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# An Evidence-Based Clinical Practice Guideline for Childhood Obesity

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# Walden University

College of Health Sciences

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George Peterson

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Walden University

2018

Abstract

An Evidence-Based Clinical Practice Guideline for Childhood Obesity

by

George Malakye Peterson

MS, Walden University, 2014

BS, West Texas A & M University, 2009

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

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August 2018

## Abstract

Childhood obesity is a national problem in the United States and has known implications as a potential cause of chronic illnesses as the child transitions into adulthood. A primary care clinic in the southwestern United States had a high percentage of obese Hispanic children within its population; therefore, the nurses and the pediatrician needed an evidence-based clinical practice guideline (CPG) to manage Hispanic children with a body mass index greater than the 95th percentile for their age. The purpose of the project was to develop a culturally competent CPG to manage childhood obesity in this primary care practice. The social cognitive theory provided the framework to develop the CPG. The final project resulted in an evidence-based CPG that was validated by an expert physician panel. The implication of this project is that nurses and providers can provide culturally competent education to the parent and child to reduce obesity among the pediatric Hispanic population. This project may create positive social change by modifying unhealthy cultural practices and behaviors, preventing chronic diseases, and reducing health care costs for the children within the selected practice.

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## Dedication

This project is dedicated to my nephew Gavin Clark and Noah Patterson as well as my sister Geona Peterson as they have given me the passion to impact other children's lives in a positive manner.

## Acknowledgments

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## Table of Contents

Section 1: Nature of the Project .....	1
Problem Statement .....	2
Purpose Statement.....	3
Nature of the Doctoral Project .....	4
Significance.....	6
Summary.....	7
Section 2: Background and Context .....	8
Concepts, Models, and Theories.....	8
Relevance to Nursing Practice .....	12
Local Background and Context .....	14
Role of the DNP Student.....	15
Section 3: Collection and Analysis of Evidence.....	17
Practice Focused Question.....	17
Sources of Evidence.....	17
Analysis and Synthesis .....	19
Summary.....	20
Section 4: Findings and Recommendations .....	21
Findings and Implications.....	21
Recommendations.....	23
Strengths and Limitations of the Project.....	24

Section 5: Dissemination Plan .....	26
Analysis of Self.....	26
Summary.....	27
References.....	29
Appendix A: Clinical Practice Guideline for Hispanic Children with a Diagnosis of Obesity.....	33

## Section 1: Nature of the Project

Childhood obesity has become a national epidemic, affecting 17% of children in the United States (Ogden, Carroll, Kit, & Flegal, 2014). The Centers for Disease Control and Prevention (CDC) (2017) reported that one in five school-aged children suffers from childhood obesity. It is known to predispose the child to chronic illnesses as he or she transitions to adulthood, which, in turn, leads to chronic medical care and costs associated with the care (National Conference of State Legislatures [NCSL], 2014). Thus, childhood obesity has been and continues to be a public health focus in the United States (Ogden et al., 2014). However, although childhood obesity is a national, social problem, its root cause is individualized and efforts to remedy childhood obesity should be initiated at the practice level to be most effective.

The primary care setting may be an ideal setting to apply a clinical practice guideline (CPG) as the intervention can be targeted on an individual child to make change one person at a time. The primary care provider is familiar with the patient and will likely have the most health-related contact with the patient and family. Generally, children are seen on an annual basis, which provides the opportunity to assess the child's weight, physical activity, and eating habits. The CPG would be initiated at the annual visit and would direct regular follow-up visits to monitor weight, adherence to the CPG, and track the child's progress. The purpose of this project was to develop a standardized evidence-based CPG to be used in a primary care setting for the care of children presenting with obesity.

