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Advanced Practice Registered Nurses and Their Knowledge Regarding the Hindrance of Obesity

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Walden University

College of Health Sciences

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Crystal N. Rainey

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Walden University
2020

Abstract

Advanced Practice Registered Nurses and Their Knowledge Regarding the Hindrance of Obesity

by

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MSN, Walden University, 2014

BSN, University of Arkansas in Little Rock, 2011

AASN, Southeast Arkansas College, 2009

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

February 2020

Abstract

Obesity in the United States affects 93.3 million people every year, taking the lives of hundreds of thousands. In 2000, the obesity rate in Arkansas was 21.9%; in 2017, the rate was 35%, an increase of 37.4%. The problem is that, when advanced practice registered nurses (APRNs) do not have sufficient knowledge on how to counsel patients on proper weight management interventions, the quality of care decreases. The purpose of this project was to create and administer educational and training material for APRNs in a rural Arkansas primary care clinic to identify, counsel, and refer their patients with obesity. The frameworks for toolkit creation were the transtheoretical model of behavioral change and the need for evidence-based practice. Developing the educational tool required first performing literature, current-state, and theoretical reviews of applicable material. Illustration of CPGs comes from the CDC's BMI calculator.
The training material posttest enabled assessment of APRNs' knowledge using patient education based upon the TMHBC model, and individualized treatment as guided by CPGs. The Pre-Post test results with a mean score of 89% following the presentation showed the APRNs had an improvement in knowledge of obesity diagnosis, treatment, management, and referral based on a mean 25% increase from the pretest prior to the training. The chief recommendation is that APRNs use the knowledge they have gained to more effectively evaluate, counsel, and refer their patients with obesity. Potential implications for positive social change include increased APRN awareness regarding proper management of obesity and a reduction of the obstacles hindering weight loss. By extension, having better-educated APRNs may help reduce the number of patients living with or at risk of obesity, thus improving patient outcomes.

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Table of Contents

List of Tables iv

Section 1: Introduction..................... 1

Introduction..................... 1

Problem Statement..................... 2

Purpose..................... 3

Nature of the Doctoral Project..................... 5

Significance..................... 6

Summary..................... 8

Section 2: Background and Context..................... 9

Introduction..................... 9

Concepts, Models, and Theories..................... 10

Strategies to Improve Weight Control and Obesity..................... 10

Tools for Advanced Practice Registered Nurses to Control Weight in Primary Care..................... 10

Transtheoretical Model of Health Behavior Change..................... 12

Educational Model..................... 13

Definition of Terms..................... 14

Relevance to Nursing Practice..................... 15

Local Background and Context..................... 16

Role of the DNP Student..................... 17

Summary..................... 18

Section 3: Collection and Analysis of Evidence 20
Introduction 20
Practice-Focused Question 20
Sources of Evidence 22
Published Outcomes and Research 23
Evidence Generated for the Doctoral Project 24
Summary 26
Section 4: Findings and Recommendations 27
Introduction 27
Implications 28
Findings 28
Implications 32
Recommendations 32
Strengths and Limitations of the Project 33
Strengths 33
Limitations 34
Summary 34
Section 5: Dissemination Plan 35
Introduction 35
Project Purpose and Outcomes 35
Plan for Dissemination 36
Analysis of Self 36

Summary 37

References 38

Appendix A: Curriculum Overview 46

Appendix B: Presentation 47

Appendix C: Educational Handouts 52

Appendix D: Posttest 60

List of Tables

Table 1. Pretest–Posttest Scores Comparison 30

Table 2. Obesity Knowledge Improvement by Participant 31

Section 1: Introduction

Introduction

Health care providers play vital roles in the medical field. The well-being of patients and the delivery of quality health care service are critical responsibilities of health care providers, something that becomes even more important when treating patients who are obese. The Centers for Disease Control and Prevention (CDC; 2018) indicated that 47% of Hispanics and 46.8% of African Americans are obese. To reduce this epidemic, advanced practice registered nurses (APRNs) and health care staff must assume expanding roles in the prevention and management of obesity using evidence-based practice strategies in the primary care clinical setting. In 2013, the national cost of obesity was $342.2 billion, or 28.2% of all health care costs; in addition, there was a 29% increase in health care spending in the United States from 2001 (6.3%) to 2015 (7.91%; Biener, Cawley, & Meyerhoefer, 2018). As measured by a basic metabolic index (BMI) of 25 kg/m^2 or greater, 70.2% of all Americans are overweight (National Institute of Health, 2017). A serious health risk (CDC, 2014), obesity is a BMI of 30 kg/m^2 or higher.

Patients who are obese struggle with other comorbidities due to lack of exercise, unmonitored dieting, and environmental influences (Hruby & Hu, 2015). Conditions such as cancer, high blood pressure, hypercholesterolemia, and sleeping disorders only add to the risk of morbidity and even mortality (Hruby & Hu, 2015). Male and female obesity rates vary, with 40.4% of women and 35% of men having a BMI of 35 or higher (National Institute of Health, 2017). APRNs have failed to take advantage of opportunities to approach and treat obese patients who have weight management

concerns (Banerjee, Gambler, & Fogleman, 2013). Paramount are recognizing information gaps and providing health care professionals with the education and skills needed to assist overweight patients with lifestyle modifications.

Current barriers to counseling patients about weight management include health care providers having inadequate knowledge of obesity as a medical concern; improper recommendations for diet, nutrition, and exercise; and negative attitudes toward patients with obesity. Clinicians often stereotype obese patients based on the assumptions that they are unmotivated and lazy and lack willpower (Carels et al., 2013). To resolve these barriers, clinical visits with patients who are obese require motivated and knowledgeable APRNs who will provide encouragement, information, and inspiration about weight loss and advocate for healthy lifestyle modifications. This Doctor of Nursing Practice (DNP) project entailed creation and implementation of a staff education toolkit to increase APRNs' knowledge regarding obesity evaluation, counseling, and patient referrals.

Problem Statement

Obesity in the United States affects 93.3 million people every year, taking the lives of hundreds of thousands (CDC, 2018). The United States is one of the top countries plagued by obesity due to lack of proper medical guidance and many Americans' poor health choices. The predominance of obesity has risen, despite its unfavorable health ramifications for morbidity and mortality (CDC, 2018). In 2000, the obesity rate in Arkansas was 21.9%; in 2017, the rate was 35%, an increase of 37.4% (State of Obesity, 2018). Arkansas ranks seventh in the nation for obesity (State of Obesity, 2018). The

majority of Americans affected by the obesity epidemic are African American and Hispanic.

The problem is that when APRNs do not have sufficient knowledge on how to counsel patients on proper weight management interventions, the quality of care decreases. Health care for those considered obese averages $92,235 per person, a figure that does not include the economic impact of missed wages (Pianin, 2015). The U.S. Preventive Services Task Force (2018) suggested that specialists conduct screenings for adult obesity in patients who are 30 kg over the recommended BMI for further evaluation. Patients who are obese struggle due to the lack of assessment, counseling, and treatment from providers, who may blame obesity on the patient. The solution to managing patients who are obese involves educating both provider and patient about evidence-based information and promoting behavioral modifications. Researchers have revealed that patients advised by an experienced APRN on how to manage their weight have been successful in losing weight (Phillips, Wood, & Kinnersley, 2014). Implementation of proper detection and prevention through the use of a staff education toolkit will address the identified causes and risks of obesity.

Purpose

The purpose of this DNP project was to create and administer educational and training material for APRNs in a rural Arkansas primary care clinic to identify, counsel, and refer their patients with obesity, which, at present, is a gap in practice. The goal was to provide learning materials and training to help APRNs address the challenges in promoting behavioral change concerning obesity. A secondary goal was subsequently

reducing the number of patients with or at risk of obesity by educating APRNs; however, this outcome is not measurable given the scope of this project. APRNs are often the first line of care for patients with obesity; as such, their role is integral to proper treatment and referral (Kris-Etherton et al., 2014).

According to Okihiro, Pillen, Ancog, Inda, and Sehgal (2013), trying to initiate positive behavioral change concerning obesity management within a primary care clinic can be difficult. Some APRNs may perceive they do not have enough time or knowledge to counsel or adequately refer a patient for further evaluation. Therefore, a gap in practice exists with regard to the lack of APRN knowledge and training in properly counseling and referring obese African American patients for treatment. There is an overly high rate of obesity among African Americans in rural Arkansas overall, and specifically in the primary clinic that was the focus of this DNP project. Too often, these patients receive no education or treatment referrals to help them learn about and manage their condition. Accordingly, in this project, I evaluated what obesity knowledge APRNs had, their perspectives on obesity as related by midlevel clinic practitioners, and how to improve behavioral counseling with patients through education. The practice-focused question for this DNP project was as follows: Will an APRN staff education toolkit on the care and treatment of patients with obesity improve APRN knowledge on treating patients with obesity in rural Arkansas? Answering this question occurred with the creation and administration of the staff education toolkit, preceded by a pretest and followed by a posttest, which indicated the DNP project's impact on positive social change.

Etherton et al. (2014) noted that educational counseling, physical activities, healthy diet, and proper specialist referrals, if performed consistently, decrease the risk of developing chronic diseases. Encouraging lifestyle modifications in patients with obesity will prevent obesity-related mortality, promote better health, and prolong the lives of those struggling with health issues (World Health Organization, 2014). APRNs who learn from the proposed training may provide rural families with updated information and methods for living healthier with regard to physical activity, nutrition, body image perception, and proper overweight understanding. Providing obesity training materials to APRNs will help the clinic comply with the Healthy People 2020 objective, which includes increasing the number of health care providers who evaluate and counsel patients with obesity (Heffernan, M. et al.,2019). Preventing obesity will promote better health, reduce mortality, and prolong the life of adults and children who are struggling with health concerns (World Health Organization, 2014). Providing APRNs with knowledge and tools to use in their rural practice may contribute to closing the gap in practice and reducing the obesity problem in rural Arkansas.

Nature of the Doctoral Project

Obesity is not just a health care concern; it is a national epidemic in need of attention. Without proper provider education and motivation to change patient behaviors, the obesity epidemic will continue. In 2015 and 2016, more than 93.3 million adults, or nearly 40% of Americans, were obese (CDC, 2018). Each year, the U.S. death toll due to obesity is roughly 112,000 people, which may alarm health care providers (Fox, 2013).

