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Pediatric Obesity: Prevention, Assessment and Treatment in Primary Care

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PEDIATRIC OBESITY: PREVENTION, ASSESSMENT & TREATMENT IN PRIMARY CARE

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This is to certify that **Susan Johnson** has successfully presented her scholarly doctoral project entitled **"*Pediatric Obesity: Prevention, Assessment and Treatment in Primary Care*"** and fulfilled the requirements for the Doctor of Nursing Practice degree.

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I would like to extend a sincere note of appreciation to all of the champions of pediatric obesity care.

Table of Contents

PRESENTATIONS iii

ACKNOWLEDGMENT iv

ABSTRACT vi

CHAPTER ONE: INTRODUCTION 1
Background of the Project 2
Problem Statement 3
Purpose of the Scholarly Project 3
Clinical Question 4
Objectives 4
Patient Populations and Healthcare Setting of the Project 5
Doctoral of Nursing Education Practice Essentials and Competencies 5

CHAPTER TWO: LITERATURE REVIEW 6
Prevention (Health Promoting Behavior) 7
Assessment 10
Treatment 11

CHAPTER THREE: NURSING THEORIST 19
Nursing Theoretical Framework 19
Project Description 21

CHAPTER FOUR: METHODOLOGY AND EVALUATION 25
Subjects 25
Project Setting 26
Data Collection 26
Intervention 28
Findings 30

CHAPTER FIVE: SIGNIFICANCE AND IMPLICATION 32

REFERENCES 38

APPENDICES 42
Appendix A: Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older 42
Appendix B: Subject Correspondence 43
Appendix C: Documentation Template 45
Appendix D: Subject Correspondence II 47

Abstract

People of all ages deserve care for the disease of obesity. Pediatric obesity affects one in three children in the United States, and the number of obese children has tripled since the 1970s (Centers for Disease Control and Prevention (CDC), 2018a). High blood pressure, high cholesterol, type 2 diabetes, and sleep apnea are complications that pediatric patients now face, and these diseases are well known to worsen quality of, and potentially shorten life. This scholarly project addresses the question: How can family nurse practitioners effectively address pediatric obesity in the primary care setting? Interventions early in life, perhaps even pre-conception, aim to avoid development of severe health issues and diseases that are related to obesity. It is the role of the primary care provider to help families understand the impact of excess weight on health, to assess young patients for weight concerns, to promote positive behaviors and initiate effective treatment options. This scholarly project will examine nurse practitioner knowledge of pediatric obesity prevention, assessment, and treatment. Further, it will explore current approach to care delivery by nurse practitioners in a primary care practice setting. This scholarly project will demonstrate that one must be empowered with the education on best practice to most effectively engage in pediatric obesity care delivery.

Keywords: pediatric obesity, primary care, family nurse practitioner, weight

Pediatric Obesity: Prevention, Assessment & Treatment in Primary Care

Chapter One: Introduction

Pediatric obesity affects one in three children in the United States, and the number of obese children has tripled since the 1970s (Centers for Disease Control and Prevention (CDC), 2018a). Between years 2015–2016, Hales, Carroll, Fryar, and Ogden (2017) reported that approximately 13.9% of children ages 2-5 years were obese. Additionally, 18.4% of children ages 6–11 years of age and 20.6% of adolescents 12–19 years were obese. Furthermore, Hales et al. (2017) observed a higher rate of obesity in non-Hispanic blacks (22%) and Hispanic children (25.8%) compared with non-Hispanic whites (14.1%). What causes a pediatric patient to become obese is often multifactorial. There may be genetic, cultural, lifestyle, and environmental influences among other causes of obesity (Barlow & Expert Committee, 2007). Thus, appropriate counseling and treatment interventions must consider these chronic disease complexities. Additionally, Jolly, Derouin, Wachti, and Sabol (2018) found significant barriers to confidently address weight and treat patients, including lack of provider self-confidence and self-efficacy about pediatric obesity. Nonetheless, pediatric obesity is an epidemic across the United States (CDC, 2018a). Clinicians providing healthcare throughout the lifespan, including family nurse practitioners (FNPs), play a pivotal role in the response. Because FNPs bear witness to chronic disease progression as pediatric patients transition to adulthood, this group of clinicians is uniquely positioned to address this very prevalent chronic disease (American Board of Obesity Medicine, 2018). Consequently, the purpose of this project is to increase the capacity for FNPs to prevent, assess, treat, and refer obese pediatric

patients in a primary care setting within the framework of Pender's Theoretical Basis for the Health Promotion Model (2015).

Background of the Project

The CDC (2018a) defined obesity as having excess body fat. Monitoring weight across the life span is essential, as high levels of body fat are associated with increased health risks (Barlow & Expert Committee, 2007). Body mass index (BMI) is a screening tool used to measure obesity. It is a person's weight in kilograms divided by the square of a person's height in meters (CDC, 2018a). The American Academy of Pediatrics (2015b) recommended well-child visits beginning at birth and continuing into young adulthood. Within the context of a typical well-child exam, which includes measurements and comprehensive medical history, an FNP gathers adequate information to both identify a patient at-risk for being overweight or obese and strategizes a plan of care. Interventions early in life through counseling and treatment may avoid the development of severe health issues and diseases that are related to pediatric obesity (American Academy of Pediatrics Minnesota Chapter (MNAPP), 2013). An elevated BMI can lead to the development of serious obesity related co-morbidities in childhood that, if left uncorrected, could cause significant psychological and physical consequences (MNAPP, 2013). For example, high blood pressure, high cholesterol, type 2 diabetes, and obstructive sleep apnea are complications that pediatric patients face (MNAPP, 2013).

Furthermore, bullying, depression, and low self-esteem are common (CDC, 2016). If pediatric obesity is inadequately addressed, the disease is likely to persist into adulthood with worsening or additional co-morbidities, including certain types of cancer

associated with excess body fat (CDC, 2018b). FNPs should be equipped to universally assess children for obesity risk to improve early identification of an elevated BMI, medical risks, and lifestyle habits that may further contribute to unhealthy weight gain. It is the responsibility of the integrative FNP to understand how excess weight may affect the health of a pediatric patient, provide patient education, and partner with the family to develop goals that promote health through weight management.

Problem Statement

Obesity is a top cause of preventable disease and death (CDC, 2018b). People of all ages deserve a comprehensive approach to their weight management. National studies suggest that there is a gap in access to obesity care for all ages due to limited healthcare provider counseling and intervention (American Board of Obesity Medicine, 2018). The study of pediatric obesity is rapidly growing, and staying educated on the best practices is necessary for FNPs to deliver quality care. With optimal resources, FNPs can provide meaningful counseling and suggest effective treatment interventions for pediatric patients.

Purpose of the Scholarly Project

With the development of a pediatric obesity FNP practice guide, the purpose of this scholarly project is to equip FNPs with knowledge and tools to prevent, assess, and treat pediatric obesity in the primary care setting. A thorough review of the literature will assist the development of the guide to support this advanced nursing practice. The education provided on the complexities of care for the disease of childhood obesity will enable FNPs to expand on current expertise, understand best practice recommendations, and increase their capacity to effectively address pediatric obesity. Also, given that FNPs

may routinely care for women of childbearing age, the literature review and the developed *Pediatric Obesity Practice Resource Guide* will include content for pre-conception counseling to reduce the risk of pediatric obesity.

Clinical Question

The priority clinical question to be addressed is directly related to improved access to care for those at risk for, and those currently suffering the consequences of being overweight or obese. With the aid of a pediatric obesity care practice guide, will FNPs acquire the skills necessary to increase prevention, assessment, and treatment for pediatric obesity in the primary care setting? Will FNPs find a guide for pediatric obesity care a useful reference in practice?

Objectives

This scholarly project aims to engage FNPs in the delivery of pediatric obesity care through accomplishing these objectives:

- Champion excellence of FNPs in preventing and treating childhood obesity disease by increasing awareness and understanding of the pediatric obesity epidemic in the United States.
- Educate FNPs on the disease of childhood obesity, aiming to eliminate bias and allow for increased access to necessary medical treatment.
- Develop and package an integrative and comprehensive pediatric obesity FNP practice guide for use in the primary care clinical setting.

Thus, as a solution to the disease epidemic, FNPs will be empowered with a solid foundation for practice resulting in improved access to health care for this vulnerable population.

Patient Population and Healthcare Setting for Implementation of Project

The targeted patient population for this project includes pediatric patients (0-18 years of age) in primary care. To increase capacity to prevent, assess, and treat pediatric obesity, FNPs will be able to use the *Pediatric Obesity Practice Resource Guide* primarily as an adjunct to well-child exams. For FNPs to recognize and hone influence on health promotion in primary care will be a step forward to reversing current trends.

Doctoral of Nursing Education Practice Essentials and Competencies

Number I of the Doctoral of Nursing Education Practice Essentials, The Scientific Underpinnings for Practice, will be represented in this project through a thoughtful evaluation of professional literature (American Association of Colleges of Nursing (AACN), 2006). Essential VII, Clinical Prevention and Population Health for Improving the Nation's Health, will be highlighted through the translation of evidence and metis-based knowledge into practice (AACN, 2006). The development and application of the practice guide will align with the National Organization of Nurse Practitioner Faculties (NONPF) Independent Practice Competency by supporting exceptionally advanced nursing practice in the care of pediatric obesity (2013).

Pediatric obesity is a nationwide problem that requires focused attention from all primary care clinicians, including FNPs. This project is intended to assist the FNP to address this issue with confidence. The next chapter will review the literature on pediatric obesity to enhance the role of FNPs in caring for this population.