### **Problem Statement**

Although childhood obesity is a national problem, it is a problem locally as well. A family medicine clinic in the southwestern United States had a patient panel consisting of 1,000 children. In the patient panel, 32.6% ( $N = 326$ ) were classified as obese having a body mass index (BMI) greater than 95th percentile for age. The value at the primary care clinic in the southwestern United States was higher than the national average of school-aged children living with obesity, which is 17% (CDC, 2017). Of particular concern is the number of obese Hispanic children in this practice. Of the 326 of children diagnosed with obesity, 68% ( $N = 221$ ) were Hispanic. The number of Hispanic children within the practice diagnosed with obesity was significantly higher than the national average of obesity within this group which is 21.9% (CDC, 2017). The elevated number of obese Hispanic children in the practice was consistent with the national finding that Hispanic children are more likely to be obese than white children (Watt, Appel, Roberts, Flores, & Morris, 2013). Therefore, Hispanic children are more vulnerable than the general population to develop lifelong obesity, obesity related illnesses, and early mortality creating a need to modify clinical practice to combat the problem with this population (Watt et al., 2013).

Although the pediatrician and nursing staff at the clinic provided on-the-spot education and guidance to intervene on childhood obesity, the plan of care was not specific to Hispanic children. There was also an issue of limited time and visit frequency with this provider. Thus, the primary care practice in the southwestern United States would benefit from a CPG that would optimize the time the provider and other health

care time had with these children to make a more substantial effect on his or her weight loss. The CPG will provide value to the organization as the management of childhood obesity will be consistent among Hispanic children. The creation of a CPG may be used to maximize the plan of care and guide follow-up visits.

CPGs are used in primary care as part of a whole system to prevent and manage childhood obesity (Summerbell & Brown, 2015). CPGs provide evidence-based interventions to assure that the management of the disease process reflects the most current recommendations that have been established as effective to manage the disease. Application of the evidence-based CPG to primary care setting may reduce the amount of obese Hispanic children in the practice and improve the quality of care that delivered to the children (Summerbell & Brown, 2015). The CPG provides the opportunity to optimize the time spent with the children by providing set recommendations that will guide the management of the Hispanic children diagnosed with obesity.

### **Purpose Statement**

The purpose of this doctor of nursing practice (DNP) project was to create a standardized evidence-based CPG that would be used by the pediatrician and her nursing staff to help Hispanic children and their parents manage obesity the primary care clinic in the southwestern United States. The pediatrician and her nursing staff would then identify Hispanic children who were diagnosed with obesity and initiate the CPG in his or her plan of care. An increase in time allotted for office visits with these children and more frequent follow-up visits were problems to be addressed within the practice. The follow-up visit goals included education follow-up and identification any barriers affecting

success. The components of the CPG were specific and measurable to allow the patient and parents to track the progress and identify areas where more education is needed. Through the implementation of the CPG, the pediatrician and her nursing staff would have a solid strategy to combat poor outcomes in this growing high risk population, improve further future morbidities, improve cultural diversity in the community, provide health benefits that do not cost the community or clinic more of a financial burden, and improve use of government funds by decreasing acute and chronic illnesses related to childhood obesity in Hispanics. If the project is successful, it may be expanded to other providers and nursing staff within the practice.

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

The doctoral project was needed at the primary care clinic in the southwestern United States because the current process did not follow a set guideline to provide care to Hispanic children diagnosed with obesity. The care of the children was left to the individual clinician. Providing the site with an evidence-based CPG made the management of these children uniform and assured the provider and nursing staff was providing evidence-based care. Gibson (2016) reported that the use of CPG within a primary care clinic in a rural midwestern city improved the documentation of BMIs, nutritional education and counseling, and accurate diagnosis of overweight and obesity within the practice. The study also revealed that the use of the CPG improved practice patterns when managing childhood obesity among providers that participated in the research (Gibson, 2016).

The CPG aimed to achieve elements such as improved documentation, accurate diagnosis, and improved practice patterns. The process resulted in creation of a culturally competent CPG for Hispanic children with childhood obesity at the selected practice. The CPG needed to be culturally competent because there are specific beliefs regarding childhood obesity within the Hispanic population. In the Hispanic population, mothers often incorrectly perceive that children are at a healthy weight when the children are overweight or obese (Lindsay, Sussner, Greaney, & Peterson, 2011). Hispanic mothers feel cultural pressure to have overweight children because this shows that the mother is a good parent (Lindsay et al., 2011). Hispanic mothers also reported that often they will overfeed children in effort to avoid being labeled a bad parent or having the child perceived as an unhealthy child because he or she was of normal weight (Lindsay et al., 2011). Another consideration with the Hispanic population is that grandmothers will often challenge the mother's feeding habits if she believes they are not culturally appropriate and give foods that the child's mother had restricted such as candy and soda (Lindsay et al., 2011).