Sources of evidence used for this DNP project included articles from peer-reviewed scholarly journals as well as government and industry statistics and recommendations. Based on knowledge gained from the literature review sources, I created and administered a staff education toolkit to the four APRNs in the primary care clinic. The training began with distribution of an initial information packet with material about obesity, statistics, and the extent of obesity in rural Arkansas. Next, I gave a presentation to APRNs with time for questions. Immediately following the conclusion of the presentation, the APRNs completed a posttest to measure their knowledge of the information in the training module (see Section 4 for project results and findings).

Based on posttest results, training materials created for this DNP project increased the knowledge and counseling strategies of APRNs, which should help them to motivate behavioral lifestyle change in patients with obesity, improving societal health and reducing medical costs in rural Southeast Arkansas. The setting of study was a primary health care practice within a small Southeast Arkansas community where many people work and live. This program corresponds to a social-ecological model, which encourages supportable behavior modifications and promotes healthy lifestyle choices for a positive effect on the community.

Significance

Obesity, defined as a BMI of 30 kg/m^2 or higher (CDC, 2014), affects millions of people across the United States. The state of Arkansas has an obesity rate of 35%, the seventh highest rate in the nation (State of Obesity, 2018). According to the American Heart Association (2014), obesity can lead to high cholesterol, high blood pressure, heart

disease, diabetes, and respiratory problems and make other health conditions worse. If APRNs and patients continue without proper education, the obesity epidemic will not improve, and increased morbidity and mortality will result. To bring about positive social change and improve patient and provider outcomes, medical facilities should provide education on a consistent basis.

Evidence-based research and prevention need to be the cornerstones of practice for family nurse practitioners with master's and doctoral degrees. It is important for leaders, advocates, and medical collaborators to devote attention to the community's public health needs. With better education, APRNs can meet Healthy People 2020 objectives. If providers lack obesity training, obesity rates will continue to rise, as will risks for chronic, debilitating, and even fatal health conditions, both physical and mental. APRNs making people aware of their condition and inspiring them to change will reduce these risks.

This DNP project began with the identification of learning and treatment barriers in a small, nurse-driven primary care practice. Following extensive research of scholarly, government, and organizational sources, I created, pilot tested, and administered a staff education toolkit to address the gap in APRN knowledge and subsequent care for patients with obesity, thus contributing to nursing practice. Better-educated APRNs may, in turn, promote better-educated patients with or at risk of obesity, providing these patients the treatment and health care referrals they need to address their condition. Other rural practices with similar characteristics may also benefit from the training created in this project.

Potential implications for positive social change from this DNP project include increased APRN awareness regarding proper management of obesity and a reduction of the obstacles hindering weight loss. The project entailed creation and administration of obesity management training materials for APRNs in light of the challenges that promote behavioral change concerning obesity. By extension, educating APRNs may help reduce the number of patients living with or at risk of obesity, thus improving patient outcomes.

Summary

Obesity management requires frequent evaluation of evidence-based interventions and prior practice interventions. Insufficient education and training of primary health care providers permeate the infrastructure and signify much-needed change. This DNP project entailed designing, pilot testing, and administering a staff education toolkit to educate APRNs in a rural Southeast Arkansas primary care clinic on the proper means of care for patients with obesity. Such learning may enable these providers to encourage supportable behavior modifications and promote healthy lifestyle choices for their patients, with a positive effect on the community and social change overall. In attending the training session, APRNs received insight into properly diagnosing and treating obesity as well as the barriers to doing so; accordingly, they learned strategies for updating old policies and reducing the number of patients with obesity. Section 2 contains a discussion of the background and context of the DNP project, outlining the concepts, models, and theories. The project’s relevance to nursing practice appears, along with the local background, context, and role of the DNP student.

Section 2: Background and Context

Introduction

In recent years, the incidence of obesity has increased at an alarming rate. Blumenthal and Seervai (2018) found an estimated 18% of adults between the ages of 40 to 85 years have died as a result of obesity. Obesity became a part of the national conversation in 2013 (Brown, 2015). Medicaid alone pays out an estimated $8 billion toward obesity-related medical care annually (Levi, Segal, Laurent, & Rayburn 2017). As a modifiable risk factor, obesity merits individual attention, with risk factors requiring focused attention and ongoing intervention to positively affect patients' quality of life before more preventable deaths occur. Today, 93.3 million adults, nearly 40% of the U.S. population, qualify as obese (CDC, 2018). The state of obesity has increased on all levels, affecting society at an alarming rate (Seidell & Halberstadt, 2015). As shown in the evidence-based information in the literature that follows, if health care providers initiate assertive strategies to combat obesity, the prevalence of this epidemic would drastically decrease. To address the gap in APRN education and practice, the practice-focused question for this DNP project was the following: Will an APRN staff education toolkit on the care and treatment of patients with obesity improve APRN knowledge on treating patients with obesity in rural Arkansas?

Section 2 includes a thorough discussion of the background and context of the project, including theory and theorists, the project's relevance to the nursing practice, and application to the local background and context. In addition, a review of the role of the DNP student appears, followed by a summary and transition to Section 3.

Concepts, Models, and Theories

Strategies to Improve Weight Control and Obesity

To approach patient weight control and obesity, APRNs first need to acknowledge the problem. Prior to any treatment, patients require individualized evaluation based on their BMI. Other strategies may include (a) starting a weight loss program that will help achieve a 5-10% weight loss through long-term care interventions, (b) constraining any obstacles that may cause weight gain and related issues, (c) treating present risk factors, and (d) encouraging the patient to engage in lifestyle behaviors that may or may not include medication to meet corrective goals. During the stages of treatment, APRNs should evaluate the degree of change in health risks and symptoms, including whether the patient lost the desired amount of weight. If not, the APRN may need to reemphasize the importance of weight control and weight loss with the patient, providing information on rehabilitation/therapeutics and a possible referral to bariatric surgery, if applicable.

Tools for Advanced Practice Registered Nurses to Control Weight in Primary Care

In primary care practice, APRNs often take an active role in encouraging patients who may need behavior change (Sturgis & Weel, 2017). To increase APRN engagement in the care of patients with obesity, this DNP project involved APRN training and education through an onsite presentation and educational handouts (see Appendices B and C). Training materials for this DNP project incorporated clinical practice guidelines (CPGs) to help APRNs improve treatment and diagnosis of patients who are obese. To measure the effectiveness of APRN training and education, each study participant completed a posttest (see Appendix D).

Use of CPGs in primary care clinics can broaden APRNs' knowledge base and boost their clinical understanding of obesity (Mechanick et al., 2017). CPG comprises established statements through applied research, such as electronic databases, scholarly journals, electronic health records, and sources of evidence (Mechanick et al., 2017). With the use of CPGs in training materials, APRNs can help patients achieve weight loss goals specific to their individualized health care needs. According to Williamson, Bray, and Ryan (2015), clinically recommended weight loss is 5-10% within a 12-month period.

CPGs enable a systematic review that depends on an efficient survey of either epidemiological or clinical proof (Mechanick et al., 2014). CPGs offer clarification of the legitimate connections between alternatives and well-being results based on the nature of the proof and the quality of the suggestions (Mechanick et al., 2014). Each APRN using CPGs is in charge of assessing the suitability of implementing guidelines in the primary care clinical setting. CPGs in this study include recommendations for the adult population, providing data regarding pharmacologic and nonpharmacologic treatment for patients with obesity. Illustration of CPGs comes from the CDC's BMI calculator.

The training material posttest enabled assessment of APRNs' knowledge following the training with regard to using patient education and individualized treatment as guided by CPGs. Being able to recognize and tend to APRNs' feelings and barriers is an important component of improving the treatment they provide to patients with obesity. APRNs must be open-minded and willing to learn about and address the treatment patients need to improve their prognosis. Long-term results, although outside of the realm

of this DNP project, may be noticeably improved APRN approaches toward the treatment and management of weight loss in patients with obesity. Such improvements should also lead to better prognosis and health of patients with obesity.

Transtheoretical Model of Health Behavior Change

In creating training materials to educate APRNs on diagnosing and treating patients with obesity, I considered the transtheoretical model of health behavior change (TMHBC). The model involves six stages of change: precontemplation, contemplation, preparation, action, maintenance, and termination (Prochaska & Velicer, 1997). In the precontemplation stage, individuals are not motivated to take action, and may even be resistant to the idea of change. This is usually the result of a lack of information or an incomplete understanding of the problem. Contemplation pertains to patients stuck between the pros and cons of their health; they may freeze at this stage for long periods but usually try to modify their behavior within 6 months (Prochaska & Velicer, 1997). Preparation applies to a patient deciding to change in the future, yet with no action taking place until perhaps the following month (Prochaska & Velicer, 1997). Action happens when a patient has performed evident lifestyle changes within the past 6 months (Prochaska & Velicer, 1997). Maintenance occurs when the patient attempts to avoid setbacks and stay focused on continuing change for a period of 6 months to 5 years (Prochaska & Velicer, 1997). Finally, the termination stage involves patients who have no enticement to return to their previous unhealthy state and feel secure in their ability to remain healthy (Prochaska & Velicer, 1997). The TMHBC provides an efficient way to incorporate motivating interventions using supplemental ways to discourage unhealthy

behavior and switch to healthy behavior. This model allows APRNs to encourage weight loss in patients with obesity as they increase acceptance of more robust lifestyle modifications.

The TMHBC can guide APRNs on how to perceive other people's values, religion, and psychological behavior, reminding them not to stereotype or be insensitive toward the patient. An APRN who is educated and knowledgeable about managing patients with obesity will incentivize individuals to engage in healthy lifestyle modifications, improving quality of care and reducing medical costs across the United States. With the TMHBC as a theoretical framework, APRNs who implement what they learn from the staff education toolkit will have greater engagement with education and patient counseling. As a result, APRNs may be better able to motivate patients to lose weight. The goal in incorporating this model into the training will be to improve APRN readiness and inspire change in patients with obesity.

Educational Model

According to Samaeinsabab et al. (2018), use of model-based health education programs has been successful in weight loss of obese patients. These models result in change in selective balance, BMI measurement, and self-reliance through education seminars focused on weight loss among patients considered obese according to BMI determination (Samaeinsabab et al., 2018). APRNs have the ability to educate and encourage patients on more than just annual wellness visits; however, there is no consistency to address the issue of obesity and overweight.

Definition of Terms

Critical key terms that appear in this project include the following:

Advanced practice registered nurses: Also known as clinical nurse practitioners, APRNs are health care providers who have earned a master's degree or higher in nursing, as well as licensure from their State Board of Nursing to provide patient care with a restricted scope of practice (GraduateNursingEDU.org., 2018).

