become a major social epidemic. It adversely affects the health of the population and increases healthcare spending related to obesity and its complications. Primary care adolescent obesity education is intended to help the adolescent population make healthier and more informed dietary choices. This primary care education intervention project empowered clinicians to educate adolescents about strategies for making nutritious dietary choices. These strategies can be used in nursing practice to decrease obesity complications, including depression, low self-esteem, suicide, asthma, diabetes, cardiovascular diseases, and sleep disorders (Kalra, De Sousa, Sonavane, & Shah, 2012).

The outcomes of this DNP project may be used by the local Health and Human Service Commission to educate the individual enrolled in the Women, Infants, and Children (WIC) nutrition program about strategies for making healthier and more nutritious dietary choices to prevent obesity (Herman, Harrison, Afifi, & Jenks, 2008). The outcomes may be used within families (a) to improve their dietary patterns; (b) to help them select fruits and vegetables more frequently; and (c) to decrease the consumption of sugary, high-processed and high-fat foods. The project outcome may also be useful in local healthcare facilities. These outcomes can augment primary care efforts to help patients make more informed and healthier dietary choices by educating them about the important role that diet plays in decreasing obesity and related comorbidities (Fitzpatrick et al., 2016).

The positive implications for social change include increased provider efforts to empower adolescents and their family members to eat well and remain healthy. The program will improve the eating habits and lifestyle of adolescents and decrease the severity of their obesity as well as other health-related complications. In addition, helping adolescents return to a healthier weight (and maintain it) will decrease obesity-related healthcare spending at the clinic. Implications for positive social change further include an improved self-image, which may lead to fewer episodes of depression and a lower suicide rate among adolescents. Finally, adolescents who learn to consume more nutritious food and lose weight may serve as a positive example for their siblings, friends, and other members of their social circles, thus helping them eat more nutritious foods, lose weight, and adopt a healthier lifestyle.

Summary

Adolescent obesity is a diverse and complex problem that requires multidisciplinary intervention and systems thinking. Adolescent obesity has created numerous health comorbidities that, until recently, had been observed only in the adult population, such as endocrine abnormalities, cardiovascular problems, gastrointestinal issues, pulmonary problems, orthopedic difficulties, neurologic complications, dermatologic issues, psychosocial problems, and functional limitations (Koyuncuoğlu-Güngör, 2014). Adolescents in Texas consume fewer than five servings of fruits and vegetables daily, drink more soda, watch more television, and eat fewer family meals together than the national average. Lack of awareness about the important role of nutrition has been linked to high-calorie consumption as well as the development of obesity among adolescents. The clinical practice problem that served as the impetus for this project is a lack of standard primary care guidelines to assess dietary consumption and provide education about the role of diet in obesity development among adolescents. The purpose of the project was to develop a primary care adolescent obesity education awareness program. The goal of the program is (a) to enhance the ability of primary care providers to assess adolescent nutrition life patterns and (b) to educate them about how to make dietary choices that are healthy in order to prevent obesity and its complications. The education awareness training involved informing clinicians about how to help adolescents decrease their intake of sugary and fatty foods and increase their consumption of fruits and vegetables. The project improvement initiative used a variety of sources to provide evidence that supported the program. A pretest/posttest design was used to evaluate knowledge related to obesity before and after implementation of the educational program. Data analysis was conducted using the difference in percentages to compare the gap in knowledge related to obesity between the pretest and posttest

results. The results determined whether adolescents experienced (a) an increase in awareness about obesity as well as (b) an increase in their consumption of fruits and vegetables. Section 2 focuses on the concepts, models, and theoretical frameworks that guided the project, the relevance of the DNP project to nursing practice, the background of the problem of study, the role of the DNP student, and the project team.

Section 2: Background and Context

Introduction

Before the DNP project, at the pediatric outpatient primary care center where the project was implemented, no obesity-related education or follow-up care had been provided to the adolescent population affected or those who were at risk of developing obesity and health-related complications. There was a critical need for creating an appropriate primary care educational awareness program that would focus on educating adolescents and their family members about diets, obesity, obesity-related health complications, and obesity-prevention methods. The clinic site monitors adolescents; records their height, weight, and BMI during routine wellness visits; and encourages obese and at-risk adolescents to engage in regular exercise. However, no proper education has been provided to them about the importance of engaging in these exercise activities. Section 2 presents information about the central concepts, models, and theories applicable to the study; the relevance of the project to nursing practice; the local background and context; the role of DNP students; and the role of the project team.

Concepts, Models, and Theories

The DNP project on the adolescent obesity education interventional program was guided by Pender's HPM. The HPM assumes that one of the primary responsibilities of the healthcare provider is to encourage and educate individuals on how to care for themselves, which includes teaching them on how to practice a healthy lifestyle (Ryan, 2009). More specially, the HPM assumes that individuals involved in their own healthcare likely will decrease their risk of developing some health disorders by optimizing their care outcomes (Ryan, 2009). The HPM

outlines the complex aspect of individuals as they interrelate within their surroundings in their search for well-being (Galloway, 2003).

The HPM relies on the three different aspects: (a) individual characteristics and experiences, (b) behavior-specific cognitions and effects, and (c) behavioral outcomes (Pender et al., 2011). The HPM acknowledges individuals as unique beings comprised of personal characteristics and experiences that affect subsequent actions. The model suggests that individual experiences, behavior-specific cognitions and affect, and behavioral outcomes have significant motivational effects on health-promoting behavior. These factors include personal characteristics and experiences, behavior-specific cognitions and effects, and behavioral consequences - all of which are subject to modification through nursing efforts. Recognizing the assumptions of the HPM should help participants improve and enhance their wellbeing. Ultimately, behaviors are also subject to immediate challenges, demands, and predilections, which can disrupt proposed actions for promoting health (Pender et al., 2011).

The HPM contains four assumptions that suggest individuals continuously strive to control their actions. HPM states that people, in all their biopsychosocial uniqueness, interrelate with their surroundings, gradually changing the background as well as undergoing improvements. The model implies that healthcare providers, including nurses, work within a collaborative environment that empowers individuals. The model assumes that the reconstruction of self-initiated behaviors within an individual's interactive background is crucial to behavioral modifications. The HPM has been used in seven interventions to measure health outcomes, including the Health Risk Appraisal (HRA), Health Enrollment Assessment Review (HEAR), Health Promoting Lifestyle Profile (HPLP), Behavioral Risk Factor

Surveillance System (BRFSS), Medical Outcomes Study (MOS), Wellness Evaluation Battery (WEB), and Data Envelopment Analysis (DEA) (Galloway, 2003).

Health Promotion Model

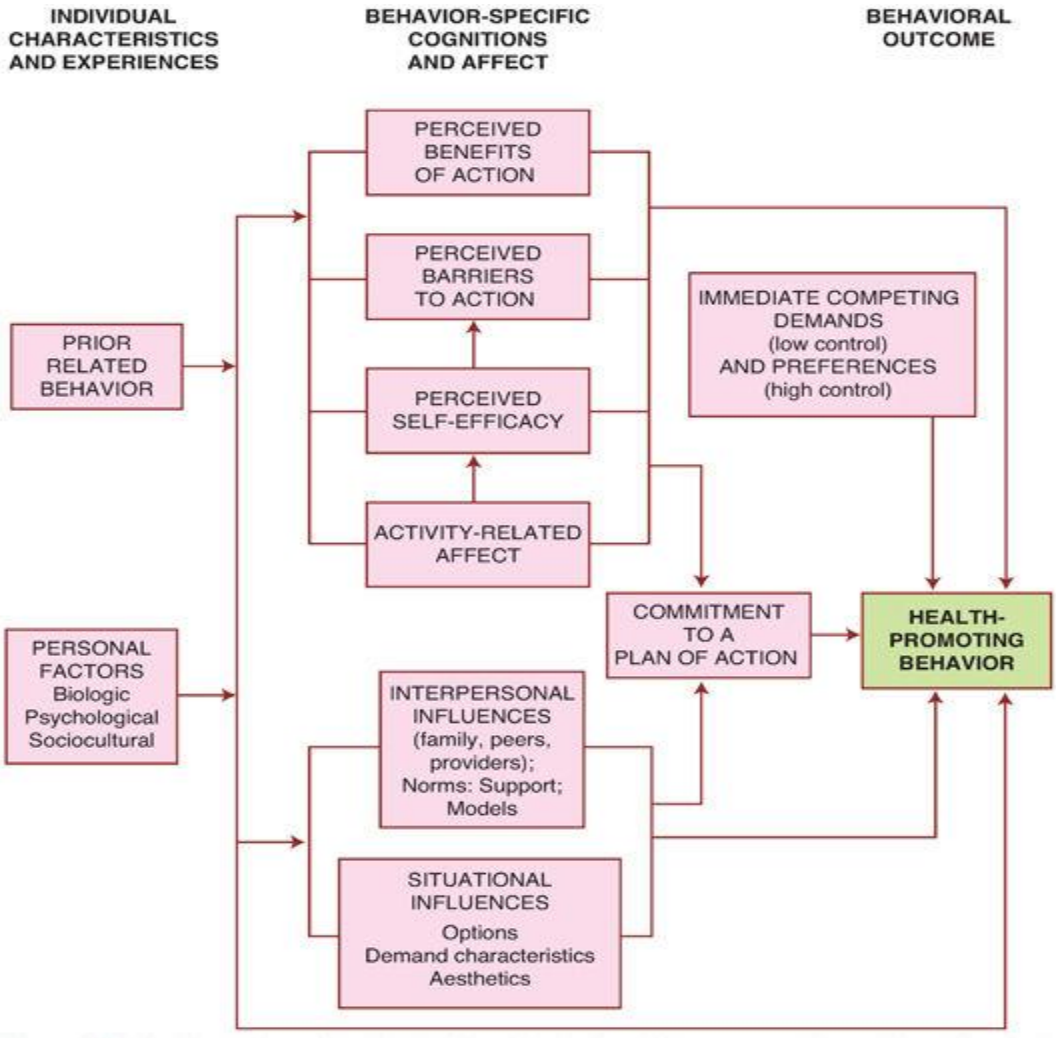

Figure 1. Matrix for HPM. Pander, N. J., Murdaugh, C. L. & Parsons, M. A. (2011). *Health promotion in nursing practice* (6th ed.). Reprinted by permission of Pearson Education, Inc., Upper Saddle River, NJ.