Chapter Two: Literature Review

The potential health consequences of pediatric obesity to both quality and duration of life are significant. The American Medical Association (AMA) officially declared obesity as a disease in 2013. For FNPs, like other primary care providers, formal education related to pediatric obesity may be limited or altogether absent (Dietz et al., 2014). The AMA (2013) defining obesity in this way led to a call for further intervention, research, and treatment. A Medscape poll showed that 64% of physicians and only 54% of nurses and advanced practice registered nurses (APRNs) believe obesity is a disease (Frellick, 2018). Clinicians in primary care were the least likely to identify obesity as a disease (Frellick, 2018).

Inadequate resources and time to properly address pediatric obesity are reported barriers to pediatric obesity care delivery (Dietz et al., 2014). Literature with opinions and recommendations to address the causes of pediatric obesity, such as lifestyle, in a primary care setting is more abundant following the AMA's declaration, highlighting the ongoing demand for help to address the pediatric obesity epidemic. However, this could also overwhelm an FNP trying to determine the right approach to care. Due to the volume of resources, much of the literature gathered for this review is expert-committee/systematic-reviewed style publications. To increase the capacity for FNPs in a primary care setting to prevent, assess, treat, and refer pediatric patients who are obese, a literature review focused on these major concepts related to pediatric obesity care delivery framed by Nola Pender's Health Promotion Model (Pender, Murdough, & Parsons, 2015).

Prevention (Health Promoting Behavior)

Through the lens of health promotion, disease prevention is achieved through behaviors to increase well-being, and actively avoid illness or detect it early (Pender, Murdough, & Parsons, 2015). An example of health-promoting behaviors in the prevention of pediatric obesity includes FNP's consideration of diet and exercise to prevent disease progression in an at-risk infant or child. Pender's theory considers both individual characteristics and experiences, and behavior-specific cognitions and affect to produce health outcomes (Pender, Murdough, & Parsons, 2015). Frellick (2018) reported that 80% of physicians and 68% of nurses/APRNs believed lifestyle choices were always and often the cause of obesity (Frellick, 2018). Both genetics and environment contribute to obesity risk (Barlow & Expert Committee, 2007). Like many chronic disease processes, behavior and environment influence the development of obesity in those genetically at-risk. Described in Styne et al. (2017), certain contributory behaviors to obesity may be well known to FNPs (i.e., diet, exercise) and some may not (i.e., sleep, stress). Styne et al. (2017) also noted rare conditions that cause obesity, such as primary Cushing syndrome or Prader-Willi syndrome and offers guidance to rule these out. Social determinants of health also increase one's risk. The pediatric obesity epidemic disproportionately affects Hispanic, Native American, and African-American children (CDC, 2018). Barlow and Expert Committee (2007), Styne et al. (2017) and USPSTF (2017) are researchers who pointed out parental obesity and poverty as major risk factors. Further, Barlow and Expert Committee (2007) reported that sexual and physical abuse might increase the risk of severe obesity.

The United States Preventive Services Task Force (USPSTF) (2017) recommended pediatric obesity screening and subsequent offering or referral to behavioral interventions to improve weight. Behavior patterns developed in childhood can help promote or prevent adult disease. Similarly, Barlow and Expert Committee recommendations (2007) emphasized the importance of annual weight screening beginning at birth. According to Barlow and Expert Committee, the most impactful approach on the childhood obesity epidemic is (1) assessment of obesity risk for all patients, and (2) anticipatory guidance to minimize that risk. Further, Barlow and Expert Committee and Styne et al. (2017) also suggested calculating, plotting and reviewing BMI at least annually during clinic visits. FNPs should be aware of factors that increase one's risk of pediatric obesity. Barlow and Expert Committee (2007) reported young children with one, or both parents who are obese are at high risk of obesity, even if their current weight is normal.

Because FNPs treat patients throughout their lifespan, FNPs may have the opportunity to provide preventive preconception counseling to a female patient of child-bearing age to reduce the risk for pediatric obesity in utero, then in early life, and beyond to adulthood. Risk factors for the future development of obesity that begin in utero include: maternal tobacco use, maternal diabetes, gestational weight gain, and rapid infant growth (USPSTF, 2017). In the United States, over 30% of women 20 to 39 are obese (Moussa, Alraid, Leon, Abbas & Sibai, 2016). Women who are of higher weight at the onset of pregnancy have infants and children who are more likely to be obese; even modest reduction in pre-conception weight improves this risk. Thus, to make effective

gains toward a reduction in prevention, it is clear that FNPs must begin to address maternal weight before conception.

Infancy and childhood represent opportunities to establish healthy eating and activity behaviors that offer protection against future obesity. Ernst, Pittler, and Wider (2010) reported that diet modification, increased physical activity, and lifestyle changes are the most effective measures to achieve weight goals. For infants up to 12 months of age, exclusive breastfeeding until six months of age has been shown to offer protection against obesity (CDC 2018b). After an introduction of solid foods at six months, FNPs can encourage continued breastfeeding to 12 months of age and beyond (CDC, 2018b). According to the CDC (2018b), sugar-sweetened beverages (such as some infant formulas, juice, soda, and sports drinks) are a major contributor to excessive weight gain. Parents should be encouraged to limit intake to the recommended daily amounts. Regardless of BMI, the AAP (2015a) endorses the 5-2-1-0 mnemonic to counsel parents: (5) fruits & vegetables, (2) hours or less of screen time, (1) hour or more of physical activity, and (0) sugary drinks every day. For children less than two, no screen time is the recommendation (AAP, 2015b). Additional dietary counseling points provided by Fitch et al. (2018) include encouraging family meals in which parents and children eat together. Furthermore, monitoring portion, limiting eating out at restaurants (especially fast food) and removing screens from sleeping areas have been shown to be effective preventative measures (Fitch et al., 2018).

The National Center for Complementary and Integrative Medicine (2017) recommended mind-body interventions, like yoga or meditation to help increase mindful eating, reduce stress, and improve sleep quality. Clinical psychologist and

neurodevelopmental specialist Dr. Rachelle Hansen also emphasized the importance of sleep in the prevention of pediatric obesity (personal communication, November 6, 2018). Further, she endorses mind-body interventions for all ages, as part of a comprehensive plan of care to promote sleep hygiene as well as reduce stress (R. Hansen, personal communication, November 6, 2018). Styne et al. (2017) placed a high value on fostering family functioning and minimizing pediatric stress, as adverse life events are linked to the development of obesity. Disordered sleep length and quality affects appetites and decreases insulin sensitivity (Styne, 2017). Because shorter sleep duration increases the risk of obesity, there are age-appropriate hours of sleep suggested by Fitch et al., (2013). Children 0-5 years need 11 hours of sleep, 5-10 years should sleep at least 10 hours, and ten years and up should sleep 9 hours (Fitch et al., 2013).

Assessment

A list of recommended lifestyle changes such as these can be a patient education tool, but this is not sufficient to properly prevent and manage pediatric obesity care. An accurate measurement of height and weight is an essential part of the routine physical exam of a pediatric patient and the very foundation of pediatric obesity care assessment (Fitch et al., 2013). If this information is gathered at the time of a well-child exam or clinic visit, an FNP has gathered the details necessary to initiate a plan of care to address weight in a primary care setting. Further, in the context of a routine well-child exam, it is recommended to obtain accurate medical history and family medical history including: genetics, environment, and behaviors (Barlow and Expert Committee, 2007). Barlow and Expert Committee (2007) published updated guidelines regarding the prevention, assessment, and treatment of pediatric obesity. The recommended staged care approach,

from normal-weight, low-risk children, to severely obese children is still endorsed by the American Academy of Pediatrics (AAP) (2015b) as standard for pediatric obesity care.

For patients over age two, BMI is used to assess body fat; BMI levels correlate with body fat and health risks, especially cardiovascular risk factors (Barlow &Expert Committee 2007). According to Barlow and Expert Committee (2007), there are two cutoff points used to define and accurately diagnose obesity as well as capture risk. BMI < 85th percentile body fat levels pose little risk; BMI ≥95th percentile, body fat levels are likely to be high and therefore have a higher risk of co-morbidities (Barlow & Expert Committee, 2007). For a BMI of the 85th to 94th percentile, risk assessment is dependent on FNP judgement (i.e., body composition, BMI trajectory, family history) (Barlow & Expert Committee, 2007).

For patients less than two years of age growth curves do not include BMI percentiles. However, weight-for-height values should be plotted; children with weight-for-height values above the 95th percentile are classified as overweight (Barlow & Expert Committee, 2007). BMI measurement must be integrated with other information in the health assessment (Barlow & Expert Committee, 2007). Once a BMI is measured, FNPs can then exercise judgment to guide next steps. For example, if BMI is above the 85th percentile, the clinician should initiate treatment, including a more thorough medical and behavioral assessment.

Treatment

Health care visits, like a well-child check, offer a private setting to identify excess weight and frame the discussion as a health problem requiring treatment (Barlow & Expert Committee, 2007). FNPs may need to educate parents about why it is important to

address weight concerns. There may be barriers to recognizing a problem with weight, such as cultural norms and personal bias (R. Hansen, personal communication, November 6, 2018). Furthermore, legitimate concern persists about the stigmatization of overweight and obese children (Barlow & Expert Committee, 2007). Therefore, a counseling role of FNPs is to help motivate families to engage in pediatric obesity prevention or pediatric obesity treatment. The counseling technique of motivational interviewing considers patients' readiness to change, uses nonjudgmental questions, and uses reflective listening (Barlow & Expert Committee, 2007). Motivational interviewing is cited as the best practice for pediatric obesity care, and FNPs can use it to encourage goal setting, monitor behaviors targeted for change, and provide positive reinforcement (Barlow & Expert Committee, 2007; Fitch et al., 2013). The counseling style aligns with Pender's competence or approach-oriented Health Promotion Model in that fear nor threat is used as a source of motivation (Pender, Murdough, & Parsons 2015).