Body mass index: BMI is a calculation of body fat based on an individual's height and weight. A BMI of 30 or higher an individual is overweight or obese (CDC, 2014).

Environmental change: Environmental change is any alteration in the home, neighborhood, or school environment, leading individuals to change their daily dieting habits (Hallstrom, Kanyama, & Borjesson, 2015).

Epidemic: An incident that involves more than one case of a disease or condition within a community or region is an epidemic ("Epidemic," 2018).

Evidence-based research/practice: Evidence-based research is the incorporation of information from contemporary research that providers use in their decision-making for individualized patient care (Duke University, 2018).

Lifestyle modification: A person who implements lifestyle modifications changes certain habits for weight loss purposes through interventions that include exercise, diet, and therapy ("Lifestyle Modification," 2018).

Obesity: Individuals with obesity are those having excess body fat who are 20% over their ideal body weight (American Heart Association, 2014) and have a BMI of 35 or higher (CDC, 2018).

Primary health care providers: Nurse practitioners, medical doctors, and physician assistants who have authority under state law to diagnose, treat, and evaluate acute and chronic care conditions comprise primary care providers (“Primary Care Provider,” n.d.).

Relevance to Nursing Practice

The chief problem addressed in this DNP project was the lack of APRN knowledge regarding evaluating, counseling, and referring their patients with obesity. As a result, a significant concern is that patients may not be aware of or acknowledge the risks of their current health status. Primary care analysis and evaluation alone are insufficient; however, identifying those in need of help is critical. APRNs have not provided proper counseling to patients who are considered obese, contributing to increased medical costs. A multitude of components hinder adequate patient care by APRNs. According to Klabunde et al. (2014), approximately 26% of health care providers routinely deliver educational counseling or management. The TMHBC (Prochaska & Velicer, 1997) should guide APRNs on how to manage and counsel patients with obesity, depending on their stage, toward a healthier lifestyle and behavioral change.

In nursing programs, students learn how to examine patients for obesity risk and provide weight loss management counseling (Wadden et al., 2013). In the primary care setting, nurses see many patients daily in different populations who are struggling with obesity and need counseling or referral services. Through practical nursing practice and education, weight loss interventions have proven to be a productive way of managing

obesity. Nurses are the cornerstones in addressing obesity risk with patients who need counseling and consistent weight management (Phillips et al., 2014). Primary care nurse practitioners who have the proper education and motivation are more efficient at counseling patients and making ethical decisions in a collaborative way than are nurses without such training (Schttenfeld et al., 2016).

Remedying this risk factor for nurses can be difficult; however, with effective weight loss education on interventions and behavioral readiness for a change, change is possible. People depend on health care providers for medical advice and support. Resources may be available in the surrounding areas; however, in many cases, the patient is unaware of these services. Despite increasing rates of obesity, only 3-5% of patients with obesity seek medical attention; therefore, it will take a health care team approach to reverse this upward trend (CDC, 2016). Part of this approach should entail continuing education and training for APRNs, as provided by this DNP project.

Local Background and Context

In 2017, Arkansas had the seventh-highest rate of adult obesity in the United States, with 35% of its residents—over one third of the population—classified as obese (State of Obesity, 2018). More than 34% of women and nearly 33% of men are obese, which breaks down by race as White (34%), Black (44%), and Latino (30%). Arkansas's obesity rate was 21.9% in 2000 and 17% in 1995, representing more than a 200% increase in 22 years (State of Obesity, 2008). These high percentages come with a number of obesity-related health issues, among them diabetes, heart disease, hypertension, and cancer.

The setting for this project was a primary health care practice in a small Southeastern Arkansas community with both homes and businesses. The recipients of the educational materials were four APRNs at a primary clinic in rural Arkansas who worked in a community of approximately 1,500 individuals. About two thirds of the town's residents are adults, approximately 500 of whom are prediabetic and overweight. The use of a social-ecological model guided the creation of an APRN training program to improve providers' knowledge of obesity treatment and referral. Such knowledge may subsequently promote positive change in the community through patients' sustainable behavior modifications, including healthy lifestyle choices.

Role of the DNP Student

My role in this study was to create and administer a staff training toolkit to improve APRNs' knowledge of patient obesity management. As an APRN myself, I have a responsibility to try to decrease the epidemic of obesity by staying up to date with research and by educating my patients and fellow APRNs. Arkansas has the seventh-highest rate of obesity in the United States (State of Obesity, 2018). As both a health care provider and a researcher in this state, I attempted to address these statistics through this DNP project as a means of effecting practice change. Despite my involvement in the local health care community, I held no bias in researching for and creating these training materials.

Although APRNs understand the conditions that cause weight increase and how this increase impacts patients, managing the complications can be complex. Due to a deficiency of resources, primary care practice APRNs advise 68% of patients who are

obese to drop their weight (Gudzune, Bennett, Cooper, & Bleich, 2014). As such, I created and administered informational material and training to four APRNs at a selected family care practice in rural Southeast Arkansas. Prior to and following this training were pre- and posttests to assess participants' understanding of obesity and the material presented. With these results, clinic leaders can identify the current level of APRN treatment for patients with obesity in this practice. In addition, clinic leaders can determine how APRNs' improved knowledge of obesity could potentially reduce gaps in health care.

The health care system has changed dramatically. APRNs have encountered societal shifts that make their professional settings less controlled and more complicated. Obesity management is a critically overlooked necessary component of providing comprehensive health care. Concerns may exist regarding the limited number of providers, practitioner and patient socioeconomic factors, and APRNs' degree of unease about obesity management. There is a need for consistent training and education in obesity management. This DNP project entailed the creation of a training presentation (see Appendix B), educational handouts (see Appendix C), and a posttest (see Appendix D) to illustrate how the use of proper patient treatment tools can promote positive social change.

Summary

Due to the lack of caregiver consistency, patients with obesity rarely receive proper evaluation when they visit their doctor for an annual screening and wellness check, even though guidelines are in place (Ryan & Jensen, 2013). According to the CDC

(2018), there are not enough physicians to ensure proper care. To correct this health care gap, APRNs need to position themselves as frontline leaders of primary care. Obesity-related patient management costs Americans $342.2 billion each year (Biener et al., 2018). Following delivery and subsequent administration of an education program and training materials based on the TMHBC (Prochaska & Velicer, 1997), APRNs may be better able to treat patients with obesity.

Section 3: Collection and Analysis of Evidence

Introduction

Obesity affects nearly half of African American and Hispanic American individuals in the United States; however, the condition continues to be a problem not adequately addressed by APRNs. The problem is that when APRNs do not have sufficient knowledge on how to counsel patients on proper weight management interventions, the quality of care decreases. Curricula in the foundational nurse practitioner programs often only briefly address obesity prevention, instead focusing on responses to the associated comorbidities. Chief among the barriers to providing care for patients with obesity is inadequate knowledge of obesity as a medical concern with multiple comorbidities. To address primary care prevention and management of obesity, the purpose of this DNP project was to develop and administer a staff education toolkit for APRNs.

Section 3 includes a review of the practice-focused question guiding this project. A discussion of sources of evidence generated for the doctoral project is also included. Following an analysis and synthesis of systems and procedures is an overall summary of the section.

Practice-Focused Question

Arkansas ranks seventh in the nation for rates of obesity, trailing West Virginia, Mississippi, Oklahoma, Iowa, Alabama, and Louisiana (State of Obesity, 2018). With over one third of Arkansans diagnosed with obesity, the problem is reaching epidemic proportions and threatening the health of millions of individuals. The CDC (2018)

identified nearly 40% of the U.S. population as suffering from obesity. APRNs have a significant role during patient care in accordance with their scope of practice. In addition, they hold key positions in conducting appropriate interventions against obesity within certain populations ("APRN Definition," 2018). The DNP practice-focused question was: Will an APRN staff education toolkit on the care and treatment of patients with obesity improve APRN knowledge on treating patients with obesity in rural Arkansas? Answering this question entailed creating a staff educational toolkit consisting of a pretest, educational materials, a presentation, and a posttest to measure APRN knowledge following the educational presentation. Improved APRN knowledge and care of patients with obesity indicate the DNP project's impact on positive social change.

The purpose of this DNP project was to create educational and training material for APRNs in a rural Arkansas primary care clinic to identify, counsel, and refer their patients with obesity. I prepared materials for an in-service training program with a presentation and educational handouts. Following administration of the training, I provided APRNs with a posttest to measure the knowledge retained from the training. In general, APRNs do not feel comfortable treating these patients or managing their care. Instead, they frequently refer patients with obesity to a specialist based on the individual's cause or condition. This DNP project was an opportunity to provide APRNs with alternatives to referring patients, as specialists may not be appropriate for all patients who need to lose weight. Participants' posttest scores provided insight on the efficacy of the training program and staff education toolkit on obesity management created in this DNP project.

Sources of Evidence

To establish viability and identify sources of evidence, I gathered pertinent, peer-reviewed scholarly literature, reviewing appropriate strategies to address the practice-focused question. With the perspective and knowledge of how environmental and economic changes influence obesity, this DNP project was limited to providing an in-person training presentation and an education toolkit for rural Southeast Arkansas midlevel providers to teach APRNs how better to treat patients with obesity. The project's purpose was to create and administer educational and training material for APRNs in a rural Arkansas primary care clinic to identify, counsel, and refer their patients with obesity. Assessing the success of such training will be sufficient to answer the practice-focused question: Will an APRN staff education toolkit on the care and treatment of patients with obesity improve APRN knowledge on treating patients with obesity in rural Arkansas? Improved APRN knowledge and subsequent patient treatment will indicate the DNP program's impact on positive social change.

APRN counseling and commitment to obesity management guidelines can have a positive effect on primary care through the teaching of proper diet, behavioral change, and exercise. I applied the TMHBC (Prochaska & Velicer, 1997) to the project objective of educating APRNs on obesity management and providing care that advocates optimal patient health. The sources of evidence on which I built this DNP project were the resources summarized in Section 2. Educating APRNs on the importance of obesity management may reverse the current trend of adults receiving primary care treatment without adequate obesity management. The project's purpose, therefore, was to create

and administer educational and training material for APRNs in a rural Arkansas primary care clinic to identify, counsel, and refer their patients with obesity, applying a posttest to answer the practice-focused question.