Individual characteristics and experiences, prior related behavior, and personal factors are essential in predicting the perceptions of adolescents about the influence of nutrition on the development of obesity (Campbell et al., 2007). Their experiences can affect their ability to perceive the benefits of obesity education and the negative outcomes of poor dietary choices on the development of obesity. Adolescent characteristics (such as age and race, height and weight, and expectations of others) as well as situational factors (such as availability of resources in the form of healthy foods, peer pressure, and coping patterns) affect behavior, cognitive ability, and affect (Allender, Rector, & Warner, 2010). The HPM provided a framework for motivation that helped adolescents make nutritious choices.

The behavior-specific cognitions and affect, which comprise the second major element of the HPM, is translated into three different subconcepts: (a) perceived benefits of action, (b) perceived barriers to action, and (c) interpersonal influences. Perceived benefits of action describe the disposition of adolescents in terms of projected positive outcomes--i.e., healthy behavior. Perceived barriers to action include personal challenges that can cognitively impair the ability to understand behavioral consequences. Interpersonal influences consist of attitudes, beliefs, and norms. According to Galloway (2003), families and peers, including coworkers, were sources of empowerment or hindrance in terms of behavioral change. Numerous individuals do not understand that their conversations can positively or negatively influence the degree to which others achieve their healthcare goals. The efforts of primary care providers are needed to positively influence adolescents to make nutritious choices that can improve their wellness efforts and advance their quality of life.

Behavioral outcomes, which comprise the third and the last domain of the HPM, is the evaluation of the results of the first and second domain of HPM: the individual characteristics and experiences as well as the behavior-specific cognitions and affect. The HPM supports an adolescent obesity education intervention program (a) by increasing the efforts of primary care providers to prevent obesity in adolescents and (b) by assessing and educating adolescents in the primary care setting. Implementing a routine assessment for obesity and its risk factors among adolescents as a component of their regular primary care visits will decrease obesity and complications (Daniels & Hassink, 2015). The HPM model supported this project by bridging the gap between the adolescents' knowledge deficits and knowledge acquisition in ways that have helped them make healthier choices related to the use of nutritious foods.

The researcher predicted that using the HPM framework would help adolescents better understand the need for a significant increase in the consumption of five or more servings of fruits and vegetables per day. This model has increased the autonomy of adolescents by (a) helping them to take control of their health, by (b) helping them to engage in activities designed to improve their dietary lifestyles, and by (c) preventing obesity, which is critical in advancing nursing science and improving clinical practice (Pandita et al., 2016). The model assisted in understanding the critical elements of adolescent obesity used in the awareness program as the focus for behavioral counseling that promoted healthy eating lifestyles (Galloway, 2003). Use of the HPM was focused on educating and empowering adolescents to eat well and stay healthy by making healthy, nutritious choices (Flynn, 2015). It helped in analyzing the growing need for obesity education and in predicting adolescents' education interventional outcomes.

Self-Efficacy Theory

Albert Bandura's self-efficacy theory was used to guide the project planning, implementation, and evaluation. Self-efficacy theory explains the importance of empowering individuals to autonomously manage their health conditions (Bandura, 1986). The application of this theory emphasized the importance of educating individuals and enabling them to accept responsibility for their healthcare by assuming responsibility for their care management. Smith and Liehr (2008) described self-efficacy theory as "one's personal judgmental competencies or capability in organizing and accomplish actions" (p. 1). Bandura (2011) also stated that individuals "function as contributors to their own motivation, behavior, and development within a network of reciprocally interacting influences" (p. 169).

The theory of self-efficacy was developed in the field of psychology to affect social cognitive changes. Self-efficacy theory has been applied in a wide variety of different occupations--for example, educating students and measuring their level of confidence (Hackett & Betz, 1995). Self-efficacy theory also has been used in the field of nursing to educate and empower individuals to develop the autonomy required to manage their health condition independently and to achieve anticipated desirable health outcomes (Lenz & Shorttridgett, 2002). Self-efficacy was measured through self-assessment in comparison to the standard required to accomplish positive health results (Smith & Liehr, 2008). Self-efficacy relies on a social cognitive theory that hypothesizes person-behavior-environment as three elements that are firmly related to each other (Bandura, 1986). The existence of this triadic commonality serves as the connection between individuals, their behavior, and their environment (Smith & Liehr, 2008, p. 120). The adolescent obesity educational intervention awareness program outcome provided a

useful framework in helping adolescents develop self-efficacy skills required to manage their health-related conditions.

Figure 2. *Self-efficacy theory*. Bandura, A. (1986). *Social foundations of thought and action.* Englewood Cliffs, NJ: Prentice Hall. Retrieved from: https://wikispaces.psu.edu/display/PSYCH484/Fall+2015+-+Group+2+-+Self-Efficacy+and+Social+Cognitive+Theories+Case+Study

Relevance to Nursing Practice

Adolescent obesity increases the likelihood of developing numerous health comorbidities that have resulted in increased healthcare spending and decreased the quality of health (Koyuncuoğlu-Güngör, 2014). Development of obesity among the adolescent population has been the result of a lack of understanding about obesity, its causes, and methods of prevention (Sahoo et al., 2015). Currently, no primary care guideline has been implemented for assessing the dietary lifestyle of adolescents. Likewise, no strategy has been implemented to create awareness about the importance of dietary choices on the development of obesity among

adolescents before this DNP project was developed (Daniels & Hassink, 2015). The absence of a primary care guideline for obesity awareness was a contributing factor leading to decreased knowledge about obesity among adolescents as well as its increased prevalence among this population (Karnik & Kanekar, 2012). The outcome of the project may lead to increased efforts among primary care providers to educate adolescents, decrease comorbidities, decrease healthcare spending and increase the wellbeing of adolescents--all of which plays a significant role in promoting healthy lifestyle and nutritional choices.

Local Background and Context

Nearly 46% of adolescents in the state of Texas are overweight or obese (The State of Health in Houston/Harris County [TSHHHC], 2013). Seventy-nine percent of adolescents consume less than five servings of fruits and vegetable daily, drink more soda, watch more television, and have fewer family meals than the national average by approximately 3% in each category (TSHHHC, 2013). The increase in obesity prevalence rates among the adolescent population is related to a discrepancy between energy consumption and energy expenditure directly related to lifestyle behavior and dietary consumption, such as fast food intake, sugary beverages, snack foods, and portion sizes (Sahoo et al., 2015). Lack of knowledge has been linked to high-calorie consumption among adolescents and the development of obesity among this population (Sahoo et al., 2015). Currently, there has been no primary care guideline for assessing adolescents' dietary lifestyle and no strategy for creating awareness about the influences of dietary choices on obesity. The absence of a primary care guideline regarding obesity awareness among adolescents leads to decreased knowledge about obesity and increased prevalence rates.

The adolescent obesity educational intervention project was conducted in a small outpatient pediatric clinic where 90% of the population is from low-income families and insured through Medicaid. More than 95% of the adolescents treated in the clinic were either overweight or obese. The clinic delivers care to 15-20 adolescents on a daily basis; this care includes routine medical visits and wellness checks. Although the adolescents and their families have been encouraged to stay active, they have not been provided education about the importance of staying active. No proper screenings have been performed to assess their dietary lifestyles, and no patient education has been provided on obesity, its causes, health-related implications, or its prevention.

Role of the DNP Student

According to the Walden University Doctoral of Nursing Practice program, graduates are expected to participate in leadership activities, offer leadership guidance, and apply evidence-based practices at their practicum sites. The leadership role requires participation and application of leadership qualities, including (a) hypothetical, empirical, and practical illustrations of knowledge; (b) interdisciplinary project team leadership; (c) dissemination of research into a practice setting; and (d) evaluation and advancement of healthcare delivery and outcomes (Walden University, 2015). The DNP student role includes leadership in the form of collecting information, empowering subordinates, guiding the groups, and in exhibiting the qualities of a goal setter (Cooke, Hilton, Sciences & National Research Council, 2015).

For this project, the DNP student collaborated with the project team; maintained an open line of communication to receive information, provide feedback, engage in planning activities, implement project initiatives, and evaluate the project outcome. The DNP student role involved

establishing and maintaining effective and productive working relationships, mobilizing the efforts of team members, planning and evaluating the outcome of project goals, exercising appropriate authority, and assuming responsibility for resolving difficult challenges (Rylatt, 2013).

Role of the Project Team

The role of the project team included contributing to the overall project objectives, completing individual activities, delivering proficiency in working with project participants and project leader to establish and achieve the project planning, implementation, evaluation process and the outcome. The project team was composed of the DNP student who was the project leader, the medical director, the nurse practitioners, and a physician assistant. The project team assisted the team leader in designing the actual change, and in creating strategies that guided the team in carrying out their functions. The group helped with the management on the practical aspects of the project such as planning, availability of resources, activity assignment, financial plan/budgeting and in monitoring the activity needed to achieve the anticipated change as outlined by the Doctor of Nursing Practice Essential Four (American Association of Colleges of Nursing [AACN], 2006). The project team's role included upholding team effort in supporting the project leader in integrating change management plans into the project plan as supported by DNP essential number four (AACN, 2006). The team met every Thursdays of the week for one-hour and discussed and gave feedback on the primary care adolescent obesity education interventional project for the six weeks of the project.