The Strategies to Overcome and Prevent Obesity Alliance (STOP) provider discussion tool addresses common provider barriers to addressing weight (Dietz et al., 2014). The guide covers how to begin a conversation, what words to use, and how to communicate about weight in a non-judgmental, supportive, and empowering way. The guide acknowledges weight can be a personal and sensitive subject. Discussions about it may even bring to light significant vulnerabilities for a patient or family, including disordered eating, trauma, or abuse (R. Hansen, personal communication, November 6, 2018). According to Dietz et al. (2014), two out of three patients seen by health care providers are overweight or obese and many patients both want and expect weight loss guidance from providers. Documentation of obesity as a diagnosis and subsequent

discussion has been shown to lead to a mutually agreed upon treatment plan and successful weight loss (Dietz, 2014). Obesity is both preventable and treatable. Moderate, sustained weight loss can lead to significant health improvements**.** Even weight loss of just 5% has been shown to improve health and reduce the risk for comorbidities (USPSTF, 2017). Discussing the problem with individual families using more-neutral terms, such as "weight," "excess weight," and "BMI" is recommended (Barlow & Expert Committee, 2007). While the number one barrier for FNPs to overcome is to initiate a conversation about weight, Aa second important focus of pediatric obesity care for FNPs is to help patients and families subsequently engage in treatment (Dietz et al., 2014). The FNP must first determine readiness to make appropriate recommendations that initiate progress toward weight goals (Barlow & Expert Committee, 2007). Furthermore, Barlow and Expert Committee (2007) and Fitch et al. (2013) recommend assessing families of concern utilizing the stages of change theory, which describe several cognitive stages that precede actual behavior change. According to this theory, a person may first lack awareness of the weight problem, then become aware of the problem but still without plans to address it, then transition to planning for treatment, and finally actually begin the treatment (Barlow & Expert Committee, 2007).

According to Styne et al. (2017), it is recommended that FNPs prescribe and support intensive, age-appropriate, culturally sensitive, family-centered lifestyle modifications to promote a decrease in BMI. Barlow and the Expert Committee (2007) recommended a staged approach to pediatric obesity care treatment (2007). This systematic approach is particularly useful to the FNP attempting to deliver brief, office-

based intervention pediatric obesity care in a primary care setting. It is tailored to consider the skill and resources of the provider, the motivation of the family, and patient response to prescribed therapy (Barlow & Expert Committee, 2007). Applicability of the evidence can be broken down to four goals: (1) define and document obesity as a medical condition, (2) identify contributors to obesity in order to inform the plan of care and appropriately counsel the family, (3) identify potential co-morbidities in order to limit progression, and (4) evaluate readiness for change.

Obesity care presents challenges, as patients with obesity may have independently attempted repeatedly to lose weight and improve health (Dietz et al., 2014). However, a patient's repeated effort, with and without success, is important clinical data as it emphasizes the need for further medical investigation and intervention (Dietz et al., 2014).

Treatment Stage 1: Prevention Plus

The Medscape Poll further revealed that the intervention most recommended to address obesity across all providers was diet, followed closely by exercise (Frellick, 2018). A BMI ≥85th percentile necessitates a more thorough assessment and further counseling (Barlow & Expert Committee, 2007). Ideally, this happens in planned follow-up visits (monthly) with the goal of positive behavior change, weight maintenance, or a decrease in BMI (AAP, 2015a). To further address weight concerns, designating visits lends support to the declaration of obesity as a disease, and it should be monitored and treated as such.

The first stage, "Prevention Plus" can be done in a standard primary care setting and will first include a physical exam and review of systems screening for medical

conditions associated with excess weight, which affects almost every organ system in the body (Barlow & Expert Committee, 2007). Lab work, including a lipid profile screening, may also be recommended for patients (Barlow & Expert Committee, 2007; Fitch et al., 2013). Methods to assess lifestyle and behaviors serve the purpose to identify those that are modifiable (Barlow & Expert Committee, 2007). The USPSTF (2017) found 26 hours or more of comprehensive, intensive behavioral interventions over 2-12 months helped achieve weight loss goals (USPSTF, 2017).

Treatment Stage 2: Structured Weight Management

If the patient does not respond to "Prevention Plus" interventions after 3-6 months, then the patient can move on to "Structured Weight Management" interventions, still within the primary care setting but requires appropriate training (AAP, 2015a). The FNP interventions and patient goals are the same, except with stronger support and more structure (AAP, 2015a). Styne et al. (2017) recommended screening for comorbidities for early identification before more serious complications occur. If after 3-6 months of active intervention goals are not met, the FNP must then consider referral to specialty care. Specialty care that includes over 50 hours of contact hours has shown to be effective for both weight loss and improvement in comorbidities (USPSTF, 2017). Specialty care may include individual and family-based sessions that further address lifestyle and environment through goal setting, self-monitoring, and problem-solving (USPSTF, 2017). This type of care may include a multidisciplinary approach, including supervised physical activity (USPSTF, 2017).

Treatment Stage 3: Comprehensive Multi-disciplinary Intervention & Treatment Stage 4: Tertiary Care Intervention

The American Society of Metabolic and Bariatric Surgery (ASMBS) (2018) Pediatric Committee updated its 2012 evidence-based guidelines with a stark claim that there is no evidence to support a decline in pediatric obesity and severe obesity is rapidly increasing in prevalence. Subsequent stages require more time and resources and intensive intervention involving 52 or more contact hours. These typically take place at a specialty clinic that primary care FNPs could refer to (USPSTF, 2017). Medical and behavioral specialists would be involved in closer monitoring (AAP, 2015a). If a patient has a BMI ≥ 95%, significant comorbidities, and has not responded to Stages 1-3, or has a BMI > 99% and has shown no improvement in Stage 3, then tertiary care is needed (AAP, 2015a). Styne et al. (2017) lend support related to the effectiveness of bariatric surgery for serious obesity in teenagers who have not responded to behavior modification. Provided by specialists with expertise in treating obesity, this stage of care delivery is likely addressed through the work of a multidisciplinary team (AAP, 2015a). Interventions may involve FDA-approved pharmacotherapy or metabolic and bariatric surgery. Medications should be prescribed only with concomitant lifestyle changes and by clinicians experienced in anti-obesity drugs (Styne et al., 2017). ASMBS (2018) identified prevention as the ongoing mainstay but provided evidence for the safety and effectiveness of metabolic and bariatric surgery. The authors argued that primary care providers, like FNPs, should readily consider bariatric surgery as the recommended treatment modality for severe obesity (ASMBS, 2018). Likewise, in 2019 the AAP released a policy statement in support for weight loss surgery in the pediatric population

and encouraged advocacy for increased access to multidisciplinary programs that provide these weight loss operations to patients of all racial, ethnic, and socioeconomic backgrounds. Such publications bear significant influence on both clinical practice and payer decision making for treatment options, such as an operation. Per Frellick's report, physicians were more than twice as likely as nurses or APRNs to recommend both prescription medications and surgery for weight loss treatment (2018).

For FNPs to provide comprehensive care of pediatric patients, it is critical to address concerns about weight. Taking obesity seriously as a disease and giving objective consideration to the risk factors and causes are first steps toward its assessment, prevention, treatment, including possible referral to specialists. There are significant challenges in addressing weight. Potential barriers to success exist related to provider knowledge, patient engagement and readiness for change, motivation, and lack of response to intervention. FNPs can start with education regarding the disease of pediatric obesity. Families can start with increased mindfulness around the basic human needs: water, nourishment, restorative sleep, physical movement, and a mind at ease.

To provide further guidance to primary care providers and translate the Pediatrics Expert Committee's (2007) structured approach recommendations into practice, in 2015 an algorithm (Appendix A) was developed by American Academy of Pediatrics Institute for Healthy Weight. The development of this clinical tool was also informed by the most recent research and consensus statements and specifically developed to assess and manage obesity prevention and assessment for patients two years of age and older. The utilization of this algorithm by FNPs offers a comprehensive approach at the point of care. Chapter three will explore how this tool can be used in practice by FNPs as a

foundation for pediatric obesity prevention, assessment, and treatment in the primary care setting. The practice guide will be based upon this algorithm and include best practice tips for counseling as well as integrative, comprehensive interventions to empower FNPs to take action against obesity early in a patient's life.

Chapter Three: Project and Theoretical Framework

Effective prevention, assessment, treatment, and referral in pediatric obesity are possible. As a multi-factorial disease process, is it necessary to approach care delivery with a theoretical perspective that considers the complex biopsychosocial processes that motivate individuals to enhance health through health-promoting behaviors (Pender, Murdough, & Parsons 2015). As stated above, lifestyle impacts the risk of obesity. Like many chronic disease processes, behavior and environment influence the development of obesity in those genetically at-risk. Pediatric patients may have little control over their environment, including food purchase, food preparation, daily schedule, or the perceived safety of their neighborhood for physical activity and play. A role of the FNP in pediatric obesity care delivery is individual and family assessment and counseling. A FNP must incorporate an evaluation of current behavior as essential data to guide a plan of action which elicits commitment to a plan of care for health-promoting behavior(s). With Dr. Nola Pender's Health Promotion Model (HPM) as a guide, the FNP can meaningfully partner with the individual and family to identify and address needs and health behaviors. Thus, as a solution to the pediatric disease epidemic, this project will provide FNPs with a solid foundation for practice. They will be engaged, educated, and empowered to improve access to health care for this vulnerable population.