The theoretical framework guiding this DNP project was the TMHBC (Prochaska & Velicer, 1997) of staged behavior change and obesity management through provider education. Applying this model may serve to remind APRNs about the resources available to their patients with obesity. It is my hope that knowledge retained from the staff education toolkit will ultimately lead to proper interventions and treatment of patients with obesity in rural Southeastern Arkansas.

Published Outcomes and Research

The literature search for this project incorporated articles pertaining to obesity and the knowledge of APRNs in relation to obesity treatment hindrance. The systemic literature review included publications from 1997 to 2018, with a primary focus on the past 5 years. Online databases and websites consulted included PubMed, CINAHL, PsycINFO, Medline, Cochrane Library, ProQuest, CDC, Walden University Library, American Nurses Association, and the Google Scholar search engine. Key words and terms used were *obesity*, *obesity in primary care*, *implications of obesity*, *advanced practice registered nurse attitudes*, *advanced practice nurse practitioner attitudes, advanced practice registered nurse attitudes*, *health promotion*, *Arkansas obesity rate*, *evidenced-based nursing*, *behavior change models*, *patient obesity education*, *advanced practice nurse practitioner obesity management,* and *advanced practice registered nurse obesity management*.

Inclusion criteria were publications in English and full-text reviews with an emphasis on the past 5 years; exclusion criteria were non-English language articles published before 1997, interventions greater than 6 years old, studies on obesity in children, and abstract-only sources. Article relevance allowed for repetition and applicability. I used the Health Evidence (2013) Relevance tool to review, synthesize, and screen for article pertinence to meet the inclusion criteria. Significant information was available concerning obesity management and provider education; however, very little existed regarding obesity education handouts and proper follow-up care. With the above-listed sources, my search returned 103 articles; after excluding 47, I ultimately selected 23 articles for the literature review, carefully screening each source to obtain evidence that was exhaustive, permissible, and of the highest quality.

Evidence Generated for the Doctoral Project

With this DNP project, I created and administered a staff educational toolkit for APRNs to increase their knowledge regarding proper counseling and referral of patients with or at risk of obesity. The TMHBC (Prochaska & DiClemente, 1983) served as a means for an APRN to provide appropriate care for patients so that they take ownership of the changes they seek to achieve.

Participants. Direct recipients of the staff education toolkit were the four APRNs who work at the selected primary health care practice in a rural Southeastern Arkansas community. All APRNs had received previous obesity care training from the clinic; however, those efforts were unsuccessful in achieving the desired patient care results. Clinic leaders and the four APRNs had expressed an interest in participating in the study,

receiving educational material, and attending a presentation on managing and caring for their patients with obesity.

Procedures. This DNP project was a means to educate APRNs with an in-person presentation (see Appendix B) and educational handouts (see Appendix C) on how important it is to be a source of motivation for patients trying to make lifestyle changes, to instruct patients, and to review organizational processes for success. The four APRNs attended an in-service training program given by me to increase their awareness as care providers for patients with obesity. An overview of the curriculum appears in Appendix A, with the presentation in Appendix B and handouts in Appendix C. One educational seminar lasting 30 minutes took place following staff clock-in to prevent the clinic from falling behind schedule. APRNs were required to attend the entire session so they were aware of the requirements and information. We discussed case studies based on real experiences from the published literature with time for interactive discussion on the potential barriers and obstacles to success, as well as medical record documentation requirements.

Prior to beginning work on staff education toolkit creation, I submitted a Form A application to the Walden University Institutional Review Board (IRB), an oversight committee that ensures students comply with University research standards and U.S. regulations. There was no IRB at the family care practice under study. In accordance with Walden University guidelines, I will keep all collected study data for 5 years, after which I will destroy all files. The IRB approval number is 09-19-19-0424157.

Summary

Motivating an individual takes a considerable amount of effort before a positive change will occur. An educational intervention should be clear, understandable, informative, and motivational, addressing barriers that affect public health. APRNs may find obesity consultations in the primary care setting uncomfortable, but effective management of patients' obesity should be a priority (Phillips et al., 2014). Providers at this Southeast Arkansas clinic had insufficient information on how to treat obesity or on what resources to provide patients when they left the clinic. The DNP project can be a valuable tool within primary care clinics when used regularly to educate APRNs on obesity management.

The TBHMC and CPG models in this study will be useful for APRNs, as both frameworks support the benefit of education in delivering knowledgeable health care and individualized attention for collaborative decision-making. Gathering evidence-based research during the systemic literature review allowed me to uncover health care gaps, track patient BMIs, and incorporate studies relevant to the study. My hope is that this project will encourage proper obesity counseling and referral by APRNs; in turn, patients may receive educational support to make short- and long-term goals toward a healthier lifestyle.

Section 4: Findings and Recommendations

Introduction

Obesity, defined as a BMI of 30 kg/m^2 or higher (CDC, 2014), is a major, ongoing health problem in the United States. According to the CDC (2018), 46.8% of African Americans are obese. In Arkansas, the state of study, 35% of the population is obese (State of Obesity, 2018), making it the seventh most obese state in the nation. One of the best ways to address this statistic is for health care practitioners to provide increased levels of knowledgeable care to their patients. However, APRNs and health care staff are often untrained on how to diagnose, counsel, treat, and refer patients with obesity; as a result, there was a need for this DNP project to educate practitioners on how to screen and advise patients with obesity.

This DNP project entailed creating and administering a staff education toolkit for APRNs in a rural Southeast Arkansas primary care clinic to assist them in identifying, counseling, and referring their patients with obesity. Accompanying the presentation was an information packet with material about obesity's health concerns, nationwide prevalence, and statistics specific to Arkansas and rural Arkansas. The gap in practice addressed was the lack of APRN knowledge and training in providing counseling and referrals for patients with obesity. The practice-focused question was: Will an APRN staff education toolkit on the care and treatment of patients with obesity improve APRN knowledge on treating patients with obesity in rural Arkansas? A thorough literature review encompassing peer-reviewed articles, government data, and organizational information contributed to the creation of learning materials. The staff education toolkit

should enable APRNs to become more informed and comfortable in evaluating, counseling, and referring their patients with obesity.

Implications

Because of my deep knowledge of the subject and the extensive literature review I conducted, I expected to see an increase in APRNs' knowledge following the training session, as measured by the posttest. However, due to how close in time the posttest followed the pretest, I cannot know how long the APRNs will retain what they learned.

Findings

Peer-reviewed, scholarly literature served as a source of evidence in creating the staff education toolkit. Studies provided detailed information on obesity, including its definition, prevalence, diagnosis, treatment, and outcomes. Training of APRNs had three stages: pretest, presentation with educational handouts, and posttest. Evaluating the effectiveness of the training materials entailed comparing the results of the posttest to those of the pretest.

Developing the educational tool for this DNP project required first performing a literature, current-state, and theoretical review of applicable material. I incorporated the theories from the TMHBC with regard to the intended outcome of changing the behaviors of APRNs and, subsequently, those of patients. I also closely reviewed prior scholarly research as well as professional health recommendations in creating the material for this educational presentation. Prior to presenting the training material to the APRNs, I pilot tested the educational toolkit with the two midlevel providers at the clinic, each of whom approved of the material and showed increased knowledge on the posttest.

Following APRN training, comparing the results of the posttest (89%) against those of the pretest (72%) showed that these training materials were, in fact, effective in increasing APRNs' knowledge of obesity, as well as its diagnosis, counseling, and treatment. An overview of results appears in Table 1, with a breakdown by participant in Table 2.

Table 1

Pretest–Posttest Scores Comparison

Question	Participant	Pretest	Posttest
1. Put the following obesity assessment steps in order.	1	Pass	Pass
	2	Pass	Pass
	3	Fail	Pass
	4	Fail	Pass
2. Which of the following are recommended exams/tests when diagnosing a patient with obesity?	1	Fail	Pass
	2	Fail	Fail
	3	Fail	Pass
	4	Fail	Pass
3. What are some dietary changes you would recommend to your patients with obesity?	1	Pass	Pass
	2	Pass	Pass
	3	Pass	Pass
	4	Pass	Pass
4. What is the minimum number of minutes per week of moderate-intensity physical activity you should recommend to your patients with obesity?	1	Pass	Fail
	2	Pass	Pass
	3	Fail	Fail
	4	Fail	Pass
5. Which of the following is *not* one of the primary behavior changes you would recommend to a patient with obesity?	1	Pass	Pass
	2	Pass	Pass
	3	Pass	Pass
	4	Pass	Pass
6. When would you recommend weight-loss surgery?	1	Pass	Pass
	2	Fail	Pass
	3	Pass	Pass
	4	Pass	Pass
7. Prescription weight-loss medication __________.	1	Pass	Pass
	2	Pass	Pass
	3	Pass	Pass
	4	Pass	Pass
8. Individuals diagnosed as obese have a BMI of ___ kg/m^2 or greater.	1	Fail	Pass
	2	Pass	Pass
	3	Fail	Pass
	4	Fail	Pass
9. Approximately what percentage of Americans are overweight?	1	Pass	Pass
	2	Pass	Pass
	3	Fail	Fail
	4	Pass	Pass

(table continues)

Question	Participant	Pretest	Posttest
10. Arkansas has the ___ highest rate of obesity in the US.	1	Fail	Pass
	2	Fail	Pass
	3	Fail	Pass
	4	Pass	Pass
11. Which of the following is a common comorbidity with obesity?	1	Pass	Pass
	2	Pass	Pass
	3	Pass	Pass
	4	Pass	Pass
12. How much of the plate should vegetables comprise? Lean protein? Starch?	1	Pass	Pass
	2	Pass	Pass
	3	Pass	Pass
	4	Pass	Pass
13. Which of the following is *not* one serving size of lean meat/protein?	1	Pass	Pass
	2	Fail	Pass
	3	Fail	Pass
	4	Pass	Pass
14. Individuals can eat free foods as often as they desire. How many calories do free foods have?	1	Pass	Pass
	2	Fail	Pass
	3	Pass	Fail
	4	Fail	Pass
15. What are three tips for planning healthy meals as specified in the training material?	1	N/A	Pass
	2	N/A	Pass
	3	N/A	Pass
	4	N/A	Fail
16. After attending the training session, what three things do you plan on doing differently when caring for your patients with obesity?	1	N/A	Pass
	2	N/A	Pass
	3	N/A	Fail
	4	N/A	Pass
Total pass scores		72%	89%

Table 2

Obesity Knowledge Improvement by Participant

Participant	Pretest	Posttest	Improvement
1	79%	94%	15%
2	64%	94%	30%
3	50%	75%	25%
4	64%	94%	30%
Mean	64%	89%	25%

Implications

The direct implication of this DNP project is that the participating APRNs in the rural Southeast Arkansas clinic of study have increased knowledge about obesity, including means of screening, counseling, and referring their patients. By extension, patients of this practice who are obese should experience more positive health outcomes. Improved APRN awareness could also lead to better overall health in the community, including proper behavioral management and weight loss success among residents. As a result, proper provider education should contribute to reducing the incidence of obesity in rural Arkansas, as evidenced in the problem statement.