Summary

Obesity has become a major health issue affecting the adolescents. The obesity epidemic manifestation in the adolescent population affects healthcare spending by increasing the amount of money spent on inpatient treatment, physician visits and outpatient care, and on the prescription drugs. The project implementation site has no guidelines related to screening, diagnosis and management/educating adolescents on the causes, complications and prevention of obesity. Because of the absence of the educational guideline related to adolescents and obesity, adolescents and their families lack the knowledge needed to prevent obesity by making nutritious choices. Obesity related numerous behavioral problems seen in adolescence populations included anxiety, depression, isolation, withdrawal, hyperactivity, conduct problems, low self-esteem, peer conflicts, impulsivity, interaction difficulties, and familial influences, poor social functioning including school dropouts. These behavioral issues have necessitated a need for the development and implementation of an obesity intervention guideline on educating adolescents on obesity and healthy eating at the practice site. Health promotion education has been shown to be effective in teaching individuals on how to manage their condition and stay healthy. HPM provided the framework to explore the motivation that empowered adolescents to make nutritious choices and prevent obesity. DNP students have a distinctive role in advancing adolescent health and in decreasing obesity. The DNP student's part included leading and directing the project team, advocating for improvement of adolescent's health. Educating, and empowering adolescents to adopt the skills needed in making healthy dietary choices, eat well and stay healthy and collaborating with primary care providers in creating an adolescent obesity awareness program to improve the individual's healthcare outcome, as mandated in delivering the DNP student leadership role. The project team collaborated with the project leader in

planning the adolescent obesity guideline, the implementation process, and in evaluation of the project outcome. Section three was focused on the practice-focused questions, sources of evidence, analysis, and synthesis.

Section 3: Collection and Analysis of Evidence

Introduction

The primary care adolescent obesity interventional project was intended to determine whether educating the clinicians in the primary care setting on how to educate the adolescent on the causes and complications of obesity will improve the clinician's effort in educating the population on obesity and a nutritious eating lifestyle, to decrease obesity in the age group. Educating the primary care providers on how to educate the adolescent and family on the impact of diet in the development of obesity using evidence-based guidelines increases the obesity awareness, improve dietary choices, and decrease obesity. Researchers have shown different strategies that have been attempted to control obesity in the adolescent population including school meal adjustments, increasing school physical activity time, removing high calorie foods from the school vending machines, and imposing taxes on sugary and high calorie diets (Barlow, 2007; Story et al., 2009; United States Preventive Services Task Force [USPSTF], 2010; & Appel et al., 2011). A gap remains as little or no primary care awareness has been given to explain to the population the nutrition impacts on developing obesity. The outcomes of the primary care adolescent obesity interventional education project would promote the clinician's effort in educating the adolescent and their family in making nutritious choices to help decrease the incidence of obesity in the adolescent population.

Practice-Focused Questions

The project site delivers little or no education related to obesity and its causes to the adolescent population. The clinic staff measures the adolescent's weight, height and document the BMI at every visit. Providers encourage adolescents to exercise and stay healthy, but no

specific obesity related education is provided. Adolescents continue with the consumption of high caloric and fatty foods resulting in a steady increase in their weight. The practice-focused question was: Does educating the primary care providers in the primary care setting increase the clinician's effort in educating the adolescents and families on proper nutrition, obesity, and healthy eating, as measured by the percentage increase in primary care provider's awareness effort in preventing obesity in the population?

Sources of Evidence

A comprehensive literature review was conducted using the Walden University library site as the primary source to locate peer-reviewed research and review articles, expert opinions and case studies related to adolescent obesity, causes, complications, and management from PubMed, CINAHL, Nursing Journals @Ovid, Medline, Cochrane, SAGE, and ProQuest. CDC, NHANES, Healthy people 2020 website, the Houston State of Health, and United States Preventive Services Task Force (USPSTF) sites for the year 2005-2018. Search terms for the literature review included obesity, adolescence obesity, childhood obesity, pediatric obesity, diet and obesity, the consequences of adolescent obesity, and adolescent obesity management. The inclusion criteria are obesity, adolescent obesity, nutrition, complications of obesity, management of adolescent obesity. The search generated 136 articles related to adolescent obesity, causes, complications, management and preventions. The choice of the articles was made based on the topic of the project, the study significant, the outcome, the target population, the sample size, the methodology used, the strength and limitation and the conflict of interest.

Review of Findings

Causes of Adolescence Obesity

Park et al. (2012) used a cross-sectional to examine the dietary habits of 15,283 middle and high school students in Texas and found that approximately one in four adolescents drank sugar-sweetened beverages (SSB) at least three times in a day. The study revealed that adolescents between the age 12 to19 years old consume the highest SSB in comparison with children of other age groups, thereby increasing their risk of developing obesity (Park et al., 2012). The higher intake of SSB has been linked to adolescent obesity (Park et al., 2012). The high consumption of the SSB among the adolescent necessitated an urgent need for the development of a primary care education intervention that can increase the clinicians' efforts on educating the adolescence on how to decrease such consumption and increase consumption of nutritious foods.

Ogden et al. (2011) used the NHANES guidelines to study the sugar-sweetened beverages consumption on adolescents 12-19 years of age and concluded that average energy consumption from SSB among the adolescents was 273 kilocalorie counts per a day for boys and 171 kilocalorie counts per a day for girls between the year 2005–2008. The author inferred that high intake of SSB is related to the teen's development of obesity, dental caries, diabetes mellitus type two, lipid disorder, hypertension, abnormal behaviors, mental disorders and displacement of nutritious foods. The cross-sectional study linked a poor eating lifestyle and sedentary behavior as the contributory factor for the high consumptions of SSB. The adolescent obesity program at the primary care clinic will increase the primary care obesity awareness that will result in increased knowledge on obesity and decrease consumption of SSB in the adolescent's populations.

Reedy and Krebs-Smith (2010) concluded that the primary source of energy consumption for adolescents consisted of grain desserts, pizza and soda consisting of 138 kcal, 136 kcal and 118 kcal respectively. The author noted that approximately 2,027 kcal/day consumed by the adolescents was obtained from the empty calories, which is more than the recommended calorie intake for all sexes and age groups (Reedy & Krebs-Smith, 2010). The increased consumptions of the high caloric diet as proved by the author resulted from lack of knowledge of obesity related to an absence of obesity education and proper awareness. The DNP project educated the clinician on how to educate the teens and their families on the calorie contents of the SSB and the recommended daily value of caloric intake.

Complications of Adolescent Obesity

Pi-Sunyer (2009) established that obesity is the leading cause of avoidable death in the United States. The author viewed adolescent obesity as the primary cause of developing the cardiovascular disorder (CVD), diabetes, cancer and other numerous chronic conditions including osteoarthritis, liver and kidney disease, asthma, sleep apnea, and depression in the adolescent population. He highlighted on the importance of family involvement in preventing these complications among the teens. The clinicians were educated on the complexities of obesity and strategies to avoid those by eating healthy. Levi et al. (2011) believed that one of the contributing factors related to the development of adolescent obesity is because of the lack of lipid screening that may lead to late diagnosis of hyperlipidemia in the population. The writers noted that nearly 215,000 children and adolescents under the age 20 years have diabetes, while two million adolescents between the age 12 and 19 years have early onset of diabetic disease (Levi et al., 2011). Adolescent obesity increases their risk for developing illnesses seen in adult

including cancer, liver disease, neurological disorders, cardiovascular complications, asthma, sleep apnea, and orthopedic complications (Levi et al., 2011). These complications of obesity noted in the teen population call for an urgent need for the development of an educational intervention to increase the adolescent's knowledge of obesity and decrease its complications. The primary care adolescent obesity educational awareness obesity project expanded the primary care provider's effort related to screening and early detection of adolescents at risk of developing obesity.

Biro and Wien (2010) concluded that adolescent obesity is related to the development of sleep apnea, polycystic ovarian syndrome, pseudo tumor cerebri, and Blount's disease. Obesity in adolescents was linked to earlier puberty and menarche in girls, diabetes mellitus and higher prevalence of the metabolic disorder in adolescence. It was discussed that adolescent obesity leads to adult obesity and the development of numerous cancers in adults, resulting from insulin resistance and production of inflammatory cytokines (Biro & Wien, 2010). The primary care obesity project educated the clinicians on how to teach the population on making better caloric choices to prevent obesity and its complications.

Lightwood et al. (2009) projected that aggregate extra health care costs of adolescent obesity if not prevented is calculated to be $254 billion by the year 2020. The author established that $208 billion obesity-related health cost would be incurred from lost productivity related to untimely death or disease and $46 billion from medical expenses. It was concluded that current teen overweight would lead to a future rise in adult obesity for up to 5 to 15 percent by the year 2035, thereby increasing the incidence of coronary heart disease (CHD) by more than 100 000 by the year 2035 (Lightwood et al., 2009). The project increased the obesity awareness effort in the

primary care setting, by expanding the adolescent's knowledge on obesity, decreased consumptions of SSB, improved the dietary choices, decreased obesity and related complications, and decreased obesity healthcare spending.

Interventions Tried

The National Conference of State Legislatures (2014) instituted the Healthy, Hunger-Free Kids Act policy in 2010 to help control adolescent obesity. The policy of Healthy, Hunger-Free Kids Act was enacted into law as the school nutritional policies under the Public Law 111-296. The strategy aims to make nutritious foods available to children throughout the school day. Federal law has mandated that each local school district starting from the 2006-2007 school year, to participate in the National School Lunch and Breakfast programs to establish a domestic wellness policy (NCSL, 2014). Despite the programs and legislation, the obesity rate in the adolescent population in Harris County was still increasing as the adolescents and the family was not educated on the reason for the recommendations and changes. The primary care project helped the adolescents and their family to understand the negative impacts of high calorie foods and SSB in the development of obesity and its complications, which increased their efforts in adopting the recommended interventions.

The U.S. Department of Health and Human Services in October 2008 introduced the program "The first national Physical Activity Guidelines for Americans" in their effort to decrease the prevalence of obesity in the adolescent population (Office of Disease Prevention & Health Promotion [ODPHP (2017). The program recommends 60 minutes of age-appropriate, enjoyable and different daily, moderate-to-vigorous physical activity for children (ODPHP, 2017). The Centers for Disease Control and Prevention (CDC) established that physical activity

during the school day not only provides health benefits such as strengthening the heart, muscles and bones but also increases students' academic achievement (ODPHP, 2017). Even though the CDC believed that the intervention was effective, the goals of obesity management were not achieved due to a lack of commitment by the adolescent to participate in activities and their continued consumption of high caloric diet. Educating the primary care clinicians on the ways to deliver appropriate nutrition education to adolescence and family in the primary care setting has bridged the existing knowledge gap, increase the provider's effort on adolescents' obesity assessment and management.