Nursing Theoretical Framework

Nursing theorist Nola Pender's HPM is a middle-range theory that can influence FNP practice through an understanding of nursing-related phenomena, like health promotion, and explain or predict the relationship between health promotion and pediatric obesity (Moran, Burson, & Conrad, 2017). The theory has a direct application in

addressing pediatric obesity care, as the HPM emphasizes care throughout the lifespan, as well as the factors and relationships that contribute to health-promoting behaviors (Pender, Murdough, & Parsons 2015). Behaviors, such as increasingly sedentary lifestyles and the consumption of sugar-sweetened beverages, plus environment have put the pediatric population at risk for obesity more than ever before. The HPM facilitates the FNPs evaluation of a specific behavior including the perceived benefits, perceived self-efficacy, and commitment to action, interpersonal and situational influences, behavior-related affect, perceived barriers, and the forces of these on the behavior of both the individual and family (Pender, Murdough, & Parsons, 2015). Further, the HPM can be used to help the FNP better understand how ready the patient is to change certain behaviors related to health, determine what areas of health are most important, and set realistic goals. A FNP engaged in the role of health promotion can contribute to a patient's increased awareness of health-promoting behaviors, encourage self-efficacy and commitment, and offer support to reduce barriers to achieve goals related to health outcomes. Habits pertaining to food consumption (i.e., portions, family mealtime, and food choices), exercise, sleep, stress, and sedentary activities (i.e., screen time) are all examples of risk factors that may benefit from FNP delivered patient education and intervention. Through the lens of the HPM, the FNP can classify health behavior determinants into three proposed theoretical groupings that may impact pediatric obesity care: (a) individual characteristics and experiences, (b) behavior-specific cognitions and affects, and (c) situational/interpersonal influences (Pender, Murdough, & Parsons, 2015).

Individual Characteristics and Experiences

Individual characteristics and experiences that predispose an individual to pediatric obesity may be unmodifiable in this population. However, it remains essential data for the FNPs assessment of risk and to predict future behaviors. For example, parental obesity, race/ethnicity, and knowledge of adverse childhood events are relevant data affecting the determined plan of care.

Behavior-specific Cognitions and Affects

The behavior-specific cognitions and affect category links self-efficacy and healthy behaviors, and may be useful when considering risk factors such as screen time habits and sleep patterns. A family may need significant guidance and counseling to identify and reduce barriers to reduce behaviors impeding to success. The utilization of motivational interviewing for this purpose would be an example of best practice implementation, increasing the likelihood to positively impact a patient's self-efficacy as a motivating force in health promotion (Barlow & Expert Committee, 2007).

Situational/interpersonal Influences

Finally, situational/interpersonal influences concerning pediatric obesity may include factors such as web-based and community resources. Knowledge of community resources to aid with food insecurity, transportation barriers, and access to low-or no-cost opportunities for physical activity may help address the social determinant risk factors of pediatric obesity. An informed FNP can provide counsel regarding these influences, and thus may further increase support for healthy behavior change.

Project Description

This project aimed to equip FNPs with the aid of a pediatric obesity care practice guide to increase prevention, assessment, and treatment for pediatric obesity in primary care. Through FNP application of Pender's Health Promotion Model, the project served to strengthen FNP practice and improve the health of those both at risk for, and suffering from, pediatric obesity. A Donabedian conceptual framework of structure, process, and outcome was used to examine current practices of FNPs and determine opportunities to improve quality of care (Moran, Burson, & Conrad, 2017). The structure refers to the volunteer primary care nurse practitioners from a large healthcare organization serving as the project participants. The first step is to assess individual and group needs and set priorities to guide a plan of action. This assessment process was carried out in the form of key informant interviews with the intention to engage the participant, determine knowledge, examine workflow, identify gaps and barriers, and cultivate relationship building. Baseline findings led first to the development of targeted provider education and, second, to development of tools for use in practice. Finally, a post-assessment was administered to examine the perceived outcome of professional education and resources on application to clinical practice. The participating healthcare organization required a request for an IRB waiver.

Engage

The first project objective seeks to champion excellence of FNPs in preventing and treating pediatric obesity by increasing awareness and understanding of the pediatric obesity epidemic in the United States. This process began with provider outreach including a project description and invitation to participate. After confirming interest, a

pre-assessment was completed to obtain baseline data related to provider knowledge, resources, and preferences for pediatric obesity-specific provider education.

Educate

The second project objective pursues the education of FNPs on the disease of childhood obesity, aiming to eliminate bias and allow for increased access to necessary treatment. Data from the pre-assessment was used to determine learner and user preferences, and this information contributed to the targeted development of educational and clinical tools. For the prioritized delivery of provider-focused content related to the disease and recommendations for care delivery, options included live clinic-site specific presentations, webinar, recorded e-learning, and readable formats. As discussed in chapter two of this scholarly project, the algorithm developed in 2015 by the American Academy of Pediatrics Institute for Healthy Weight will serve as the primary resource for content included in this project's provider and patient education. This comprehensive guide directs routine care, outcome goals, lab screening, and any further warranted work-up based on risk factors. Content specifically related to pediatric obesity prevention for FNPs providing routine care of women of childbearing age will be extrapolated from the literature review.

The shared electronic medical record (EMR) between the healthcare organization's primary and specialty care clinics lent consideration to the development of order-entry and clinical support decision tools to help meet both provider and patient education needs. Examples to guide care delivery in this way included visit coding support, creating sample EMR documentation for clinic notes and patient education, sample EMR order set for Stage 1 & Stage 2 intervention strategies, and sample EMR

ambulatory consult order to access specialty care and community resources. Needs regarding patient and family specific education are broad and may include, (1) communications regarding need for specialty care (i.e., sleep medicine, endocrinology, genetics), (2) health literacy and language conscious written material reflecting evidence-based treatment recommendations for weight-reducing health behaviors, and (3) web-based and/or community resources to support healthy behaviors.

Empower

The third project objective involves the presentation and distribution of the final product, an integrative and comprehensive pediatric obesity practice guide for use in the primary care clinical setting. It is the intention of the project to equip participating FNPs with a solid foundation for practice resulting in improved access to health care for this vulnerable population. After a designated time frame for utilization of the finalized education and clinical tools, participants will complete a post-assessment to determine outcomes.

The consequences of pediatric obesity are significant, and positive health behaviors are critical to success. However, the influence of the equipped FNP is also substantial. With the theoretical perspective of Dr. Nola Pender's HPM as a guide, the FNP can meaningfully partner with the individual and family to address needs and health behaviors. Chapter four will explore the methodology and evaluation of the project in practice by FNPs.

Chapter Four: Methodology and Evaluation

Addressing weight in primary care may be construed as a challenging, time-consuming task. Further, a FNP may report feeling that the risk to fail or offend and low likelihood for meaningful, sustainable weight loss prevents opening the door to a discussion with families identified as at-risk for pediatric obesity. Thus, this scholarly project sought to understand current knowledge and practice better to identify opportunities for learning and development.

The implementation of this project began by seeking organizational support within the department of nursing research of a large healthcare facility in metropolitan Minnesota (MN). The organization chosen for implementation completes over four million outpatient visits each year; the majority from 60 primary care clinics across the Twin Cities area and greater Minnesota. Considering the potential impact of untreated pediatric obesity, the director of nursing research acknowledged great benefits to project participation.

Subjects

The healthcare organization chosen for the project employs FNPs to provide primary care in specialties that manage health across the lifespan, including Family Medicine and Pediatrics. Recruitment for the project was initiated through an organizational database to search for practicing FNPs. A total of two FNPs, one pediatric nurse practitioner (PNP) and one internal medicine-pediatrics physician, volunteered to be interviewed. Half of the providers reported < 5 years of primary practice experience and half with > 5 years of primary practice experience. Three of the providers reported

that the majority (>80%) of their patients are over the age of 18; the PNP serves ages 0-21 years.

Project Setting

The main setting, a pediatric obesity specialty clinic offering Stage 3 and Stage 4 intervention (as outlined in Chapter Two), resides within an urban hospital campus. Care delivery by this team includes the evaluation and management of the disease of obesity for patients 0-25 years of age. Patients referred to this specialty undergo a multidisciplinary evaluation to identify and most appropriately treat the disease of obesity as well as identified comorbidities. This comprehensive work-up results in a plan of care which may include lifestyle modifications, medications, and a weight-loss operation. By including the specialty clinic as a project site, the investigator sought to engage primary care participants in inter-professional collaboration between primary and specialty care and increase awareness of options for patient referral and follow-up. Secondary project settings included the participants' primary care practice locations in the Twin Cities metro area.

Data Collection

Given the qualitative nature of the project, data was collected using key informant questionnaires (Appendix B). Interview questions first targeted the disease process of pediatric obesity, and second, the diagnosis and treatment of pediatric obesity. Beyond this, the investigator inquired about current approaches to practice and perceived barriers to practice. The open-ended nature of most questions allowed for meaningful dialogue about ways to strengthen care delivery for this population. Consistent with the literature,

a gap in both knowledge and practice regarding pediatric obesity existed among participating providers.

While there was great concern regarding the epidemic and acknowledgment of pediatric obesity among their patients, reported barriers to care delivery included a low volume of pediatric patients, lack of concrete recommendations to provide to patients and families, and perceived lack of time to address the topic in a routine visit. A unanimous issue for the interviewees was that some families become adversarial about the topic, and this results in hesitation to bring it up. Further, each participant reported a lack of attention to the disease of obesity and how to care for patients with obesity in their formal nurse or medical education.

Logistically, EMR tools, such as order entry prompts and practice alerts were identified as an advantage to confidently engage in pediatric obesity care delivery in the primary care setting. Unfortunately, all participants reported a lack of awareness of any existing EMR tools within their current system to assist providers with pediatric obesity care delivery. The PNP did have experience working with an alternate EMR system that did provide best practice clinical decision-making tools to guide pediatric obesity care (i.e., lab order prompts, referral prompts); this was confirmed to be an asset to practice. All four participants were unfamiliar with the availability of the extended BMI growth chart intended to assist with screening for the weight category.