A possible secondary implication of this DNP project is that APRNs and patients at other rural care health care providers in Arkansas may benefit from use of this education toolkit. Other clinic leaders may draw upon this study's findings that illustrate APRNs' need for motivational education sessions, in part due to providers' often-negative perceptions of patients who are overweight or obese. APRNs should counsel and address obesity with patients on a routine basis; however, due to the lack of midlevel provider knowledge and education, such necessary care has not occurred.

Recommendations

Accordingly, one recommendation is that the midlevel providers at the rural primary care clinic of study provide regular, ongoing follow-up training to ensure APRN comprehension and application. Quarterly educational sessions would allow clinic leaders to address APRNs' reluctance in giving obesity counseling to patients.

APRNs need to have education on providing patient care that follows guidelines and evidence-based research to better care for patients who need obesity management counseling or referral (Rankin, Zitkus, Bunker-Alberts, Budd, Holbrook, Peterson, & Reveles, 2013). Both providers and patients will need to be in the motivational stage of the TMHBC before a referral can start. Personal perceptions of obesity management should not factor into the provision of quality patient care. Midlevel providers and APRNs must ensure all qualifying patients receive an obesity management handout packet. Therefore, a subsequent recommendation is that APRNs use the knowledge they have gained to more effectively evaluate, counsel, and refer their patients with obesity.

Quantitative analysis of pre- and posttest scores would provide statistical data regarding the effectiveness of the training. Other primary care providers may choose to implement this educational toolkit in their own clinics to improve APRN knowledge and patient care. Scholars may wish to further advance the use of APRN training in obesity evaluation, counseling, and referral with a longitudinal qualitative study to assess the impact of increased APRN training on the outcomes of patients who are obese.

Strengths and Limitations of the Project

Strengths

Among the strengths of this DNP project were that the staff education toolkit materials were evidence-based, drawing from extensive scholarly research on the topics of obesity prevalence, assessment, care, and treatment. In addition, TMHBC and CPGs served as a proven means to provide education and encourage APRNs to change their behaviors based on expanded knowledge. APRNs were receptive to the training session

and willingly participated in both pre- and posttests. As evidenced by posttest scores, all four attendees improved their knowledge of obesity and obesity treatment, which should enable them to provide better care for their patients.

Limitations

The chief limitation of this DNP project was that it measured only APRN knowledge and not patient care. Although participants demonstrated increased knowledge of diagnosing, treating, and managing obesity in their patients, there is no way of measuring the patient outcomes of such training. This is a definite limitation, as increased APRN knowledge does not necessarily equate to improved patient care. Although the DNP project was a means to address the high obesity rates in Arkansas and the lack of proper treatment by APRNs in rural primary care clinics, the patient outcomes of such knowledge is unknown.

Summary

This DNP project entailed creation of a staff education toolkit and administration of a training session for the four APRNs at the primary care clinic of study. I created a set of research-based educational handouts, a pre- and posttest, and a PowerPoint presentation. Based on APRNs' improved scores from pre- to posttest, the expectation is that APRNs' increased knowledge about obesity will improve patient outcomes through adequate and timely obesity evaluation, counseling, and referring of patients in rural Southeast Arkansas.

Section 5: Dissemination Plan

Introduction

Obesity management requires awareness and evaluation of evidence-based interventions. The clinic's insufficient and sporadic practitioner education and training seminars signaled a need for change to improve the health of its patients with obesity. The purpose of this DNP project was to create and administer educational material and training to address the gaps in obesity management. I created a staff education toolkit for administration to the four APRNs in the family care practice of study, which included a set of educational handouts, a training presentation administered prior to the clinic's opening, and pre- and posttests to measure the increase, if any, in staff knowledge regarding obesity evaluation, counseling, and referring their patients. Other audiences and venues for dissemination of the staff educational toolkit include clinical leaders at other primary care practices in rural Arkansas, across the state, and beyond.

Project Purpose and Outcomes

The purpose of this project was to create and administer a staff education toolkit to increase the knowledge of rural Arkansas APRNs to address the epidemic of obesity among their patients. Awareness and evaluation of evidence-based interventions are necessary components of change, a concern addressed by this project. Because the clinic's midlevel providers had previously offered only sporadic and insufficient training to the four APRNs in their practice, effective obesity education was absent. This DNP project was a means to address the gaps in knowledge regarding obesity management in the clinic of study.

Plan for Dissemination

Dissemination involved distributing the staff education toolkit to the four APRNs at the rural Southeast Arkansas primary care clinic of study. Further dissemination will include making the training materials available to other rural primary care clinics in the area of study and beyond. I will also publish this doctoral capstone project, which will allow access to others who may wish to use the educational toolkit.

Analysis of Self

I pursued this DNP project based on a deep awareness of the need for obesity training materials in the rural Arkansas primary care provider of study. In reviewing extensive amounts of literature regarding obesity statistics, health risks, and lack of proper care or referral by APRNs in rural Arkansas, I greatly expanded my knowledge of the severity of the condition. I delved into frequency and prevalence of obesity with a particular focus on Arkansas, a state with the seventh highest rate of obesity in the nation (State of Obesity, 2018). With this newly gained information to supplement what I already knew, I created what I found was an effective means to address the lack of proper staff education and patient treatment in a rural Southeast Arkansas clinic. I distributed and administered a staff education toolkit, which included educational handouts, a PowerPoint presentation, and pre- and posttests, to the four APRNs at the clinic of study. Based on posttest scores, I found improvements in provider understanding following the training. Throughout the course of this project, I grew from a scholar into a scholar-practitioner, with confidence in creating and administering an effective staff education toolkit to APRNs at the rural Arkansas primary care clinic of study.

Summary

The findings of this DNP project indicated that an educational toolkit targeted to APRNs at a rural Arkansas primary care clinic was effective in increasing providers' knowledge of obesity. As a result of this improved understanding, APRNs should be better able to care for their patients with obesity, including diagnosis, treatment, management, and referral. Based on the success of this research-based training, I feel confident in offering the educational toolkit to other primary care providers in rural Arkansas and beyond. Subsequent research is needed to measure the impact of APRNs' improved obesity knowledge on the health of their patients. It is only through proper education, care, and treatment that patients with obesity will experience better health outcomes.

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Appendix A: Curriculum Overview

Learning Outcome

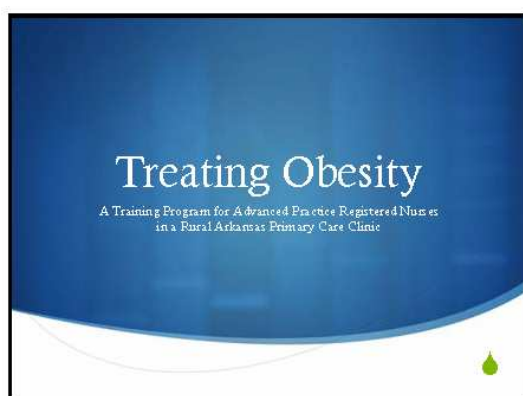
APRNs will demonstrate an improvement in knowledge (increased scores from pretest to posttest) and change in level of confidence managing obese and overweight patients.

Nursing Professional Development

APRNs will demonstrate an improvement in knowledge (increased scores on posttest) and change in level of confidence managing obese and overweight patients.

Topical content outline	Time	References	Teaching method/learner engagement and evaluation method
Knowledge pretest	10"		
Introduction: The overweight and obese problem in Arkansas; in this practice.	5"	Biener, A., Cawley, J., & Meyerhoefer, C. (2018). The impact of obesity on medical care costs and labor market outcomes in the US. *Clinical Chemistry, 64*(1), 108 https://doi.org/10.1373/clinchem.2017.272450 Centers for Disease Control and Prevention. (2018, August 13). Adult obesity facts. Retrieved from https://www.cdc.gov/obesity/data/adult.html National Institute of Health. (2017). Overweight & obesity. Retrieved from https://www.niddk.nih.gov/health-information/health-statistics/overweight-obesity Pianin, E. (2015, May 15). New lifetime estimate of obesity costs: $92,235 per person. *Fiscal Times*. Retrieved from https://www.thefiscaltimes.com/2015/05/15/New-Lifetime-Estimate-Obesity-Costs-92235-person The State of Obesity. (2018, September). Adult obesity in the United States. Retrieved from https://stateofobesity.org/adult-obesity/	Lecture/slides Discussion: candidates for weight loss among our patients: case studies
Obstacles and barriers to diagnosing and treating weight loss	5"	Banerjee, E. S., Gambler, A., & Fogleman, C. (2013). Adding obesity to the problem list increases the rate of providers addressing obesity. *Family Medicine, 45*, 629-633. Retrieved from https://jdc.jefferson.edu/fmfp/40	Lecture/slides Interactive discussion Open-ended questions
CPGs applied to overweight and obesity	5"	Mechanick, J., Camacho, P., Garber, A., Garber, J., Pessah-Pollack, R., Petak, S., …Trence, D. (2014). American Association of Clinical Endocrinologists and American College of Endocrinology protocol for standardized production of clinical practice guidelines, algorithms, and checklists – 2014 update and the AACE G4G program. *Endocrine Practice, 20*, 692-702. https://doi.org/10.4158/EP14166.PS	Lecture/slides Open ended questions
Obesity treatment • Proper meal planning • Exercise/ activity • Behavior changes	10"	Mayo Clinic. (1999). Obesity. Retrieved from https://www.mayoclinic.org/diseases-conditions/obesity/diagnosis-treatment/drc-20375749 USDA Center for Nutrition Policy and Promotion, 2011. Retrieved from https://www.fns.usda.gov/cnpp/center-nutrition-policy-and-promotion	Interactive discussion Open ended questions
APRN fears: What are your worries and how can they be addressed?	5"	–	Interactive discussion Open-ended questions
Knowledge posttest	10"		