Story et al. (2009) confirmed that strategies such as removing high energy, high calorie diets from the school dietary menu, eliminating junk food from school vending machine; and increased consumption of vegetables and fruits, reduced the incidence of obesity among adolescents. The study concluded that added physical activity, eliminating high energy, and high calorie diets from the school dietary menu, removing junk food from school vending machine; and increasing the consumption of vegetables and fruits was significant in preventing obesity by building environments where adolescents can consume nutritious food and participate in regular physical activity (Story et al., 2009). It was also established that "physical activity can be added to the school curriculum without academic consequences and also can offer physical, emotional, and social benefits" (Story et al., 2009, p. 71). Educating the primary care providers on ways to educate the adolescents and families on the complications of obesity and strategies to prevent them by eating nutritious meals has decreased the adolescent's access to high calorie and fatty foods.

In a meta-analysis Sim et al. (2016) examined whether primary care adolescent obesity prevention is effective in preventing obesity in adolescence. The author noted that increased primary care providers' effort in educating adolescents and their family on obesity and consumption of nutritious food was significant in controlling obesity as evidenced by decreased BMI and increased nutritious choices in the study participants. The meta-analysis on the review on the effect of primary care adolescent obesity intervention carried out on the pediatric population between the age 4 and 18 years showed that the effects of interventions as compared with no intervention. The analysis of indicated that routine care, or dynamic care interventions, office-based, primary care–level interventions for childhood obesity were related to a significant outcome on z-BMI of –0.04, (95% confidence interval [CI], –0.08 to –0.01), $p < .02$; with no discrepancy across studies (I2 = 0%) (Sim et al., 2016). The project has created a primary care awareness that increases the primary care providers' understanding on the increased incidence of obesity among the adolescence and the urgent need to educate them on how to prevent it.

Archival and Operational Data

In the effort to understand the clinic site's problem on the management of adolescent obesity, needs assessment were conducted, and data was collected. The data revealed that over 95% of the adolescents seen in this clinic were either overweight or obese. Out of the 150 adolescent medical records reviewed, 140 adolescents were severely obese and exhibited many complications, including diabetes mellitus type two, acantosis nigricans, polycystic ovarian syndrome, depression, learning disorder and musculoskeletal issues. The clinic has no standardized guidelines related to assessment, diagnosis and education of the adolescent and his/her family on obesity and nutritious eating. The primary care setting measures the

adolescent's weight, height, and calculates and documents their BMI during the office visits. The facility providers encourage the teens and their families to stay active. No education was given to the adolescent or their family on the importance of staying active. There were no standardized screening guidelines to assess the adolescent's and family's dietary lifestyle, and no patient education was provided on obesity, its causes, health related implications and preventions. There is also no strategy to provide follow-up telephone calls and rescheduling of clinic appointments to monitor the adolescents weigh and eating lifestyle before the staff education project.

Evidence Collected for the Doctoral Project

Participants

The participants for the evidence-based DNP project include four members of the staff who work in the primary care practice facility. The four selected participants include the clinic medical director/CEO, two nurse practitioners, and one physician assistant employed to deliver care to the adolescents that seek their primary care in the clinic site.

Procedures

The Walden University IRB approval was obtained before the beginning of the project implementation with the approval number 11-27-18-0416280. The initial process involved the development of the educational materials and the presentation of the developed material to the primary care facility medical director/CEO for initial evaluation, feedback and approval. The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaires (Appendix A), was used to assess the clinicians' baseline knowledge before the educational component. The pretest questionnaire was distributed to the staff participants at the clinic in a sealed envelope

that contained the instructions, the allotted timeframe and a returned envelope marked pretest questionnaire. The envelopes containing the completed survey were placed in the specified locked data collection box located in the facility staff room. The data collection box was checked every Tuesday and Thursday through the period of the project.

The primary care education interventional guideline was developed and provided to the clinicians to use in educating the adolescents and their families on obesity, the behavioral risk factors associated for the development of obesity, including poor eating habits. The interventional guideline education contained the information on how to educate the adolescents and families on reading and interpreting food labels to determine the dietary caloric contents. The guideline includes different strategies in teaching the targeted population on how to make nutritious choices including educating them on the various food calorie contents and the individual's daily required calorie consumptions based on United States Department of Agriculture (USDA) guidelines. The staff educational guideline on adolescent obesity included information on the relationship between diet and the development of obesity, obesity complications and how to prevent obesity through eating nutritious foods. After obtaining the facility CEO approval of the educational guideline, the guideline was handed to the four clinicians at the beginning of the educational component. The Primary care adolescent obesity education interventional project consisted of a two-hour verbal and visual presentation of the developed guideline using PowerPoint slides and pamphlets on obesity and health eating. The introduction of the staff education guideline was presented in the clinic conference room in the presence of the clinician participants. The developed obesity pamphlets were distributed to the clinicians during the educational section for the use of the educational project. The clinicians'

concerns were addressed during the presentation and feedbacks were obtained. As the project leader, I educated the staff, offered responses to any concerns they had, evaluated their effort and received feedback from the staff through the project implementation. I collected information from the team, empowered them and made any necessary adjustments towards achieving the project goals.

After the educational sections, the same questionnaire was distributed to the staff participants to evaluate the outcome of the staff education. The posttest questionnaire was given to the staff participants after implementing the educational guideline at the clinic in a sealed envelope containing the survey, the instructions, the allotted timeframe and an envelope marked 'post-test'. The staffs were allowed to complete the survey at their convenience in the allotted time frame. The completed survey was returned sealed in the envelope marked 'post-test' when they came back to work and it was placed in the locked data collection box located in the facility staff room. The surveys were collected on Tuesdays and Thursdays and stored in the locked cabinet in the manager's office until the analysis was completed at the end of the six weeks of the educational project.

Protections

To maintain the protection of the participants, I completed a course from The National Institutes of Health (NIH) Office of Extramural Research on Protecting Human Research Participants and was certified on 07/24/2016. An approval from the Walden University IRB was obtained on 11/27/2018 with the approval number 11-27-18-0416280 before implementing the project. Official permission was obtained from the primary care facility before the project implementation. A written consent was obtained from the staff participants with specifications

that the individuals willingly accept to participate in the primary care adolescent obesity education interventional project and will offer their recommendations and evaluations of the primary care adolescent obesity guideline without being compelled or forced. To protect the participants' identities, the participants' information was safeguarded in a locked cabinet, in the locked manager's office. The cabinet was locked, coded and was made accessible to team members only. The Health Insurance Portability and Accountability Act (HIPAA) laws were strictly maintained and enforced. The first three letters of the participants' first and last name were used to identify the participants and their age was written instead of their date of birth. The importance of maintaining the confidentiality of the participants' information was highly emphasized with the team members to prevent any sharing or to discuss the participants' information with the third party, and to avoid unnecessary access to participants' files. The project used the primary care facility computers, which were protected with a firewall, antivirus, and antimalware. All email messages related to the study were encrypted.

Analysis and Synthesis

The focus question for the project was, "Does educating the primary care providers in the primary care setting increase the clinician's effort in educating the adolescents and families on proper nutrition, obesity and healthy eating, as a measured by the percentage difference on the clinicians' obesity awareness effort from the pretest and post-test results?" The data analysis used the percentage difference method in comparing the difference in the data collected from the pretest and posttest questionnaires, while the effectiveness of the staff education on the primary care education intervention on adolescence obesity was determined based on the resulting difference between the pretest and the posttest results.

Summary

The evidence-based project intended to increase the primary care adolescent's obesity awareness by creating an obesity education interventional program for educating adolescent and family on obesity, causes and complications and how to prevent it by making nutritious choices. Numerous studies have shown different approaches attempted to decrease obesity in adolescence, which have yield little or no outcome due to lack of knowledge of obesity among the adolescent and their family. The studies concluded that there is no appropriate primary care guideline in educating the population. Several articles were reviewed through the Walden University library resource including the peer-review journals, expert opinions and case studies from PubMed, CINAHL, Nursing Journals @Ovid, Medline, Cochrane, SAGE, and ProQuest. The Center of Disease and Preventions (CDC), National Health and Nutrition Examination Survey (NHANES), Health people 2020 website, the Houston State of Health, and United States Preventive Services Task Force (USPSTF) sites for the year 2005-2018. The primary care facility has no guideline on educating or managing adolescence obesity. The absence of the guideline produces an urgent need for creating an educational intervention program to increase the provider's awareness on adolescent obesity, and to empower them to educate and manage obesity in adolescents. A signed consent was obtained from the staff participants to establish their voluntary participation in the staff education on adolescent obesity educational sections. The confidentiality information was prioritized following the HIPAA guidelines. The analysis of the pretests and posttests of the staff participants were used to assess the effectiveness of the staff educational project. Analysis and synthesis were performed using the percentage difference to determine the significance of the program as evidenced by increased staff effort on educating adolescent and family about

obesity and make nutritious choices. The outcome of the adolescent obesity education interventional project was shared with the primary care facility staff and stakeholders to encourage them to adopt the adolescent obesity education interventional guideline in their primary care facility as a standard of care to be implemented. Section four discussed the study findings and implications, recommendations, the contribution of the doctoral project team, the strengths and limitations of the study.

Section 4: Findings and Recommendations

Introduction

Increased obesity awareness for the adolescent at the primary care site was needed to help decrease obesity in the adolescent population. The pediatric outpatient facility used for the project delivers primary care services to an adolescent population, of which more than eighty five percent were either overweight or obese. The staff education was developed to educate the clinicians on how to educate the adolescents and their families on obesity and nutritious eating. The clinicians in the primary care facility delivered little or no adolescent obesity education to the population prior to the development of the staff education on the adolescent obesity intervention project. The absence of the clinicians' efforts in educating the adolescents and their families on obesity, its causes and implications, may have contributed to their high consumption of sugary, high caloric diet and the development of obesity and obesity complications.

The purpose of the project was to develop a staff education guideline that can be used by the clinician in the primary care facility to educate the adolescents and their families on how to develop nutritious food plan and prevent obesity and its complications in the group. Evidence-based guidelines are crucial in development of health educational strategies that will assist in health management and disease preventions, such as in creating the primary care adolescent obesity intervention program (Blake & Harrison, 2013). The project was conducted to remedy the lack of adolescent obesity education by the clinicians in the primary care setting. The practice-focused question was: Does educating the primary care providers in the primary care setting increase the clinician's effort in educating the adolescents and families on proper nutrition, obesity and healthy eating, as a measured by the percentage difference on the clinicians'

obesity awareness effort from the pretest and post-test results. Section 4 will discuss the study findings and implications, recommendations, the contribution of the doctoral project team, the strengths and limitations of the study.