Of particular interest, three of the four interviewees had no previous knowledge of the AAP guidelines for pediatric obesity care. Of those new to the AAP guidelines for pediatric obesity care delivery, two participants expressed interest in a group presentation option and one in individual education to learn more. Concerning the AAP best practice

recommendation of MI for pediatric obesity counseling, though all interviewees had an awareness of the counseling technique, the PNP was the only participant formally trained which occurred as part of her nurse practitioner education. There was no stated interest in further MI training amongst the FNPs, though the physician reported contemplation of MI as a future interest for continuing education.

The participants unanimously reported a need for patient education resources to implement Stage 1 and Stage 2 interventions in primary care. Counseling to reduce sugar-sweetened beverage intake and reduce recreational screen time was the most commonly addressed lifestyle modification. However, the AAP best practice recommendation of the 5-2-1-0 phrase for family education was not well-known or understood by three fourths of interviewees.

Finally, all participants cited familiarity with the specialty pediatric obesity weight management clinic. Further, each had experience with placing a referral to the program. However, only two participants could speak to the multidisciplinary approach; this reportedly perceived achieved through self-directed clinician consultation. The data overall proved fundamental to determining a course of action for the investigator, as the education could then weigh heavily to the primary care interventions.

Intervention

An action plan, beginning with FNP teaching, was established in follow-up to the interview results. To facilitate education on pediatric obesity following the interviews, the author developed slides with versatility for use in an individual teaching, webinar format, self-directed e-learning, or live presentation (Appendix D). The content covered the disease process and best-practice considerations with an estimated viewing time of

20-30 minutes. The final toolkit included a digital (PDF) copy of the presentation slides for participant review, as well as laminated copies of the AAP Algorithm, sample patient education (i.e., 5-2-1-0, food dairy) and a list of internal (within healthcare organization) and community resources for referral. Finally, the toolkit provided a specific EMR "smartphrase" for use with clinical documentation of a pediatric obesity visit (Appendix C). The progress note contained EMR "smarttools" to provide focused, on-the-spot practice guidance (i.e., weight category, suggested lab screening, appropriate consults) for the recommended multi-stage approach to obesity care based on the best practice algorithm (AAP, 2015). Each participant was made a "user" of the created note within the EMR and given editing permission to adapt as needed or desired. The final *Pediatric Obesity Practice Resource Guide* (Appendix D) was made available to each participant in both electronic and hard copy.

The development of the *Pediatric Obesity Practice Resource Guide* was intended to increase the capacity to change practice at an individual primary care provider level, yet it proved to be a catalyst for change from a system perspective. The investigator observed that as awareness of the project grew, so did demand to distribute the information beyond project participants. Before the completion and final distribution of the *Pediatric Obesity Practice Resource Guide* to the project participants, Appendix C was utilized in six live multidisciplinary presentations for specialty care and primary care physicians and the content fulfilled criteria to provide continuing education credit to attendees. Additional presentations are planned for dates in fall 2019; audiences will include primary care physicians, physician assistants, advanced practice nurse practitioners, and registered nurses.

Thus, the impact of the scholarly project can also be measured quantitatively by tracking the number of health care professionals who have received continuing education in pediatric obesity care as a direct result of the content developed within the *Pediatric Obesity Practice Resource Guide:*

- 5 nurse practitioners
- 24 primary care physicians
- 60 registered dietitians
- 68 physical therapists
- 1 registered nurse

Findings

The participant responses aligned with national studies, revealing a gap in access to obesity care for all ages due to limited healthcare provider counseling and intervention (American Board of Obesity Medicine, 2018). As a collective, the findings suggested FNPs in primary care would benefit from education and resources to hone pediatric obesity practice. Of the participants offered the option of a live presentation at their primary care setting, only two of the four expressed interest in this option. One participant presented the idea of a focused training offered to interested primary care providers, thus establishing an obesity disease expert at clinic locations throughout the healthcare system. This individual would then be a provider resource for Stage 1, and also have additional training to engage patients in Stage 2 intervention meaningfully. The participants reported positive responses to the usability and applicability of the resources within the toolkit; the laminated AAP guideline noted to be of particular

clinical use. As of publication, dialogue continues concerning important ways to enhance the created and shared clinical documentation for use in primary care.

This project committed to strengthen care delivery and increase the capacity for FNPs to prevent, assess, treat, and refer obese pediatric patients in a primary care setting. The final chapter will discuss the limitations and implications of the project for the FNP in clinical practice. Chapter five will also explain the significance of the toolkit, exploring the potential to make use of this work more broadly, perhaps in an academic setting and to primary care providers beyond the FNP.

Chapter Five: Conclusions, Significance, and Implications for Future

As declared six years ago by the AMA, obesity is a heterogeneous disease. This project has made clear that it is no longer a question whether obesity is a disease necessitating treatment; it is truly unethical to not offer care to those in need. It remains desperately needed action for FNPs to heed the facts and address pediatric obesity appropriately in the face of a pandemic. The stated purpose of this project, to increase the capacity for FNPs to prevent, assess, treat, and refer obese pediatric patients in a primary care setting, proved to be in demand amongst participants. This chapter will explore and draw on the outcomes of this project to apply them to future endeavors to advance nursing practice.

Criteria for the scholarly project success took into account reported new knowledge and confidence regarding the prevention, assessment, and treatment of pediatric obesity that did not exist before project implementation. The self-appraisal conducted as part of the key informant interview process offered clear opportunities for growth; a 75% increase in awareness of the AAP Algorithm is a testament to a need for system-level education on the topic of pediatric obesity. Other success criteria included the development of the *Pediatric Obesity Practice Resource Guide*, filling an informant-identified gap in practice tools and resources.

An unanticipated challenge proved to be the recruitment of participants. Of the more than twenty invitations extended to primary care providers to participate, only four accepted. As stated, addressing weight in primary care may be construed as a challenging, time-consuming task. This project revealed that this truth extends to NP primary care provider availability to engage in activities beyond professional obligations.

While the completed project met the established goals, additional time would allow for the recruitment of additional NPs, plus the promotion and distribution of the *Pediatric Obesity Practice Resource Guide* to an increased number of recipients. An increased number of participants would increase user feedback of the *Pediatric Obesity Practice Resource Guide,* offering the investigator guidance related to quality and experience. While the individual learning option may be ideal, it may have been best to prioritize the development of an e-learning option for ease in distribution and accessibility. Further, it may have been prudent to cast a wider net for recruitment, for example, to pursue utilization of the department of nursing research and other professional nursing organization's distribution lists.

Furthermore, the investigator sought to enhance collaboration between primary and specialty care; however, a need for communication and coordination (i.e., through clinician to clinician consult, patient referral, provider follow-up) did not present in the limited project implementation timeframe. Thus, analysis and consideration for inter-professional process improvement is an indication for future work. The *Pediatric Obesity Practice Resource Guide* included the specialty program brochure to assist the FNP in patient education and future referrals. A frequent request of all providers was a list of talking points for approaching the topic of weight with patients and families, as well as specific language tips to promote a positive visit experience. For example, according to the STOP provider discussion tool it is recommended to use words like movement versus exercise, or nutrition versus diet. An opportunity for ongoing work may be to blend the STOP and AAP tools to incorporate the common clinical and communication provider barriers to addressing weight (Dietz et al., 2014). Future

presentations are planned in partnership with a mental health professional with specialty experience in pediatrics and obesity medicine.

A limitation of the project is the absence of non-English speaking and multicultural resources within the *Pediatric Obesity Practice Resource Guide*. A transcultural approach would be particularly important for future work, given the fact that the pediatric obesity epidemic disproportionately affects Hispanic, Native American, and African American children (CDC, 2018). Priority areas for development include continued efforts to engage NPs in pediatric obesity care more effectively. As mentioned in the first two chapters, the established benefits of an integrative approach to pediatric obesity care and the need to address health disparities point to the benefit for the recruitment of a transcultural nurse practitioner workforce in this particular area of clinical healthcare.

The priority clinical question addressed in this project directly related to improved access to care for those at risk for and currently suffering the consequences of being overweight or obese. From an academic perspective, this scholarly project fulfilled the stated objective to evaluate professional literature thoughtfully and thus satisfy the intended Doctoral of Nursing Education Practice Essentials: The Scientific Underpinnings for Practice (I) and Clinical Prevention and Population Health for Improving the Nation's Health (VII). This project demonstrated great potential to increase awareness of pediatric obesity and the possible implications. The FNP is in a frontline position to expand practice and make a profound difference to individual and population health with risk recognition that may precede conception and chronic disease, and comorbidity treatment that may extend for life. The literature explained how

genetics, culture, lifestyle, and one's environment effect the development of pediatric obesity, as well as the disease implications on quality and quantity of life. Research continues to explore these topics and identify others, for example, there are emerging theories on the influence of the gut micro biome and epigenetics. Though evidence is growing to support various treatment modalities like low-carbohydrate diets and intermittent fasting, the fact remains, accurate diagnosis is a first step to treatment. To use this project's gathered clinical prevention data to affect the population and improve the nation's health, it is necessary to recognize the following established truths:

- The disease of obesity is preventable;
- The disease of obesity is treatable;
- Talking about it helps;
- Obese kids become obese adults;
- Severe obesity and related co-morbidities worsen over time.

In support of advanced nursing practice in the care of pediatric obesity, the literature review revealed data essential both to the education of project participants and to the development and application of the practice guide in alignment with the National Organization of Nurse Practitioner Faculties (NONPF) Independent Practice Competency (2013). From a practice perspective, the participant NPs and MD indicated the pediatric obesity care practice guide would indeed be a useful reference, providing the relevant information as well as the skills necessary to prevent, assess, and treat pediatric obesity in the primary care setting.