Appendix B: Presentation



Obesity Defined

- Overweight: BMI of 25 kg/m² or greater
- Obese: BMI of 30 kg/m² or greater

Obesity Epidemic

- 70.2% of all Americans are overweight[1]
- Obesity affects 93.3 million Americans each year[1]
- 47% of African Americans and 47% of Hispanics are obese[2]
- National cost of obesity is $342.2 billion, or 28.2% of all health care costs[3]
- Health care costs per obese individual average $92,235[4]

[1]National Institute of Health 2017
[2]Centers for Disease Control and Prevention 2008
[3]Biener, Cawley & Meyerhoefer 2018
[4]Pinola 2015

Obesity in Arkansas

- Obesity rate of 35%, seventh highest in the US
- 34% of women and 33% of men are obese
- 200% increase in obesity prevalence from 1995 to 2000

State of Obesity 2008

Comorbidities

- Lack of exercise
- Unmonitored dieting
- Environmental influences
- Cancer
- High blood pressure
- Hypercholesterolemia
- Sleeping disorders

Hruby & Hu 2015

Role of Advanced Practice Registered Nurses (APNPs)

- Primary care clinical setting
- Prevention and management of obesity
- Evidence-based practice strategies

APRN Oversights

- Missed opportunities to approach and treat obese patients with weight management concerns
- Need for education and skills to assist overweight patients with lifestyle modifications

[illegible] 2013

Barriers to Patient Treatment

- Inadequate knowledge of obesity as a medical concern
- Improper recommendations for diet, nutrition, and exercise
- Negative attitudes toward patients with obesity

Initial Steps to Treatment

- Review patient health history
- Conduct physical exam
- Recommend tests

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Patient Health History

- Weight history
- Weight loss efforts
- Exercise
- Eating habits
- Other health conditions
- Medications
- Stress level
- Family health history

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Physical Exam

- Height/weight
- Vital signs
- Heart and lungs
- Abdomen

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Exams and Tests

- Calculate BMI
- Measure waist circumference
- Check for other health problems
- Order blood tests, as needed
  - Cholesterol
  - Liver function
  - Fasting glucose
  - Thyroid
- Order heart tests, as needed

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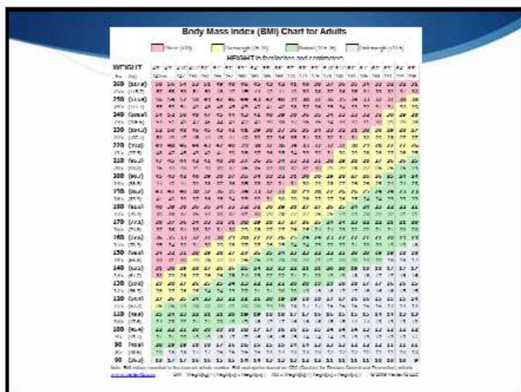

Obesity Treatment

- Dietary changes
- Exercise/activity
- Behavior change
- Prescription weight-loss medications
- Weight-loss surgery

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Dietary Changes

- Cutting calories
- Making healthier choices
- Restricting certain foods
- Meal replacements

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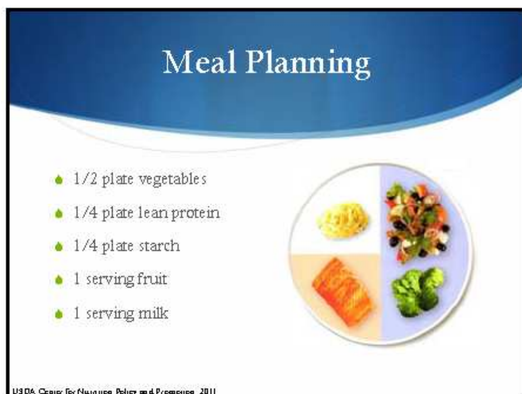
Meal Planning

- 1/2 plate vegetables
- 1/4 plate lean protein
- 1/4 plate starch
- 1 serving fruit
- 1 serving milk



USDA Center for Nutrition Policy and Promotion 2011

Carbohydrates

- Choose 3 or fewer carbohydrate servings at each meal
  - Breads and starches
    - 1 slice whole grain bread
    - 1/3 cup rice or pasta
    - 1/2 cup cooked whole grain cereal or potatoes
    - 3/4 cup dry whole grain cereal
    - 1/2 cup corn
  - Fruit
    - 1 piece, such as small pear or apple
    - 1 cup fresh fruit
    - 1/2 cup canned fruit
    - 1/2 cup fruit juice
  - Dairy
    - 1 cup nonfat/low-fat milk
    - 1 cup sugar-free, low-fat yogurt

USDA Center for Nutrition Policy and Promotion 20113

Meats and Proteins

- Choose 1-3 servings of meats and proteins at each meal
  - 1 ounce lean meat, poultry, or fish
  - 1 egg
  - 1 ounce cheese
  - 1/4 cup low-fat cottage cheese

USDA Center for Nutrition Policy and Promotion 2011

Fats

- Choose 1-2 servings of fats at each meal
  - 1 teaspoon margarine, oil, or mayonnaise
  - 1 tablespoon salad dressing or cream cheese

USDA Center for Nutrition Policy and Promotion 2011

Free Foods

- Foods with less than 20 calories per serving, as desired
  - Most vegetables
  - Water
  - Black coffee or plain tea

USDA Center for Nutrition Policy and Promotion 2011

Tips for Healthy Meals

- Make 1/2 the plate veggies and fruits.
- Add lean protein.
- Limit non-whole grains.
- Don't forget the dairy.
- Avoid extra fat.
- Take your time eating.
- Use a smaller plate.
- Eat at home more often.
- Try new foods.
- Satisfy sweet tooth in a healthy way.

USDA Center for Nutrition Policy and Promotion 2011

Exercise/Activity Changes

- Minimum 150 minutes per week of moderate-intensity physical activity
- More significant weight loss may require 300 minutes or more

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Behavior Changes

- Examine contributing factors, stresses, or situations
- Behavioral counseling
- Support groups

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Prescription Weight-Loss Medication

- Used if other methods are not successful
- Used in combination with diet, exercise, and behavior changes
- May be needed with contributing medical complications, such as diabetes, high blood pressure, or sleep apnea
- Consider health history and side effects

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Weight-Loss Surgery

- Consider the serious risks
- Extreme obesity (BMI of 40 or higher)
- Serious weight-related health problems, such as diabetes or high blood pressure
- Patient commitment to necessary lifestyle changes

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Health Care Team

- Involve other professionals, as needed
  - Dietitian
  - Behavior counselor
  - Obesity specialist

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Questions?

References

Banerjee E.S., Gambler A., & Fogleman C. (2013). Adding obesity to the problem list increases the rate of providers addressing obesity. Family Medicine 45, 629-633. Retrieved from https://jdc.jefferson.edu/fmfp/40

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USDA Center for Nutrition Policy and Promotion. 2011. Retrieved from https://www.fns.usda.gov/cnpp/center-nutrition-policy-and-promotion

Appendix C: Educational Handouts

CDC Basic Metabolic Index Chart

Body Mass Index (BMI) Chart for Adults

Obese (>30) | Overweight (25-30) | Normal (18.5-25) | Underweight (<18.5)

HEIGHT in feet/inches and centimeters

WEIGHT		4'8"	4'9"	4'10"	4'11"	5'0"	5'1"	5'2"	5'3"	5'4"	5'5"	5'6"	5'7"	5'8"	5'9"	5'10"	5'11"	6'0"	6'1"	6'2"	6'3"	6'4"	6'5"
lbs	(kg)	142cm		147	150	152	155	157	160	163	165	168	170	173	175	178	180	183	185	188	191	193	196
260	**(117.9)**	58	56	54	53	51	49	48	46	45	43	42	41	40	38	37	36	35	34	33	32	32	31
255	(115.7)	57	55	53	51	50	48	47	45	44	42	41	40	39	38	37	36	35	34	33	32	31	30
250	**(113.4)**	56	54	52	50	49	47	46	44	43	42	40	39	38	37	36	35	34	33	32	31	30	30
245	(111.1)	55	53	51	49	48	46	45	43	42	41	40	38	37	36	35	34	33	32	31	31	30	29
240	**(108.9)**	54	52	50	48	47	45	44	43	41	40	39	38	36	35	34	33	33	32	31	30	29	28
235	(106.6)	53	51	49	47	46	44	43	42	40	39	38	37	36	35	34	33	32	31	30	29	29	28
230	**(104.3)**	52	50	48	46	45	43	42	41	39	38	37	36	35	34	33	32	31	30	30	29	28	27
225	(102.1)	50	49	47	45	44	43	41	40	39	37	36	35	34	33	32	31	31	30	29	28	27	27
220	**(99.8)**	49	48	46	44	43	42	40	39	38	37	36	34	33	32	32	31	30	29	28	27	27	26
215	(97.5)	48	47	45	43	42	41	39	38	37	36	35	34	33	32	31	30	29	28	28	27	26	25
210	**(95.3)**	47	45	44	42	41	40	38	37	36	35	34	33	32	31	30	29	28	28	27	26	26	25
205	(93.0)	46	44	43	41	40	39	37	36	35	34	33	32	31	30	29	29	28	27	26	26	25	24
200	**(90.7)**	45	43	42	40	39	38	37	35	34	33	32	31	30	30	29	28	27	26	26	25	24	24
195	(88.5)	44	42	41	39	38	37	36	35	33	32	31	31	30	29	28	27	26	26	25	24	24	23
190	**(86.2)**	43	41	40	38	37	36	35	34	33	32	31	30	29	28	27	26	26	25	24	24	23	23
185	(83.9)	41	40	39	37	36	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	23	22
180	**(81.6)**	40	39	38	36	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21
175	(79.4)	39	38	37	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21
170	**(77.1)**	38	37	36	34	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21	20
165	(74.8)	37	36	34	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21	20	20
160	**(72.6)**	36	35	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21	20	19	19
155	(70.3)	35	34	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	20	20	19	19	18
150	**(68.0)**	34	32	31	30	29	28	27	27	26	25	24	23	23	22	22	21	20	20	19	19	18	18
145	(65.8)	33	31	30	29	28	27	27	26	25	24	23	23	22	21	21	20	20	19	19	18	18	17
140	**(63.5)**	31	30	29	28	27	26	26	25	24	23	23	22	21	21	20	20	19	18	18	17	17	17
135	(61.2)	30	29	28	27	26	26	25	24	23	22	22	21	21	20	19	19	18	18	17	17	16	16
130	**(59.0)**	29	28	27	26	25	25	24	23	22	22	21	20	20	19	19	18	18	17	17	16	16	15
125	(56.7)	28	27	26	25	24	24	23	22	21	21	20	20	19	18	18	17	17	16	16	16	15	15
120	**(54.4)**	27	26	25	24	23	23	22	21	21	20	19	19	18	18	17	17	16	16	15	15	15	14
115	(52.2)	26	25	24	23	22	22	21	20	20	19	19	18	17	17	16	16	16	15	15	14	14	14
110	**(49.9)**	25	24	23	22	21	21	20	19	19	18	18	17	17	16	16	15	15	15	14	14	13	13
105	(47.6)	24	23	22	21	21	20	19	19	18	17	17	16	16	16	15	15	14	14	13	13	13	12
100	**(45.4)**	22	22	21	20	20	19	18	18	17	17	16	16	15	15	14	14	14	13	13	12	12	12
95	(43.1)	21	21	20	19	19	18	17	17	16	16	15	15	14	14	14	13	13	13	12	12	12	11
90	**(40.8)**	20	19	19	18	18	17	16	16	15	15	15	14	14	13	13	13	12	12	12	11	11	11
85	(38.6)	19	18	18	17	17	16	16	15	15	14	14	13	13	13	12	12	12	11	11	11	10	10
80	**(36.3)**	18	17	17	16	16	15	15	14	14	13	13	13	12	12	11	11	11	11	10	10	10	9