Findings and Implications

The primary aim for the project was to development a staff educational project that can be used by the clinicians in the primary care facility to educate the adolescents and their families on how to develop nutritious food plans and prevent obesity and its complications in the group. The practice-focused question was: Does educating the primary care providers in the primary care setting increase the clinician's effort in educating the adolescents and families on proper nutrition, obesity and healthy eating, as a measured by the percentage difference on the clinicians' obesity awareness effort from the pretest and posttest results. The first objective for the project was to increase the primary care provider's awareness on how to properly assess the nutrition status of adolescents and educate them on the negative impacts of diet that leads to developing obesity. The second objective was to increase the adolescent and their family's knowledge on obesity, causes, complications and preventions by improving their dietary patterns as they choose more fruits and vegetables and decrease the consumption of sugary, high-processed and high-fat containing foods.

Objective 1

To increase the primary care provider's awareness on how to properly assess the nutrition status of adolescents and educate them on the negative impacts of diet that leads to developing obesity. In developing the staff education on the primary care adolescent obesity education interventional project, I sought to determine whether the primary care pediatric facility had a

guideline on adolescent obesity education. I obtained an authorization to assess the facility electronic medical record (EMR) system from the facility CEO after signing the facility HIPPA form. A temporary username and password was assigned to me by the facility CEO to allow access to the facility EMR. I conducted a needs assessment of the project site by reviewing 20 adolescents' medical records to explore health issues affecting the health of individuals followed in the clinic that needed to be changed to improve the population health (Hodges & Videto, 2011). I adopted The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire (Appendix A) as the tool utilized to review the adolescents' medical records to determine the clinicians' effort in educating the population. The first three letters of the participants' first and last name were used to de-identify the participants and their age was written instead of their date of birth. The result of the needs assessment showed that more than 95% of the adolescents seen in the clinic were either overweight or obese. The needs assessment revealed that there was little, or no obesity education given to the adolescents and their families to address the problem of obesity in the population. The needs assessment of the primary care facility found that the site had no standard guideline for delivering primary care adolescent obesity education. Fifty adolescents' medical records were assessed using the primary care facility electronic medical record system. The assessment revealed that 10% of adolescents between the ages of 12-19 years who receive their primary care service in the project site were overweight and 85% were obese.

The clinician interviewed the adolescent and family during their scheduled appointment using The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire as an assessment tool to collect their pretest baseline knowledge on obesity and eating lifestyles. The

clinician documented the responses from the adolescent and family on The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire and scanned the completed pretest questionnaire into the adolescent's EMR. The hard copy of the completed The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire was shredded to protect the patient's privacy.

I then reviewed the adolescent's EMR and collected the adolescents' pretest responses on The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire. The data from the questionnaire was computed using an Excel spreadsheet. The collected data was safeguarded in a locked cabinet, in the locked manager's office. The cabinet was locked and was made accessible to team members only.

The analysis of the reviewed adolescents' medical records showed that adolescents and their families received little or no education on obesity, causes, complications and preventions. The results of the pretest from review of the adolescents' EMRs found that only ten percent met the daily fruits and vegetables consumption requirements and ninety-five percent indulged in consumption of more than one soda, juice, or other sugar sweetened drink daily (Table 1). Ninety five percent of the adolescents watched television, videos or played computer games for two or more hours per day, while only thirty percent of the teens took gym class or participated in sports or dance in or outside of school three or more times a week.

Table 1

Pretest Adolescent Electronic Medical Record Review Analysis

	Patients Assessed by Clinicians (%)
Do you to eat five or more fruits and vegetables per a day?	10
Do you to eat breakfast every day?	10
Do you to eat dinner at the table with your family at least once a week?	20
Do you eat in front of the TV?	90
Do you drink more than one soda, juice, or other sugar sweetened drink a week?	95
Do you watch TV, videos, or play computer games for two hours or less per day?	95
Do you take gym class or participate in sports or dance in or outside of school three or more times a week?	30
Do you have a favorite sport or physical activity that you love to do?	30
Do you have a TV in your bedroom?	80

The staff education was carried out in three phases. The first phase included administration of the pretest survey that consisted of a modified version of The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire (Appendix A) and review of the adolescents' pretest in the EMR that used the adopted version of The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire (Appendix B). Four clinicians actively employed to deliver care to adolescents in the primary care facility received a pretest questionnaire to ascertain their baseline knowledge before implementing the proposed

educational guideline on adolescent obesity: one physician, who is the medical director and the CEO of the clinic, two nurse practitioners and one physician assistant. The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire was distributed to the clinicians during the initial phase. The pretest consisted of three subheadings containing eleven questions and three recommendations. The clinicians were asked to respond to questionnaire distributed to determine their baseline knowledge of adolescence obesity education before implementing the primary care adolescence obesity staff education guideline.

The findings from the clinicians' pretest found that the clinicians delivered thirty percent education to the adolescents and their families on obesity, causes, complications and prevention, twenty percent on adolescents' nutritious choices and forty percent on family commitment for the improvement of adolescence eating lifestyles (Table 2). The analysis of the clinicians' pretest data showed that a gap existed in their efforts in delivering primary care obesity education to the adolescent and his/her family, which has resulted in a gap in the adolescents' and their families' knowledge of obesity and the development of adolescent obesity.

Table 2

Pretest Analysis Table - Clinicians

	Percentage Educated (%)
Do you educate your adolescent patient on obesity, causes, complications and prevention?	30
Do you educate your adolescent patient to eat five or more fruits and vegetables per a day?	20
Do you educate your adolescent patient to eat breakfast every day?	20
Do you educate your patient to eat dinner at the table with his/her family at least once a daily?	40

Does your adolescent patient eat in front of the TV?	90
Does your adolescent patient drink more than one soda, juice, or other sugar sweetened drink a daily?	95
Does your adolescent patient watch TV, videos, or play computer games for two hours or less per day?	95
Does your adolescent patient take gym class or participate in sports or dance in or outside of school three or more times a daily?	30
Does your adolescent patient have a favorite sport or physical activity that he/she love to do?	40
Does your adolescent patient have a TV in his/her bedroom?	80
Do you recommend five or more servings of fruits and vegetables daily to your adolescent patient?	20
Do you recommend no more than two hours of screen time daily to your adolescent patient?	30
Do you recommend at least one hour of physical activity daily to your adolescent patient?	40
Do you recommend no more than one sugar-sweetened beverage such as (soda, fruit juice and sports drinks) daily to your adolescent patient?	20

Table 2 continues

A two-hour verbal and visual presentation was given to the clinician participants on the developed staff educational guideline on primary care adolescent obesity (Appendix C, D, E and F). The two-hour educational intervention consisted of a verbal and visual presentation of the developed guideline using PowerPoint slides and pamphlets on obesity and nutritious eating. The introduction of the staff education guideline was presented in the clinic conference room in the presence of the clinician participants. The developed obesity pamphlets were distributed to

the clinicians during the educational session. One-hour was used to address the clinicians' concerns in a question and answer session after the presentation and obtain their feedback.

The clinicians educated their adolescent patients and their families with the developed adolescent obesity staff education guideline for six weeks. The clinicians conducted follow up visits with their obese adolescents and their families at the project site to evaluate the adolescents' progress. During the follow up visits after the six weeks of intervention, clinicians used the same pretest questionnaire as a posttest to assess the adolescents' progress. Once they had scanned the posttest information into the EMR, I accessed the information from the clinic's EMR system to assess the individual adolescent's progress. The collected prospective data from the adolescents' EMR revealed that eighty percent of adolescents met the daily fruits and vegetables consumption requirements and twenty percent continued to indulge in consumption of more than one soda, juice, or other sugar sweetened drink daily (Table 3). Twenty five percent of the adolescents watched television, videos, or played computer games for two or more hours per day, while only eighty percent of the teens took gym class or participated in sports or dance in or outside of school three or more times a week.

Table 3

Post Project Patient Chart Review Analysis Table

	Adolescents Assessed (%)
Do you to eat five or more fruits and vegetables per a day?	80
Do you to eat breakfast every day?	60
Do you to eat dinner at the table with your family at least once a week?	80
Do you eat in front of the TV?	30
Do you drink more than one soda, juice, or other sugar sweetened drink a day?	20
Do you watch TV, videos, or play computer games for two hours or more per day?	25
Do you take gym class or participate in sports or dance in or outside of school three or more times a week?	80
Do you have a favorite sport or physical activity that you love to do?	60
Do you have a TV in your bedroom?	30

The comparison of the pre and post EMR review of the adolescents in Tables 1 and 3 revealed that there was a seventy percent increase in the percentage of adolescents that met the daily required number on fruits and vegetables consumptions. There was a seventy five percent decrease in the number of adolescents that indulge in consumption of more than one soda, juice, or other sugar sweetened drink daily (Table 3). The percentage of adolescents that watched television, videos, or played computer games for two or more hours per day was decreased by sixty five percent, while the number of adolescents that took gym class or participated in sports or dance in or outside of school three or more times a week increased by fifty percent (Table 3).

The evidence from the table also indicated that the lack of a standard obesity guideline was related to the adolescents' increased consumptions of sugary drinks, high calorie and high fatty containing foods, and the development of obesity. The analysis of the pre and post adolescents' medical record review as presented in Table 1 and 3 showed that adolescent obesity educational guideline was effective in changing the adolescents' eating habits and in increasing the adolescents' nutritious choices.