As the literature review confirmed and the key informant interviews revealed, pediatric obesity care represents a gap in access. Ultimately, definitive progress will

require widespread patient access to health care professionals experienced in the AAP evidence-based staged approach to obesity care. As a partner of this scholarly project, the department of nursing research has been identified as a resource to facilitate continuing education opportunities specific to the advanced practice nurse provider group within the large healthcare facility plus the extended hospital and clinic system. An upstream approach to prepare future FNPs for pediatric obesity care delivery would be to augment obesity disease teaching in advanced practice nursing education and present the AAP algorithm as best practice guidelines. Finally, employing a too-narrow focus on NP education may be futile to reversing the current trajectory. Thus, a long-term goal would be to establish an institute for this region, providing multidisciplinary education focused on pediatric obesity and its related disorders to advance understanding and treatment.

The COVID-19 global pandemic is the greatest public health concern at time of publication, while pediatric obesity persists as a threat to livelihood and longevity. Experts believe the country is now facing a pandemic within a pandemic as obesity has been identified as an independent risk factor for COVID-19 disease severity in children (AAP, 2020). Major lifestyle changes in response to closed schools and stay-at-home orders has led to increases in weight for adults and children alike (Brown et al., 2020). In addition, the pandemic has caused disruptions in primary and specialty care delivery, limiting access for pediatric patients and their families (Brown et al., 2020).

As long as obesity does not receive the attention required, the current trajectory will not turn. It is time for the FNP to develop a sense of urgency, as delay to treatment is clearly injurious to a vulnerable population. Advocating for change at the clinic and system to support providers in their quest to provide care of highest quality is certainly an

ideal role for a future Doctor of Nursing Practice. This project attempted to answer the FNP asking, “So, what do I do?” while also offering an extension of hope that the work is meaningful. Moving forward, the *Pediatric Obesity Practice Resource Guide,* and those equipped with it, will continue to serve as a resource for healthcare providers who are caring for those suffering from the disease unnecessarily with the consequences of a complex yet treatable disease.

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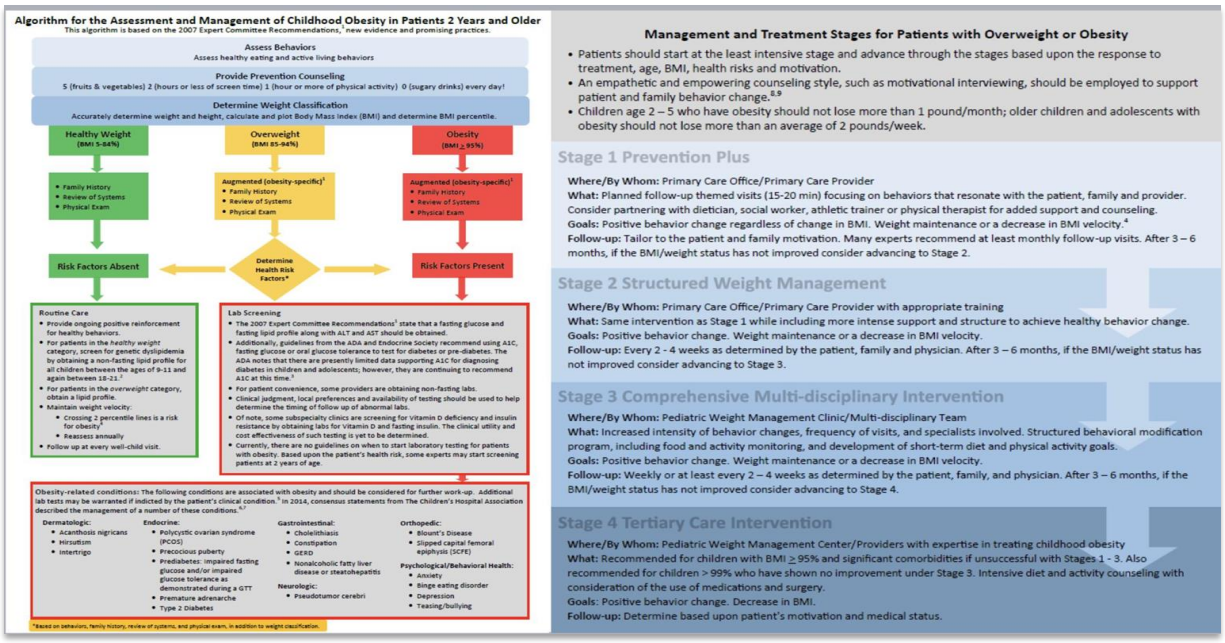
Appendix A

Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older



Appendix B

Subject Correspondence

March, 2019

Dear Nurse Practitioner,

As part of a Doctor of Nursing Practice scholarly project for Augsburg University, I am working within the nursing research department at Abbott Northwestern Hospital on an effort to explore and strengthen practice of NPs regarding the prevention, assessment, and treatment of pediatric obesity.

As Nurse Practitioners caring for patients across the lifespan, your insight is important. I would appreciate your input through voluntary participation in a key informant interview.

In addition to the key informant interview, I would like the opportunity to provide you with more information regarding my work on this topic as well as explore potential opportunities to enhance your primary care practice.

If you are interested in voluntary participation, I respectfully request that you answer the following questions and ***email this page back to me at johns181@augsburg.edu by April 8th, 2019.***

1. Your name:_____
2. Your preferred contact information (phone and/or email):
3. Your primary practice setting:_____
4. Does your individual practice currently include the use of AAP guidelines to prevent, assess, and treat pediatric obesity? _____
5. If yes, please describe how it is being used:
6. Would you be interested in interested in participating with me to learn more about the guidelines and practical use in clinical practice? Yes ⎸No ⎸Maybe

I appreciate your time and willingness to give me this input. I look forward to the possibility of partnering with you to improve the health of the pediatric population. Feel free to call or email me if you have any questions or concerns. Thank you for your time.

Nurse Practitioner Key Informant Questions

1. As a primary care provider, what are your goals for pediatric obesity care as a primary care provider?
2. Describe your knowledge and experience with pediatric obesity disease in practice.
3. Would you be interested in continuing education on the topic of pediatric obesity? Probe: Recommended content? Preferred format?
4. In general, what methods are used at your clinic to assess pediatric obesity? **Probe:** What works well? Not so well?
5. Are you familiar with the expanded BMI growth chart function in EPIC?
6. In general, what methods are used at your clinic to counsel families related to pediatric obesity? **Probe:** What works well? Not so well?
7. Describe your knowledge and experience with motivational interviewing.
8. In general, what methods are used at your clinic to initiate and treatment related to pediatric obesity? **Probe:** What works well? Not so well?
9. Are you familiar with the AAP algorithm?
10. Now, I would like you to think about patient education for healthy eating, physical activity, etc. What do you currently use? **Probe:** What else would you find helpful?
11. Now, I would like you to think about referrals to resources for patients that do not respond to treatment or are suffering from severe obesity and/or health consequences of severe obesity. Are you aware of existing resources for further intervention?
12. What would the ideal resource referral system to additional resources to assist with pediatric obesity treatment resources look like at your clinic and who would use it? **Probe:** Electronic? Paper? Role of insurance? Within small clinic networks? The larger healthcare organization?
13. What other factors should be taken into account in developing education and tools to enhance pediatric obesity care in your practice and beyond?

Appendix C

Documentation Template

Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older: Primary Care Note Template

Step One: Behavior Assessment

Food Choices/Pattern:
meals per day: ***
snacks per day: ***

Usual snacks: ***
fruit servings per day: ***
vegetable servings per day: ***

Sugary beverages: ***

Sit down for meals? ***
times eat out per week: ***

Wake at night to eat? ***
Snack after supper? ***
Self-reported areas for improvement: ***
Hunger/Satiety:
Eating when not hungry? ***
Hunger that is strong or uncontrollable? ***
Excess portion size? ***
Food availability:
Available nutritious foods? ***
Emotions and eating:
Overeat when sad or angry? ***
Not able to stop eating? ***
Use of vomiting or laxatives? ***

Sleep:
# of hours of sleep per night? ***

Electronic devices in bedroom? ***
# of hours of screen time per day? *** hours

Physical activity:
Regular activity: ***
Orthopedic problems? ***

Mental health:
History of depression or anxiety? ***
ADD? ***
Bullying or teasing? ***

Step Two: Prevention Counseling

5 (fruits and vegetables) **2** (hours or less of screen time) **1** (hours or more of physical activity) **0** (sugary drinks) every day!

Step Three:Weight Classification

Weight Classification: {Pediatric Obesity Weight Classification:36000}
Based on behaviors, family history, ROS, and physical exam the following health risk factors associated with obesity have been identified **{Pediatric Obesity-related conditions:35999} and further work-up is recommended**

Pertinent Family History:

Review of Systems:

Physical Exam:

Plan

Labs ordered now: {Pediatric Obesity lab screening:36001}
Other new orders: {Pediatric Obesity Referrals:36002}
Follow up for {Pediatric Obesity Follow Up:36004} in {weeks months:24739}
Specific goals set with patient and parent today including: ***

Goal
- Initial goal is establishing healthy sustainable habits and weight stabilization (but ok if healthy habits lead to weight loss). Longer-term reasonable goal is to aim for: {sds Ped Weight Loss Goals:29680}

Appendix D

Subject Correspondence II

September 2019

Dear ***,

Thank you for your participation in my scholarly project for Augsburg University as part of a Doctor of Nursing Practice education. As a ____ caring for patients across the lifespan, your insight is valuable.

It is well known that addressing weight in primary care may be construed as a challenging, time-consuming task. Thus, this scholarly project sought to better understand current knowledge and practice in order to identify opportunities for learning and development.