Note: BMI values rounded to the nearest whole number. BMI categories based on CDC (Centers for Disease Control and Prevention) criteria.

www.vertex42.com BMI = Weight[kg] / (Height[m] x Height[m]) = 703 x Weight[lb] / (Height[in] x Height[in]) © 2009 Vertex42 LLC

Food Planning

MY PLATE PLANNER

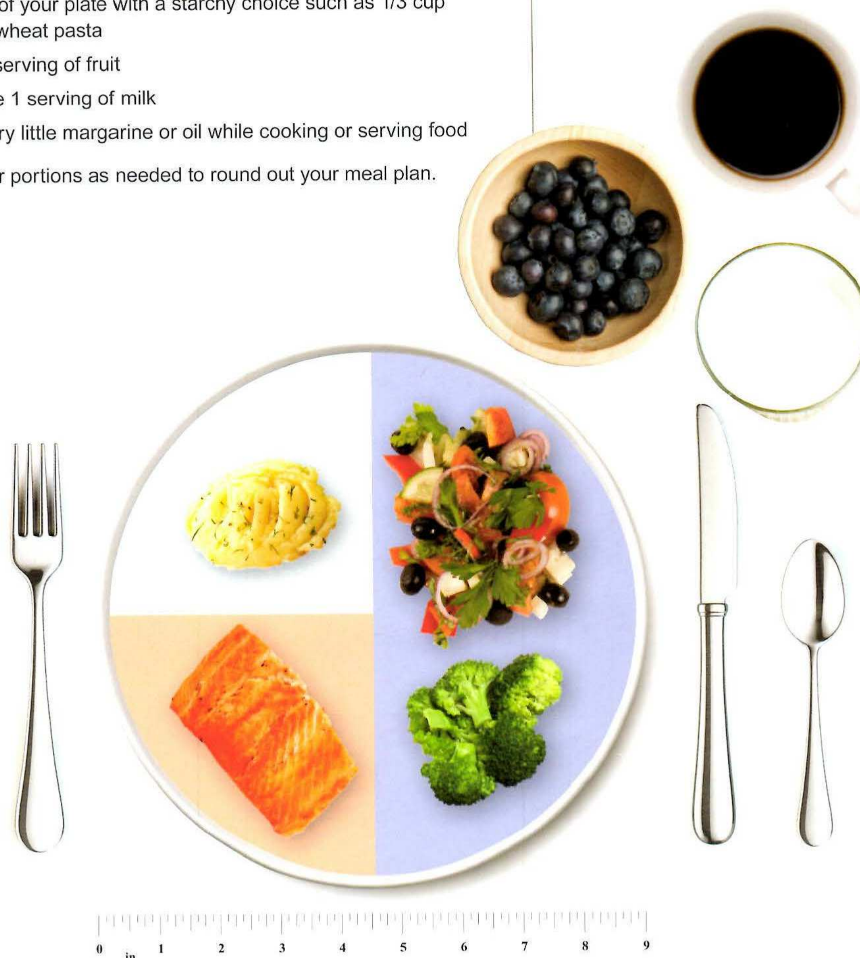
Meal planning is an important part of living well with diabetes. The amount of food you eat at each meal is called portions. Here are some tips to help you plan the right portions using your plate as a guide:

- Fill 1/2 of your plate with vegetables such as broccoli, carrots, cauliflower and salad
- Fill 1/4 of your plate (or about 3 ounces) with lean meat, chicken or fish
- Fill 1/4 of your plate with a starchy choice such as 1/3 cup whole-wheat pasta
- Add 1 serving of fruit
- Choose 1 serving of milk
- Add very little margarine or oil while cooking or serving food

Add other portions as needed to round out your meal plan.

FOR BREAKFAST:
use only half the 9" plate

FOR LUNCH AND DINNER:
use the whole 9" plate



Meal Planning Guidelines

MEAL PLANNING GUIDELINES

Carbohydrates:

Choose 3 or fewer carbohydrate servings at each meal.*

Carbohydrates are foods like whole grain breads, rice, pasta and other starches, fruits, some vegetables and milk. Too many carbohydrates make it difficult to manage blood sugar.

Examples of 1 serving:

Breads and starches
- 1 slice whole grain bread or small roll
- 1/3 cup rice or pasta
- 1/2 cup cooked whole grain cereal or potatoes
- 3/4 cup dry whole grain cereal
- 1/2 cup corn

Fruits
- 1 piece, such as a small pear or apple
- 1 cup fresh fruit
- 1/2 cup canned fruit
- 1/2 cup fruit juice

Dairy
- 1 cup non-fat or low-fat milk
- 1 cup sugar-free, low-fat yogurt

Meats and proteins:

Choose 1-3 servings of meats and proteins at each meal.*

Examples of 1 serving:
- 1 ounce lean meat, poultry (chicken, turkey, etc.) or fish
- 1 egg
- 1 ounce cheese
- 1/4 cup low-fat cottage cheese

Fats:

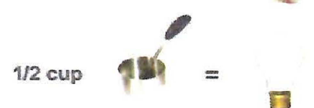
Choose 1-2 servings of fats at each meal.*

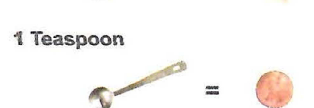
Examples of 1 serving:
- 1 teaspoon margarine, oil or mayonnaise
- 1 Tablespoon salad dressing or cream cheese

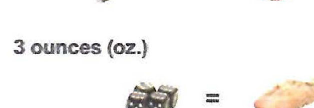
Free foods:
Foods with less than 20 calories per serving. Use as desired:*
- Most vegetables
- Water
- Black coffee or plain tea*

*Note: Some people need more or fewer servings based on their health goals. Talk to your provider about your diet goals.
Source: Diabetes.Org http://www.diabetes.org/food-and-fitness/ food/planning-meals/ create-your-plate
www.choosemyplate.gov
Consult your physician before making major changes in your diet or health care regimen.

VISUAL TIPS FOR PORTION SIZES







The information provided herein is for informational purposes only as part of your health plan. It is not a substitute for your primary care provider's care. Please discuss with your primary care provider how the information provided is right for you. Always refer to your plan documents for specific benefit coverage and limitations or call the toll-free Customer Service phone number on the back of your member ID card. Your personal health information is kept private in accordance with your health plan's privacy policy.

Weight Loss Guidelines

WEIGHT LOSS

On a journey to lose weight? That's great! It's not an easy thing to do. And once you do successfully lose weight, keeping it off for good can be even harder. But there are steps you can take to help you lose weight safely, effectively and with lasting results.

GET OFF TO THE RIGHT START

Talk to your primary care provider (PCP) before you start trying to lose, so you can find out the safest and most effective plan for you. Ask about your ideal healthy weight and how much and what kind of physical activity is right for you. For lasting results, think slow and steady, aiming to lose one to two pounds per week.

WEIGHT-LOSS TIP

- Watch your diet. Keep meals varied and nutritious. Stick to a meal schedule to help you resist snacking when you are not hungry.
- Take in only as many calories as you "spend" in exercise and daily activities to maintain your current weight. To lose weight, take in fewer calories than you "spend."
- Eat breakfast. People who eat breakfast daily tend to keep hunger at bay and may avoid overeating later on in the day.
- Plan ahead for special occasions like vacations or holidays. Pack healthy snacks when traveling. Don't go to holiday parties on an empty stomach.
- Get support from friends and family.
- Monitor your weight, diet and physical activity regularly. If your weight is creeping up, make the necessary adjustments to get back on track as soon as possible.
- Stay positive and don't give up.

THE IMPORTANCE OF PHYSICAL ACTIVITY

Staying active is more important than ever when trying to keep the weight off. Find physical activities that you enjoy, and build time into your daily routine to get moving. Aim for at least 150 minutes per week of moderate-intensity aerobic activity. Do some kind of strength-building activity twice a week.

MAKE IT A LIFELONG COMMITMENT

Long-term weight-control success depends on making your overall health a priority. And that means eating healthy foods and watching calories, staying active and getting support from others. Maintaining weight loss takes commitment, focus and a willingness to swap unhealthy habits for more positive ones. When you embrace these new habits as part of your lifestyle, your hard work will pay off today and well into the future.

NEXT STEPS

Check with your PCP before starting an exercise program or increasing your activity level. He or she can tell you what types and amounts of activities are safe for you.

U.S. Department of Health and Human Services. *2008 physical activity guidelines for Americans*. Accessed October 18, 2017.

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American Heart Association. *Keeping a healthy body weight*. Accessed October 18, 2017.

Centers for Disease Control and Prevention. *Keeping it off*. Accessed October 18, 2017.