After the six weeks of intervention that focused on the clinicians' implementation of the primary care adolescent obesity educational guideline, a posttest was administered to the four clinicians using the same The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire (Appendix A) to assess the effectiveness of the intervention. The purpose of the posttest was to evaluate the practicability of the project objectives established for the EBP staff education project on primary care adolescent obesity educational intervention. The post-test was administered to the clinicians at the clinic using a sealed envelope that contained the questionnaire, the instructions, the allotted timeframe and an envelope marked "posttest." The clinicians completed the post-test at home and returned it in the sealed envelope marked 'post-test' when they returned to work. The completed post-tests were placed in the locked data collection box located in the facility staff room. I collected the questionnaires every Tuesday and Thursday, and stored them in the locked cabinet in the manager's office until the analysis was completed. The analysis of the posttests showed that the clinicians delivered 90% of the education to the adolescent and his/her family on obesity, causes, complications and prevention after the obesity educational intervention (Table 4). They also implemented one hundred percent

of the educational content related to nutritious choices and ninety percent on family commitment for the improvement of the adolescent's eating lifestyles.

Table 4

Posttest Analysis of the Staff Questionnaire

	Adolescents Educated (%)
Do you educate your adolescent patient on obesity, causes, complications and prevention?	90
Do you educate your adolescent patient to eat five or more fruits and vegetables per a day?	100
Do you educate your adolescent patient to eat breakfast every day?	80
Do you educate your patient to eat dinner at the table with his/her family at least once a week?	90
Does your adolescent patient eat in front of the TV?	30
Does your adolescent patient drink more than one soda, juice, or other sugar sweetened drink a week?	40
Does your adolescent patient watch TV, videos, or play computer games for two hours or less per day?	30
Does your adolescent patient take gym class or participate in sports or dance in or outside of school three or more times a week?	80
Does your adolescent patient have a favorite sport or physical activity that he/she love to do?	90
Does your adolescent patient have a TV in his/her bedroom?	40
Do you recommend five or more servings of fruits and vegetables daily to your adolescent patient?	90
Do you recommend no more than two hours of screen time daily to your adolescent patient?	90
Do you recommend at least one hour of physical activity daily to your adolescent patient?	100

Do you recommend no more than one sugar-sweetened beverage such as (soda, fruit juice and sports drinks) daily to your adolescent patient?	100

Table 4 continues

The percentage difference between the pre- and posttest analysis of The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire (Appendix A) and the adolescents' EMRs necessitated the urgent need for developing the staff education to increase the primary care clinicians' efforts in delivering primary care adolescent obesity education. The analysis of the clinicians' posttest as presented in Table 4 showed that the staff educational guideline on primary care adolescent obesity was effective in improving the clinicians' skills in educating adolescents and their families on obesity, causes, complications and preventions. After implementing the staff education guideline on adolescent obesity, the posttest analysis from the clinicians showed that the number of the adolescents and families educated by the clinicians on obesity, causes, complications and prevention increased by sixty percent (Table 4). The clinicians achieved one hundred percent on educating the adolescence on making proper nutritious choices and ninety percent on family commitment for the improvement of adolescence eating lifestyles (Table 4).

The comparison of the pretest and posttest analysis found large percentage differences between the figures obtained from the pre- and posttest questionnaire (Tables 2 and 4). There was a 60% increase in the number of adolescents educated by the clinicians on obesity, causes, complications and prevention after implementing the primary care adolescence obesity education guidelines. The difference in the number of the teens educated on how to make proper nutritious choices and the difference on the number of adolescents educated on how to be active and avoid

sedentary lifestyle were both eighty percent (Table 2 and 4). The findings illustrate that the clinicians in the pediatric primary care facility were willing to adopt the practice guideline for educating the adolescents and their families on obesity, causes and prevention. The posttest on the review of the adolescents' medical records indicated that the obesity education received by the adolescents and their families was effective in increasing the adolescents' and their family's knowledge related to obesity and nutritious eating.

Objective 2

Increase the adolescents' and their families' knowledge on obesity, causes, complications and preventions by improving their dietary patterns as they choose more fruits and vegetables and decrease the consumption of sugary, high-processed and high-fat containing foods. The comparison of the pre- and posttest analysis of the adolescents' medical records review showed that the adolescents' choices of fruits and vegetables increased from ten percent to eighty percent (Tables 1 and 3). The percentage of adolescents indulging in the consumption of more than one soda, juice, or other sugar sweetened drink decreased from ninety five percent to twenty percent. The number of the adolescents that watched television, videos, or play computer games for two hours or more per day decreased from ninety five percent to thirty percent. There was an increase in the number of the teens that took gym class or participated in sports or dance in or outside of school three or more times a week from thirty percent to eighty percent (Tables 1 and 3).

Evidence from Table 1 validated that the knowledge deficiency of the adolescents and their families resulted from the lack of a primary care guideline in obesity education and preventions. Table 1 supported the immediate need for developing the staff educational

guideline to increase the primary care clinicians' effort in educating adolescents and their families on obesity. Analysis of the posttest demonstrated that the adolescent obesity educational guideline was effective in changing the adolescents' eating habits and helping them in making nutritious choices (Table 3). Comparison of the pre- and posttest results in the adolescents' EMRs indicated that the lack of a standard obesity guideline and a gap in the primary care clinicians' efforts in educating adolescents and their families contributed to the increased consumptions of sugary drinks, high calorie and high fatty containing foods, and the development of obesity in the population (Tables 1 and 3). The review of the adolescents' EMRs after the educational intervention showed that the adolescent obesity educational guideline was effective in changing the adolescents' eating habits and in helping the adolescents in making nutritious choices.

Recommendations

The rise of obesity and its complications in adolescents ages 12 to 19 years old pose a significant risk to the population at the project site. With the high intake of a sugary and high caloric diet and sedentary lifestyle, the lack of obesity education contributed to their high prevalence of overweight and obesity. Recommendations (below) are focused on increasing the primary care clinicians' efforts in assessing and educating the adolescent and family on obesity and healthy eating in the primary care setting. Increase educational awareness on the modifiable factors that contribute to development of adolescent obesity among the patients at the primary care site to decrease obesity prevalence in the age group.

Assessment

Initial assessment of the adolescents' knowledge of obesity, eating habits and sedentary lifestyle is essential to identifying the individuals at risk of developing obesity and its complications, and in taking the necessary steps needed to plan and deliver appropriate, individualized care to the patient (Toney-Butler & Whitten, 2018). Assessment identifies the existing and impending health needs of the adolescent and family by allowing the development of medical diagnosis. It will assist the clinicians on identifying adolescents at risk of developing obesity and aid in prioritizing interventions and care (Toney-Butler & Whitten, 2018). The recommendation is that every adolescent seeking care in the primary care site should be assessed using The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire as part of their initial assessment during the visit to determine their knowledge of obesity and their disposing risk factors in development of obesity.

Education

Lack of knowledge of obesity has been linked to the high calorie consumption, sedentary lifestyle, and lack of exercise among the adolescent to developing obesity (Sahoo, Sahoo, Choudhury, Sofi, Kumar & Bhadoria, 2015). Obesity is linked to other health complications such as depression, low self-esteem, suicide, asthma, diabetes, cardiovascular diseases and sleep disorders. One recommendation is that clinicians should educate the adolescent and his/her family on obesity, caloric values in foods and the recommended daily caloric intake during each adolescent's visit to the clinic. The clinicians should emphasize involving the adolescents in different exercises that can help them to stay active and on the importance of decreasing the time spent on watching TV and other electronic media. The obesity education guideline should be inculcated in the care delivery to the adolescent at each visit to the clinic. After educating the

adolescents and their families during the clinic visit, I recommend sending them home with a copy of the educational handout for their use and offering them opportunities to call if they have any questions.

Follow up

The clinician should follow up with the adolescent at the home by telephoning him/her within one week of the initial visit to discuss their progress and monthly for reinforcement and guidance. A follow up visit should be scheduled to at-risk adolescents and their families in the clinic every ninety days, at which time the clinicians will assess the adolescent and family using The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 and compare the results with the findings from previous visits to determine what progress the adolescent is making.

Contribution of the Doctoral Project Team

The project team consisted of the team leader, the medical director (CEO) of the clinic, two nurse practitioners and one physician assistant. The team's work from the planning, implementation and evaluation of the developed staff education on adolescent obesity education was phenomenal in achievement of the project goals and objectives. The team met every Tuesday in the facility conference room before the end of the shift for the six weeks of the intervention to discuss the progress and to clarify some of their concerns. As the leader, I prepared the agendas and introduced the progress. Each clinician shared his or her progress and any concerns related to the project. Feedback was obtained, and participants' concerns addressed. The CEO authorized the project to be carried out in her facility and granted me access to obtain information needed from the facility EMR system. I developed the primary care adolescent obesity educational guideline and educated the clinicians on how to use the guideline to educate

the adolescents and their families. The clinicians educated the adolescents and families on obesity, nutritious eating and exercise using the guideline and reported the progress. I monitored the project implementation, made necessary adjustment towards achieving the project goal and evaluated the outcome.

Strengths and Limitations of the Project

Strengths

The staff educational project related to adolescent overweight and obesity succeeded in achieving the goal of increasing the clinicians' knowledge of adolescent obesity and in increasing their efforts in educating adolescents and their families on obesity, causes, complications and preventions. The strength of the staff educational project included support received from the adolescent primary care project facility, and the Medical Director, as well as the support from the nurse practitioners and the physician assistant involved in the project. The facility Medical Director, who is the CEO of the adolescent primary care facility, recognized the urgent need for increased clinician effort in educating the adolescent by adopting the developed staff educational guideline to increase the adolescents' knowledge of obesity and decrease its prevalence in the population. The clinicians were willing to participate in the obesity educational session to increase their skills on educating the adolescents and decreasing obesity in the population. The clinician participants offered their extra time by leaving the facility later than their scheduled work time to successfully implement the project, which was encouraging.

Limitations

One limitation encountered during the project was time constraints when the clinicians adopted the guideline into patient care. The project facility was always covered by two clinicians

and delivered care to about forty adolescents and families daily. The pressure to attend to the large patient population had resulted in shorter consultation time. The clinician feared that the guideline might decrease the number of their daily patient intakes due to the extra time they would spend in assessing and educating the adolescents and families on obesity using the developed guideline.