Based on your responses, I am happy to provide the enclosed *Pediatric Obesity Practice Resource Guide.* This collection of resources and tools is intended to strengthen practice regarding the prevention, assessment, and treatment of pediatric obesity. I hope you find it to be useful and directly applicable to the delivery of quality care. I have also provided the resources electronically via email, including a template for clinical documentation.

The power point presentation is an example of an educational opportunity available to you and your clinic partners. If you would be interested in a 1:1 or group presentation on the topic of pediatric obesity, I am available to coordinate that upon request.

In good health,

Susan Johnson, RN MS PHN
Doctor of Nursing Practice Student
Augsburg University

Pediatric Obesity: Prevention, Assessment & Treatment

Susan Johnson, RN, PHN, MSN
Augsburg University

In partial fulfillment of the requirement for the degree of Doctor of Nursing Practice

Acknowledgement

I would like to extend a sincere note of appreciation to all of the champions for pediatric obesity care.

Presentations

Pediatric Obesity:
Prevention, Assessment & Treatment in Primary Care
April 21, 2021
Augsburg University DNP Final Presentations
Minneapolis, Minnesota

Due to the Global COVID Pandemic, this presentation or poster was not able to be presented at a professional conference.

Presentation Objectives

Objective 1: *To explain pediatric obesity as a project topic choice for the Family Nurse Practitioner.*

Objective 2: *To articulate the project implementation and outcomes.*

1 in 3 U.S. children age 2-19 are overweight or obese.

Ogden et al (2014) National NHANES data for children 2-19 years old

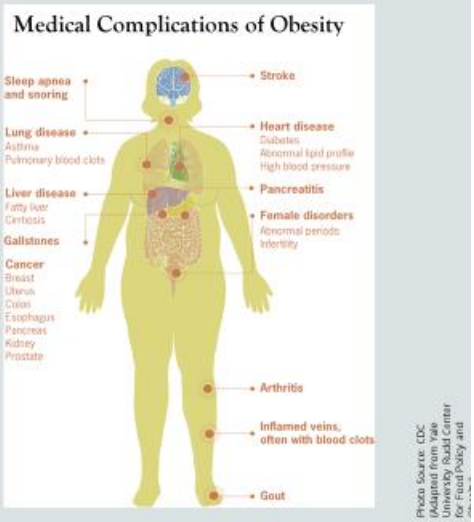


Photo Source: CDC (Adapted from Yale University Rudd Center for Food Policy and

Why?

Obesity is preventable & treatable.

Obesity & co-morbidities worsen over time.

Talking about it helps.

Obese kids become obese adults.

Delay in treatment is injurious.

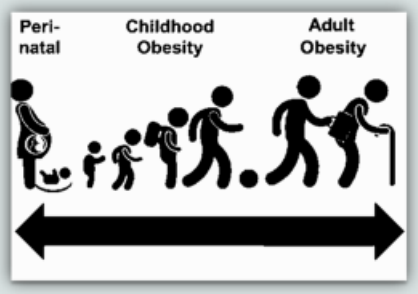
How?

Pediatric Obesity Practice Resource Guide

Who? Family Nurse Practitioners

What? Identify and fill gaps in knowledge with evidence -based data

Where? Primary care practice setting



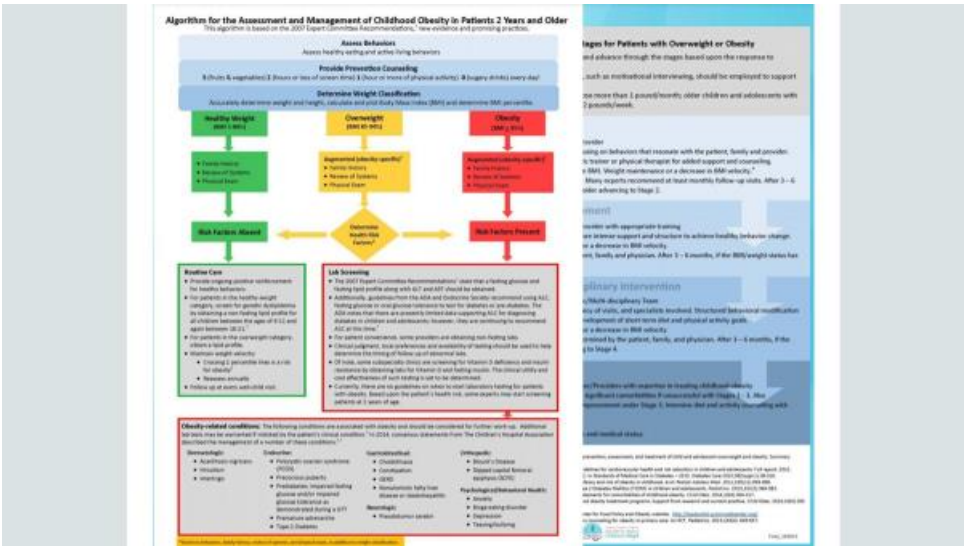
Project Objectives

Objective 1: *Engage*

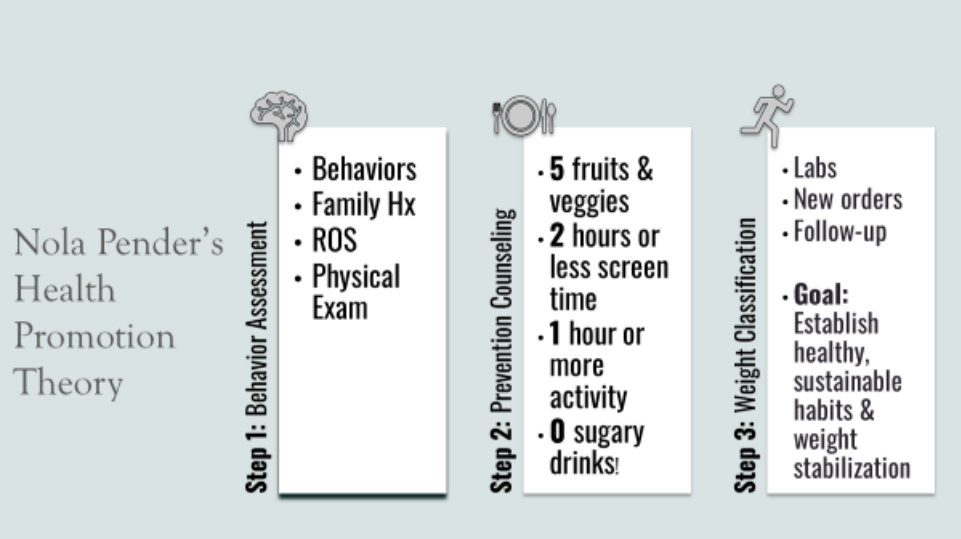
Champion excellence of FNPs in preventing and treating childhood obesity disease by increasing awareness and understanding of the pediatric obesity epidemic in the United States.

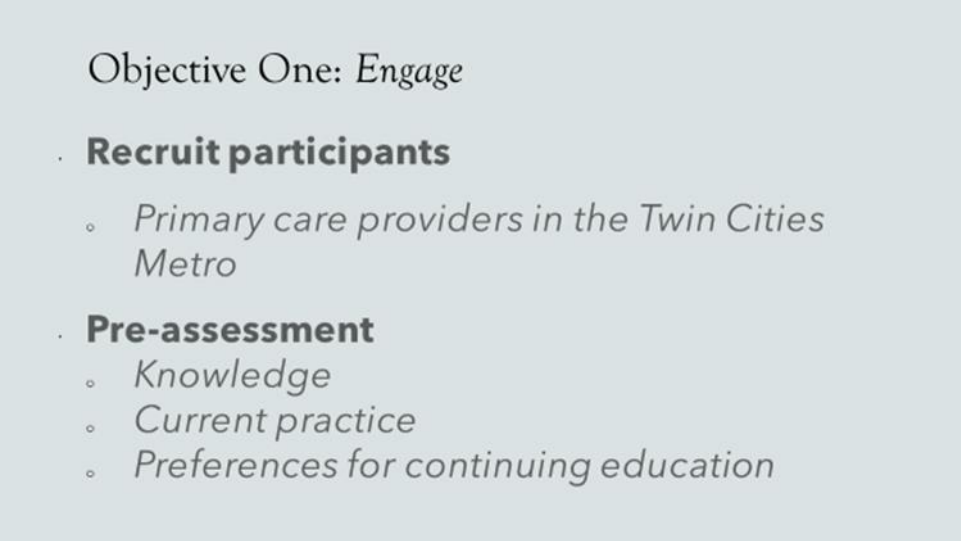
Objective 2: *Educate*

Educate FNPs on the disease of childhood obesity, aiming to eliminate bias and allow for increased access to necessary medical treatment.


Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older
Assess Behaviors
Provide Prevention Counseling
Determine Weight Classification
Healthy Weight
Overweight
Obesity
Risk Factors Absent
Risk Factors Present
Routine Care
Lab Screening
Obesity-related conditions:


Nola Pender's Health Promotion Theory
Weight
Genetics
•Disorders
•Susceptibility
Prenatal Environment
•Maternal obesity
•Maternal tobacco use
Biological
•Obesogenic medications
•Metabolic disease
Psychological
•Trauma
•Stress
Food
•Sugar-sweetened beverages
•Portions
Physical Activity
•Screen time
•Exercise
Economics
•Poverty
•Environment


Nola Pender's Health Promotion Theory
Step 1: Behavior Assessment
• Behaviors
• Family Hx
• ROS
• Physical Exam
Step 2: Prevention Counseling
• 5 fruits & veggies
• 2 hours or less screen time
• 1 hour or more activity
• 0 sugary drinks!
Step 3: Weight Classification
• Labs
• New orders
• Follow-up
• Goal: Establish healthy, sustainable habits & weight stabilization


Objective One: Engage
Recruit participants
Primary care providers in the Twin Cities Metro
Pre-assessment
Knowledge
Current practice
Preferences for continuing education

Objective Two: *Educate*

Identified needs:

- How to start the conversation
- When to refer to specialty care
- Patient/Family education community resources

Preferred modalities:

- 1:1
- Electronic
- Hardcopy

Objective Three: *Empower*

The *Pediatric Obesity Practice Resource Guide* included :

Modules for CME

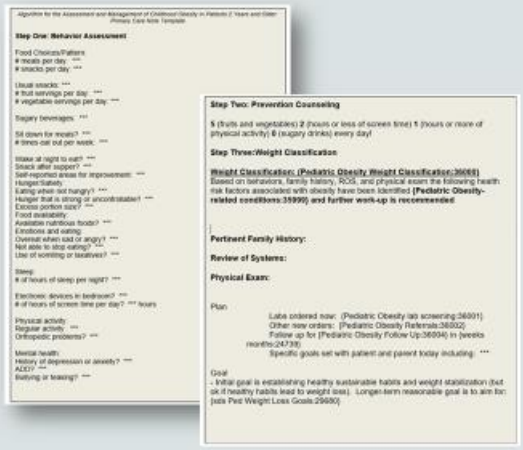
- **Obesity Action Coalition** (https://www.obesityaction.org/)
- **Strategies to Overcome and Prevent Obesity (STOP)** (http://whyweightguide.org/)
- **Institute for Healthy Childhood Weight (IHCW AAP)** (https://ihcw.aap.org/
  - Professional Resources
  - Childhood Obesity in Primary care 6 free modules each with CME
  - Module 6 is a 45 min presentation on motivational interviewing: (https://ihcw.aap.org/Pages/ChildhoodObesityPC.aspx)
- **Change Talk (AAP) free app**
  - An interactive training module that provides practice experience talking with patients and parents using motivational interviewing strategies.

Objective Three:
Empower

The *Pediatric Obesity Practice Resource Guide* included:

EMR template for documentation (designed for EPIC)

- Participants made "users"
- Include smartlists and order entry prompts



Step One: Behavior Assessment

Food Choices/Patterns
meals per day: ***
snacks per day: ***

Usual snacks: ***
fruit servings per day: ***
vegetable servings per day: ***

Sugary beverages: ***

Sit down for meals? ***
times eat out per week: ***

Wake at night to eat? ***
Snack after supper? ***
Self-reported areas for improvement: ***
Hunger/Satiety
Eating when not hungry? ***
Hunger that is strong or uncomfortable? ***
Excess portion size? ***
Food availability:
Available nutritious foods? ***
Emotions and eating:
Overeat when sad or angry? ***
Not able to stop eating? ***
Use of vomiting or laxatives? ***

Sleep:
# of hours of sleep per night? ***

Electronic devices in bedroom? ***
# of hours of screen time per day? *** hours

Physical activity:
Regular activity: ***
Orthopedic problems? ***

Mental health:
History of depression or anxiety? ***
ADD? ***
Bullying or teasing? ***

Step Two: Prevention Counseling

5 (fruits and vegetables) **2** (hours or less of screen time) **1** (hours or more of physical activity) **0** (sugary drinks) every day!

Step Three:Weight Classification

Weight Classification: (Pediatric Obesity Weight Classification:39065)
Based on behaviors, family history, ROS, and physical exam the following health risk factors associated with obesity have been identified **(Pediatric Obesity-related conditions:35990) and further work-up is recommended**

Pertinent Family History:

Review of Systems:

Physical Exam:

Plan
Labs ordered now: (Pediatric Obesity lab screening:36801)
Other new orders: (Pediatric Obesity Referrals:36002)
Follow up for (Pediatric Obesity Follow Up:36004) in (weeks months:24739)
Specific goals set with patient and parent today including: ***

Goal
- Initial goal is establishing healthy sustainable habits and weight stabilization (but ok if healthy habits lead to weight loss). Longer-term reasonable goal is to aim for: (ads Ped Weight Loss Goals:29680)

Objective Three:
Empower

The *Pediatric Obesity Practice Resource Guide* includes:

- Professionally prepared presentation of the AAP Guidelines
  - Six live CME-eligible multidisciplinary presentations for specialty care and primary care (>200 participants)

WORKSHOP AGENDA

7:00 am- 7:20
Registration/Coffee & Welcome

7:20 am- 7:30
AORN National Board Update
Darlene Murdock, RN, BSN, CNOR, TCCN

7:30 am- 8:30
Trauma: Saving Time, Saving Lives
Darlene Murdock, RN, BSN, CNOR, TCCN

8:30 am-9:30
The Peers Years: AORN's Decade of Tremendous Growth
Darlene Murdock, RN, BSN, CNOR, TCCN

9:30 am-10:30
Break & Vendor Displays & Silent Auction

10:30 am-11:30
AORN Go Clear Award: Journey to a Smoke Free OR
Andrea Qureshi, RN, MSN, CNOR
& Elizabeth Wood, RN, MSN, CNOR

11:30 am-12:30
Creating Your Personal Wellness Vision
Diane Dunkley, RN, NBC-HWC

12:30 pm-1:30
Lunch &

1:30 pm-2:30
Teens and Young Adults Weight Management
Susan Johnson, RN PHN MS

2:30 pm-2:45
Evaluation , Certificates & Drawings

CONTINUING EDUCATION

The purpose of this activity is to provide opportunities and resources for perioperative nurses to enhance their professional knowledge through planned learning.

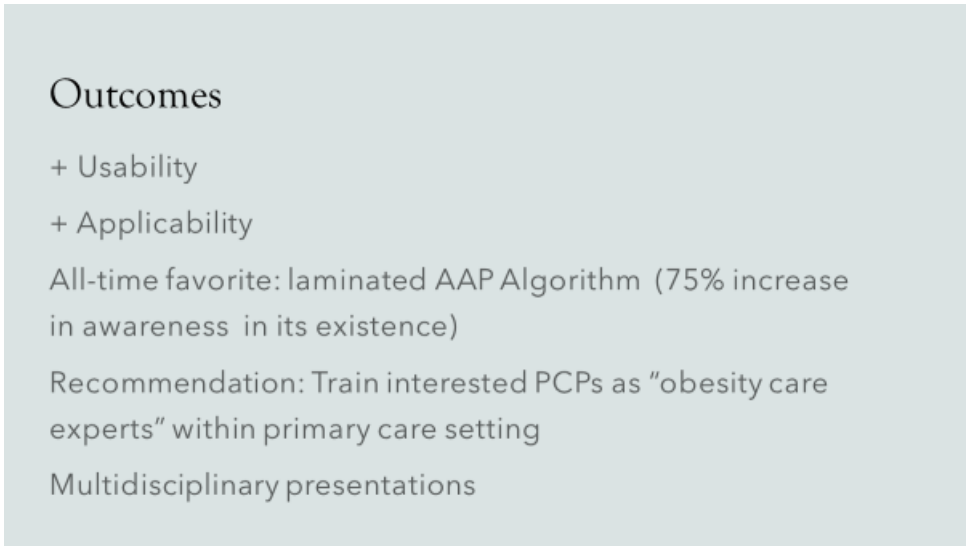
This activity has been submitted to the Association of periOperative Registered Nurses, Inc. to award contact hours. The Association of periOperative Registered nurses, Inc. is accredited as an approver of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Activities that are approved by AORN are recognized as continuing education for registered nurses. This recognition does not imply that AORN or the ANCC Commission on Accreditation approves or endorses any product included in the presentation

PLANNING COMMITTEE

Stacy Johnson, Cheryl Langford, Dick Habinek, Lynette Motte, Barb Wernon, Marilyn Wetzphal

Community Service
Please bring a toy donation
Toys for Tots


Objective Three:
Empower
The Pediatric Obesity Practice Resource Guide included:
Patient & Family resources
Go Noodle (https://www.gonoodle.com/)
Kids fitness videos/activities
Lots of games, sports, fitness, stretching, dance, and brain games
Online rewards and incentives to continue playing
Health Powered Kids (www.healthpoweredkids.org/) & Change to Chill (http://www.changetochill.org/)
Allina sponsored
Variety of health and fitness lessons, power chargers, and family education resources
Stress reduction and guided mediation
Choose My Plate (www.choosemyplate.gov/)
Interactive tools and BMI calculators, activity trackers, food log, and food-a-pedia
Appropriate for the entire family
Fitness Blender (https://www.fitnessblender.com/)
25-minute exercise videos for kids
Numerous FREE guided exercise videos
Fly Movement (http://fly-movement.com/)
Kid-friendly recipes, education articles, and operation FitKids (FREE curriculum)
Kidnetic (www.kidnetic.com/)
Movement games, recipes, and family educational materials
*Huffington Post (http://www.huffingtonpost.com/dave-smith2/free-online-workout_b_7722024.html)
Article with links for "The 50 Best Free Workout Resources You Can Find Online"


Outcomes
+ Usability
+ Applicability
All-time favorite: laminated AAP Algorithm (75% increase in awareness in its existence)
Recommendation: Train interested PCPs as "obesity care experts" within primary care setting
Multidisciplinary presentations

Doctoral of Nursing Education Practice Essentials and Competencies

- Number I of the Doctoral of Nursing Education Practice Essentials, The Scientific Underpinnings for Practice
- Essential VII Clinical Prevention and Population Health for Improving the Nation's Health
- National Organization of Nurse Practitioner Faculties (NONPF) Independent Practice Competency by supporting exceptionally advanced nursing practice in the care of pediatric obesity

The Future

- Equitable care resources to reduce disparities.
- Engage multidisciplinary academia to enhance student education on the disease of adult and pediatric obesity.
- Expand the use of the *Pediatric Obesity Practice Resource Guide* beyond the FNP.

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Questions?