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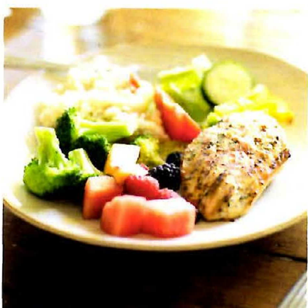
Health and wellness information from your health plan. 71978-012018

Healthy Eating

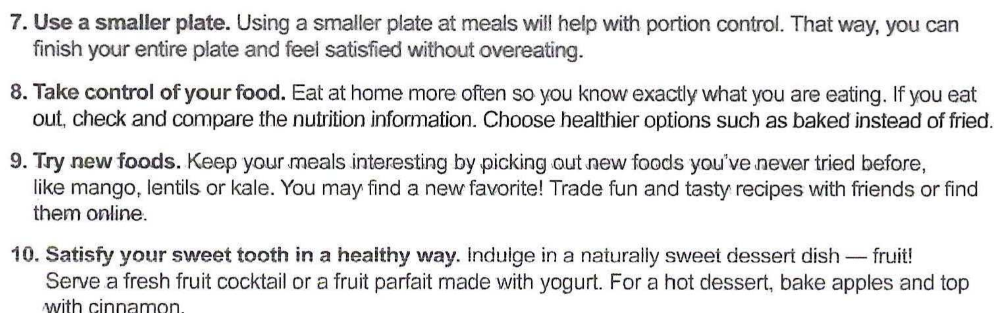
BUILD A HEALTHY MEAL

A healthy meal starts with more vegetables and fruits and smaller portions of protein and grains. Think about how you can adjust the portions on your plate to get more of what you need without too many calories. And don't forget dairy — make it the beverage with your meal or add fat-free or low-fat dairy products to your plate.



10 TIPS FOR HEALTHY MEALS

1. **Make half your plate veggies and fruits.** Veggies and fruits are full of nutrients and may help to promote good health. Choose red, orange and dark green vegetables, such as tomatoes, sweet potatoes and broccoli.
2. **Add lean protein.** Choose protein foods, such as lean beef and pork, or chicken, turkey, beans or tofu. Twice a week, make seafood the protein on your plate.
3. **Know what to limit.** Aim to make at least half your grains whole grains. Look for the words "100% whole grain" or "100% whole wheat" on the food label. Whole grains provide more nutrients, like fiber, than refined grains.
4. **Don't forget the dairy.** Pair your meal with a cup of fat-free or low-fat milk. They provide the same amount of calcium and other essential nutrients as whole milk, but less fat and calories. If you don't drink milk, try soymilk (soy beverage) as your beverage, or include fat-free or low-fat yogurt in your meal.
5. **Avoid extra fat.** Using heavy gravies or sauces will add fat and calories to otherwise healthy choices. For example, steamed broccoli is great, but avoid topping it with cheese sauce. Try other options, like sprinkling low-fat parmesan cheese or a squeeze of lemon.
6. **Take your time.** Savor your food. Eat slowly, enjoy the flavors and textures, and pay attention to how you feel. Eating very quickly may cause you to eat too much.



7. **Use a smaller plate.** Using a smaller plate at meals will help with portion control. That way, you can finish your entire plate and feel satisfied without overeating.
8. **Take control of your food.** Eat at home more often so you know exactly what you are eating. If you eat out, check and compare the nutrition information. Choose healthier options such as baked instead of fried.
9. **Try new foods.** Keep your meals interesting by picking out new foods you've never tried before, like mango, lentils or kale. You may find a new favorite! Trade fun and tasty recipes with friends or find them online.
10. **Satisfy your sweet tooth in a healthy way.** Indulge in a naturally sweet dessert dish — fruit! Serve a fresh fruit cocktail or a fruit parfait made with yogurt. For a hot dessert, bake apples and top with cinnamon.

NEXT STEPS

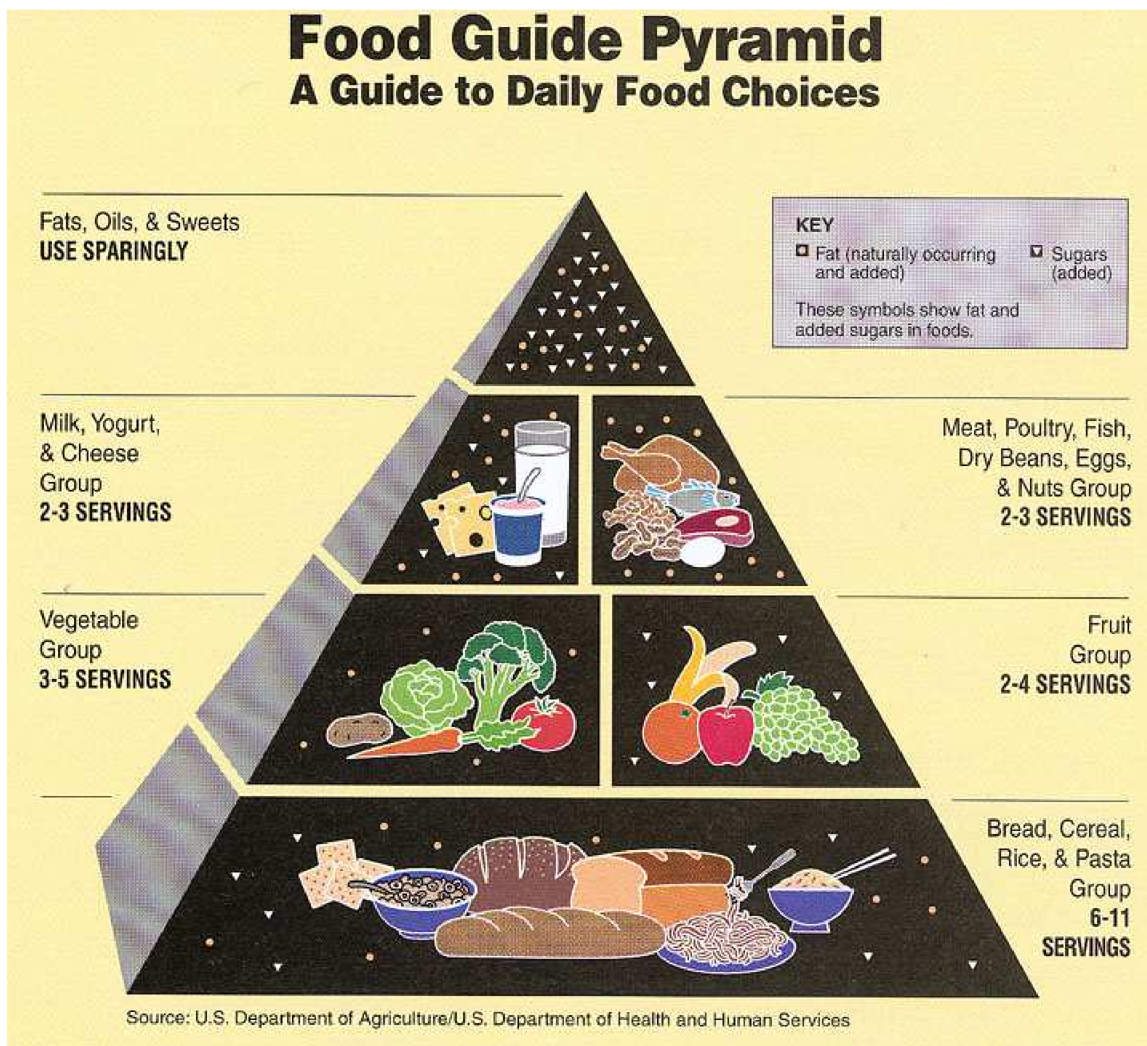
Talk to your primary care provider (PCP) about how to build a healthy meal that fits your lifestyle. Share this information with your family and friends for support. Help each other with reminders: Are you going to a restaurant with healthy menu options? Or are there any healthy meal recipes you can share with each other?

Go to ChooseMyPlate.gov for more information.

USDA Center for Nutrition Policy and Promotion; DG Tipsheet No. 7, June 2011

The information provided herein is for informational purposes only as part of your health plan. It is not a substitute for your PCP's care. Please discuss with your PCP how the information provided is right for you. Always refer to your plan documents for specific benefit coverage and limitations or call the toll-free Customer Service phone number on the back of your member ID card. Your personal health information is kept private in accordance with your health plan's privacy policy.

U.S. Department of Agriculture Food Pyramid



Appendix D: Posttest

1. Put the following initial obesity assessment steps in order.		
___ Conduct physical exam	___ Recommend tests	___ Review health history

2. Which of the following are recommended exams/tests when diagnosing a patient with obesity? Select all that apply.	
☐ BMI ☐ Stress test ☐ Colonoscopy ☐ Liver function	☐ Cholesterol ☐ Fasting glucose ☐ Sodium ☐ Heart tests, as needed

3. What are some dietary changes you would recommend to your patients with obesity?
______________________________ ______________________________ ______________________________

4. What is the minimum number of minutes per week of moderate-intensity physical activity you should recommend to your patients with obesity?	
☐ 100 ☐ 210	☐ 150 ☐ 300

5. Which of the following is *not* one of the primary behavior changes you would recommend to a patient with obesity?	
☐ Weekly massage ☐ Stress reduction	☐ Counseling ☐ Support group

6. When would you recommend weight-loss surgery?
______________________________ ______________________________

7. Prescription weight-loss medication:	
☐ should only be used in combination with diet, exercise, and behavior changes.	☐ is appropriate for all patients. ☐ is the first step in obesity management.

8. Individuals diagnosed as obese have a BMI of ___ kg/m^2 or greater.

9. Approximately what percentage of Americans are overweight?	
☐ 40% ☐ 70%	☐ 50% ☐ 80%

10. Arkansas has the ___ highest rate of obesity in the US.	
☐ 3rd	☐ 17th

☐ 7th	☐ 27th
11. Which of the following is a common comorbidity with obesity?	
☐ Schizophrenia ☐ Arthritis	☐ Asthma ☐ High blood pressure
12. How much of the lunch/dinner plate should vegetables comprise?	
☐ 1/4	☐ ½
Lean protein?	
☐ 1/4	☐ 1/2
Starch?	
☐ 1/4	☐ 1/2
13. Which of the following is *not* one serving size of lean meat/protein?	
☐ 1 ounce lean meat, poultry, or fish ☐ 1 egg	☐ 1 ounce cheese ☐ 1/2 cup low-fat cottage cheese
14. Individuals can eat free foods as often as they desire. How many calories do free foods have?	
☐ Zero ☐ Less than 5	☐ Less than 10 ☐ Less than 20
15. What are three tips for planning healthy meals?	
______________________________ ______________________________	
______________________________	
16. After attending the training session, what three things do you plan on doing differently when caring for your patients with obesity?	
______________________________ ______________________________	
______________________________ ______________________________ ______________________________	