Lack of proper reimbursement from the adolescents' Medicaid insurance was another limitation experienced during the project. The Centers for Medicare and Medicaid Services (CMS) in 2004 excluded obesity coverage from the list of their covered conditions noting that obesity was not an illness (Lee, Sheer, Lopez & Rosenbaum, 2010). Excluding obesity by the CMS has made it difficult for the providers to get paid for the services provided to adolescents in relation to obesity preventions (Lee et al., 2010). The CMS deletion of obesity prevention and reimbursements from the 2004 qualified coverage list contributed to a gap in primary care effort in prevention of adolescence obesity and higher prevalence of obesity in Medicaid adolescent patients. The clinicians were concerned that using the developed adolescent obesity guideline resulted to spending more time with the patients and may lose funds due to lack of proper reimbursement from the individual's Medicaid insurance coverage.

Summary

The DNP project site needed an adolescent obesity staff educational guideline to educate the adolescents and their families on obesity and its causes, complications and prevention strategies. I developed the obesity staff educational guideline for the clinic and educated the clinicians on how to use the guideline. The clinicians implemented the guideline and the evaluation of the pre- and post-tests result found the guideline to be effective in improving the

clinicians' skills on educating the adolescents and their families; and on increasing their knowledge of obesity and preventions. The positive implications of introducing the adolescent obesity staff educational guideline is using evidence-based practice guidelines to increase provider efforts on empowering adolescents and their families to eat well and stay healthy. The adolescents and their families received obesity education from the clinicians using the obesity guideline. The analysis of the pre- and post-test review of the adolescents' EMRs showed that the obesity guideline was effective in increasing their knowledge of obesity and was effective in assisting them in making nutritious choices to decrease obesity. Section five will focus on the description of the plan to disseminate the developed staff educational project on the primary care adolescence obesity at the project site, the analysis of self and the summary.

Section 5: Dissemination Plan

Introduction

Dissemination of the findings from the project involves translation of the findings to different audiences to inculcate knowledge and creating awareness of the evidence-based findings to improve the practices (Curtis, Fry, Shaban, & Considine, 2017). The dissemination of the project implementation and findings will focus on sharing ideas with the clinicians, increasing their awareness on adolescent obesity, introducing a staff educational guideline on adolescent obesity at the clinic, and implementation of the findings. The dissemination will include emphasizing the need for adopting the developed adolescent obesity educational guideline at the clinic to assist the clinicians in decreasing the existing obesity rate among their patients. The importance of preventing adolescent obesity complications through implementation of the staff education obesity guideline and following the project recommendations will be stressed.

I planned to disseminate the results of the primary care adolescence obesity educational guideline in the adolescent primary care facility conference room to the clinicians using a PowerPoint presentation. The PowerPoint presentation will include tables, posters, handouts and pamphlets that supported the study findings. In the posters and the tables, I will capture the attention of the clinicians by presenting the number of adolescents they educated prior to the staff education as compared to after the introduction of the obesity guideline. The adolescents' eating lifestyles will be displayed and compared before and after the project implementation. Visual images complement verbal presentations and add information to them.

I plan to disseminate the findings from the primary care adolescent obesity project to the adolescents and their families in the clinic patients' waiting room. The approach will involve the use of poster display, handouts and pamphlets. The detailed project findings will be displayed on the poster board in the patients' waiting room in a strategic site where it can attract the attention of any patient that enters the clinic. Handouts and pamphlets containing the detailed finding of the adolescent obesity guideline will be kept in the patient waiting room with a boldly written instruction stating "PLEASE TAKE YOURS". The aim of the written instruction is to encourage every patient that came to the clinic to pick up the handouts and the pamphlets for their convenient use. Dissemination of the outcome of the staff educational obesity guideline to adolescents and families is important in improving the teens' knowledge of obesity, by increasing their choices of nutrition and decreasing obesity and its complications. Disseminating these project findings may lead the clinic to adopt the staff educational adolescent obesity guideline to decrease complications among patients, improve health outcomes, and improve the clinicians' efficiency at treating obese adolescents.

Analysis of Self

As a Leader

I recognized the significance of the change needed to improve the primary care clinicians' knowledge related to adolescence obesity, and the importance of increasing the providers' efforts on educating the adolescents and families on obesity, causes, complications and prevention. I applied leadership skills in considering the possible implications of the anticipated change on the participants and the targeted group, and I inspired the primary care adolescent obesity staff educational intervention project group in achieving the project goals (Tsai, 2011). As the project

team leader I collected information from the participants, empowered and guided the group by setting the project goals, and I supported the team in achieving the project outcomes (Cooke, Hilton, Sciences & National Research Council, 2015). I created and maintained an open relationship with the project team members and mobilized the teams' effort in planning and evaluating the project while taking responsibilities in resolving difficult challenges that arose from the project (Rylatt, 2013).

As a Developer

The skills acquired from DNP curriculum have helped me to understand the need for a DNP graduate to be actively involved in developing a health care guideline that could be used in advancing patients' health. I developed the staff educational guideline that assisted the project site clinicians in educating the adolescents and their families on obesity, causes, complications and prevention that resulted in the positive outcome of increasing their choices of nutritious intake and decreasing their sedentary lifestyle. Developing the primary care adolescent obesity staff educational guideline assisted me in fulfilling my role as a DNP prepared graduate, according to DNP essential V (AACN, 2006, p. 13).

As an Educator

I educated the clinicians at the project site using the developed staff educational guideline related to primary care adolescent obesity. The DNP student role included educating and guiding individuals and groups through complex health and situational transitions, as it relates to DNP essential VIII (AACN, 2006). I increased the clinicians' efforts by educating them on how to teach their adolescent patients and their families on ways to improve their health outcomes by improving their eating lifestyle and decrease the prevalence of obesity in the group (AACN,

2006). I applied the evidence drawn from the planning, implementations and evaluation of the staff education on primary care adolescent obesity educational guideline in creating awareness to increase the population's knowledge of obesity and the consequences.

As a Change Agent

As a change agent, I led the staff educational guideline related to adolescent obesity in the primary care setting. Translation of the evidence from the project into practice demands an effective intervention imperative in facilitating and improving healthcare outcomes. There has been increased awareness of adolescent obesity among the primary care clinicians at the project site since the implementation of the obesity guideline. The clinicians now routinely assess adolescents and their families on obesity risk factors and educate them on obesity and its causes, complications and prevention at every visit. The adolescents were followed by the primary care clinicians and learned how to make nutritious choices. There was an increase in family commitments to improve their adolescent's eating and sedentary lifestyles. The majority of the adolescents participated in gym and decreased the number of times spent watching television and playing video games.

Summary

The purpose of the DNP project was to develop a staff educational guideline on adolescent obesity at a primary care clinic that did not have one. The objective of the staff educational guideline was to increase the primary care clinicians' efforts in educating their adolescent patients on obesity ant its causes, complications and prevention by improving their dietary nutritious choices. The secondary objective for this project was to increase the adolescents' and their families' knowledge on obesity and its causes, complications and

prevention by improving their dietary patterns to include more fruits and vegetables and decrease the consumption of sugary, high-processed and high-fat containing foods. The dissemination of the project outcomes will utilize verbal and visual approach enhanced with PowerPoint slides, pamphlets and handouts. The major challenge encountered during the project was time constraints, which was accommodated by the project team members. The project team members were determined and participated enthusiastically in achieving the project requirements and objectives. I am very convinced that the primary care adolescent facility for the DNP project will adopt my developed guideline on primary care adolescent obesity education.

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Appendix A

The Jump Up & Go! Physical Activity and Nutrition Survey 5.2.1 0 questionnaire - Clinicians

1. Assessment of the adolescents eating lifestyle
1) Do you educate your adolescent patient to eat five or more fruits and vegetables per a day?
a. Yes
b. No
2) Do you educate your patient to eat fruit or vegetable every day?
a. Yes
b. No
3) Do you educate your adolescent patient to eat breakfast every day?
a. Yes
b. No
4) Do you educate your patient to eat dinner at the table with his/her family at least once a week?
a. Yes
b. No
5) Does your adolescent patient eat in front of the TV?
a. Yes
b. No
6) Does your adolescent patient drink more than one soda, juice, or other sugar-sweetened drink a week?
a. Yes
b. No
2. Assessment of the Adolescents' Physical Activities
1) Does your adolescent patient watch TV, videos, or play computer games for two hours or less per day?
a. Yes
b. No
2) Does your adolescent patient take gym class or participate in sports or dance in or outside of school three or more times a week?
a. Yes
b. No
3) Does your adolescent patient have a favorite sport or physical activity that he/she love to do?
a. Yes

b. No
4) Does your adolescent patient have a favorite sport or physical activity that he/she love to do?
a. Yes
b. No
5) Does your adolescent patient have a TV in his/her bedroom?
a. Yes
b. No

5-2-1-0 Daily Prescription for Better Health

Do you measure and calculate the adolescent patient's weight, height and calculate the BMI and BMI percentile and make sure is documented?

Height:_____ Weight:_____ BMI:_____ BMI Percentile:_____

Document your current recommendations to your adolescent patient

At Least 5 Fruits & Vegetables

Servings (1/2 cup)

_____ Apples/Bananas/Oranges

_____ Apricots/Pears/Plums

_____ Asparagus/Broccoli

_____ Beans/Lentils/Peas

_____ Berries/Grapes/Kiwi

_____ Carrots/Celery/Spinach

_____ Dates/Figs/Raisins

_____ Guava/Mango/Papaya

_____ Lettuce/Tomatoes/Peppers

_____ Other:

No More Than 2 Hours of Screen Time

Minutes

_____ TV/Videos/DVDs

_____ Video/Computer

_____ Games

_____ Game Boy

_____ Movies

_____ Computer/IM Chat

_____ Other

At Least 1 Hour of Physical Activity

Minutes

_____ Aerobics/Dance

_____ Baseball/Softball/Basketball

_____ Bicycle/Swim/Tennis

_____ Football/Soccer

_____ Gymnastics/Martial Arts

_____ Hockey/Field Hockey

_____ Ice-skate/Roller-skate

_____ Jump Rope/Run/Walk

_____ Skate-Snowboard/Ski

_____ Other:

Weekly Recommendations:

No more than one sugar-sweetened beverage: _____ Soda _____ Fruit Drink _____ Sports Drink

Appendix B

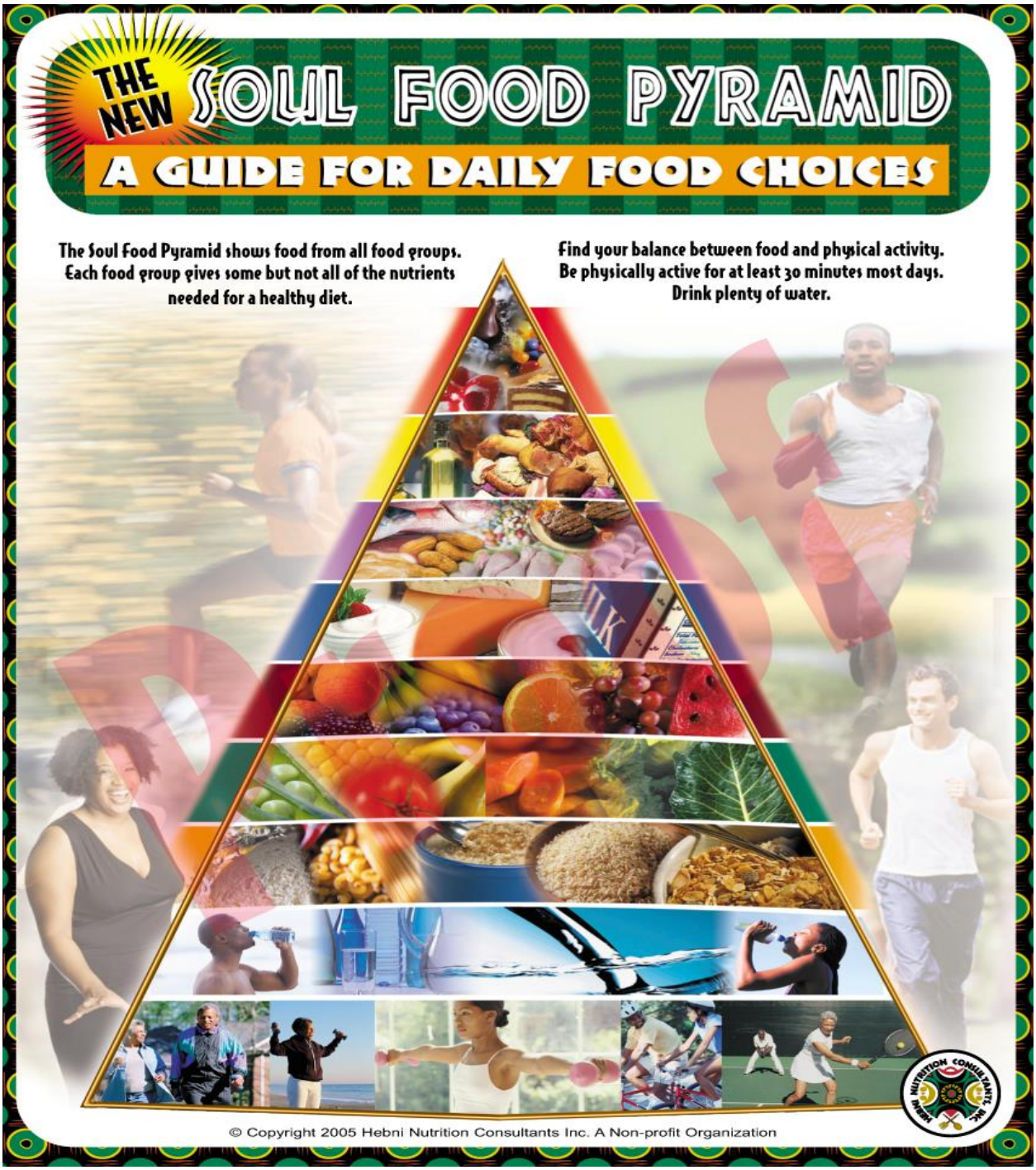
Pre (before) and Post (after) Patient Chart Review

1. Assessment of the Adolescents Eating Lifestyle
1) Do you eat five or more fruits and vegetables per a day?
a. Yes
b. No
2) Do you have a favorite fruit or vegetable that you eat every day?
a. Yes
b. No
3) Do eat breakfast every day?
a. Yes
b. No
4) Do you eat dinner at the table with his/her family at least once a week?
a. Yes
b. No
5) Do you eat in front of the TV?
a. Yes
b. No
6) Do you drink more than one soda, juice, or other sugar-sweetened drink a week?
a. Yes
b. No
2. Assessment of the Adolescents Physical Activities
1) Do you watch TV, videos, or play computer games for two hours or less per day?
a. Yes
b. No
2) Do you take gym class or participate in sports or dance in or outside of school three or more times a week?
a. Yes
b. No
3) Do you have a favorite sport or physical activity that you love to do?
a. Yes
b. No

4) Do you have a TV in your bedroom?
a. Yes
b. No

Appendix C

Food Pyramid

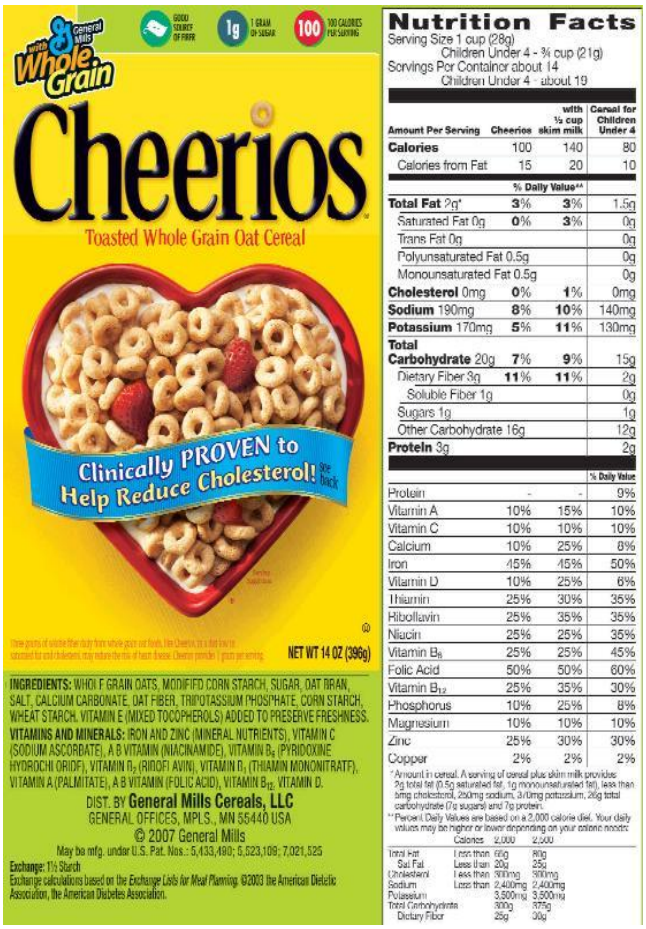


Appendix D

Food Groups, Calories and Nutrition Facts

Appendix E

Nutrition Facts



Nutrition Facts

Serving Size 1 cup (28g)
Children Under 4 - ¾ cup (21g)
Servings Per Container about 14
Children Under 4 - about 19

Amount Per Serving	Cheerios	with ½ cup skim milk	Cereal for Children Under 4
Calories	100	140	80
Calories from Fat	15	20	10
		% Daily Value**	
Total Fat 2g*	3%	3%	1.5g
Saturated Fat 0g	0%	3%	0g
Trans Fat 0g			0g
Polyunsaturated Fat 0.5g			0g
Monounsaturated Fat 0.5g			0g
Cholesterol 0mg	0%	1%	0mg
Sodium 190mg	8%	10%	140mg
Potassium 170mg	5%	11%	130mg
Total Carbohydrate 20g	7%	9%	15g
Dietary Fiber 3g	11%	11%	2g
Soluble Fiber 1g			0g
Sugars 1g			1g
Other Carbohydrate 16g			12g
Protein 3g			2g
			% Daily Value
Protein	-	-	9%
Vitamin A	10%	15%	10%
Vitamin C	10%	10%	10%
Calcium	10%	25%	8%
Iron	45%	45%	50%
Vitamin D	10%	25%	6%
Thiamin	25%	30%	35%
Riboflavin	25%	35%	35%
Niacin	25%	25%	35%
Vitamin B6	25%	25%	45%
Folic Acid	50%	50%	60%
Vitamin B12	25%	35%	30%
Phosphorus	10%	25%	8%
Magnesium	10%	10%	10%
Zinc	25%	30%	30%
Copper	2%	2%	2%

* Amount in cereal. A serving of cereal plus skim milk provides 2g total fat (0.5g saturated fat, 1g monounsaturated fat), less than 5mg cholesterol, 250mg sodium, 340mg potassium, 26g total carbohydrate (7g sugars) and 7g protein.
** Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Potassium		3,500mg	3,500mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Nutrition Facts
Serving Size 1 Cup (125g)
Servings Per Container 2
Calories 210
Calories from Fat 40

Amount/Serving	%DV*	Amount/Serving	%DV*
Total Fat 3.5g	5%	**Potassium** 140mg	4%
Sat. Fat 0g	0%	**Total Carb.** 40g	13%
Trans Fat 0g		Fiber 2g	8%
Cholest. 0mg	0%	Sugars 0g	
Sodium 150mg	6%	**Protein** 5g	

*Percent Daily Values (DV) are based on a 2,000 calorie diet.

Iron 2% • Thiamin 15% • Niacin 15% • Folate 2%
Not a significant source of Vitamin A, Vitamin C, and Calcium.

INGREDIENTS: WATER, WHOLE GRAIN BROWN RICE, SUNFLOWER OIL, SALT, SOY LECITHIN.
CONTAINS: SOY

Jasmine TRIO Rice

Nutrition Facts
Serving Size 1/4 Cup (1.5oz) Servings about 11
Calories 180 Calories from fat 15

Amount Per Serving	% Daily Value*	Amount Per Serving	% Daily Value*
Total Fat 1.5 g	2%	**Total Carb.** 38 g	13%
Saturated Fat 0 g	0%	Dietary Fiber 2 g	
Trans Fat 0 g	0%	Sugars 0 g	
Sodium 0 mg	0%	**Protein** 4 g	

Vitamin A 0% • Vitamin C 0% • Calcium 0% • Iron 4%
*Percent Daily Values are based on a 2,000 calorie diet.

Appendix F

Physical Low impact exercises