Lack of access to affordable healthy food is often seen among the Hispanic population. Within the Hispanic population, nearly one-fourth of households are food insecure compared with 11% of White households (The State of Obesity [TSOB], 2014). Hispanic children often consume more sugary beverages than other children and frequently consume less nutritious food such as pizza, chips, burgers, and desserts due to income disparities as less nutritious food is less expensive and the food budget can be stretched further (TSOB, 2014). Language barriers are another consideration as many

health education programs are often presented only in English and do not consider cultural differences (TSOB, 2014).

To be culturally competent, the CPG considered that within the Hispanic population it culturally acceptable to have an obese child. The CPG recommendations respected that years of culture will be influenced by the proposed changes. Creation of a CPG that is not culturally competent not only risk failure but may offend the population as well. The CPG considered the Hispanic culture and was developed in a manner that seeks to improve the health of the children and reduce childhood obesity.

### **Significance**

The project was significant to the facility. The provider's patient population had an obesity rate of 32.6%, of which 68% are Hispanic. The overall rate of childhood obesity at the primary care practice in the southwestern United States was nearly double the most recent national rate of 17%, whereas the number of Hispanic children that were obese was more than triple the national average of 21.9% (CDC, 2017). The rates indicated that this practice had a significant problem of childhood obesity. With the development of the evidence-based CPG, the practice would assure that the children diagnosed with obesity were receiving current evidence-based and culturally competent management. The implementation of the evidence-based CPG would aim to improve the outcomes of the children while providing quality evidence-based care and optimizing the time spent with the provider and nursing staff.

This project may positively affect social change. There are increased health care costs with the epidemic of childhood obesity. Currently, it is estimated that the number of

obese 10-year-old children will generate \$14 billion in health care costs for this age alone (Finkelstein, Wan Chen Kang, & Malhotra, 2014). Children suffering from obesity are at a greater risk of developing noncommunicable diseases such as cardiovascular disease, Type 2 diabetes, metabolic syndrome, sleep apnea, and arthritis (Finkelstein et al., 2014). The development of the illnesses generates the increased cost in care. Obesity has also been identified as a significant cause of disability and increased mortality (Finkelstein et al., 2014).

### **Summary**

Childhood obesity is an epidemic in the United States. Without treatment, children suffering from obesity are subject to long-term health complications. Application of evidence to practice is an effective method to manage children diagnosed with obesity. The evidence was translated into a CPG for the primary care clinic in the southwestern United States to provide standardized care to Hispanic children diagnosed with obesity. The development of the CPG was guided by a theory to create the specific elements of the CPG. I will identify and discuss the theory in the subsequent section.

## Section 2: Background and Context

The development of this project had to be guided through theory. The theory gave the project a framework to guide and build the evidence-based CPG. The theory selected had to be appropriate for the practice problem and the population that the project that project was serving. The purpose if this section is identify the theory that has been selected for the project, elaborate on the relevance of the project to nursing practice, identify the local background and context, and establish the role of the DNP student for the project.

### **Concepts, Models, and Theories**

The practice improvement project was guided by Bandura's (1986) social cognitive theory (SCT). SCT specifies a core set of determinants, the mechanism through which they work, and the optimal ways for translating the knowledge into effective health practices (Bandura, 2004). The core determinants identified by the SCT are knowledge of health risks and benefits of different health practices, perceived self-efficacy that one can exercise control over his or her health habits, outcome expectations about the expected cost and benefits for different health habits, the health goals and individual sets for himself or herself and the plan and strategy for realizing them, and the perceived facilitators and social and structural impediments to the changes they seek (Bandura, 2004). The knowledge of health risks and benefits creates an environment for change as if an individual does not have the knowledge of how his or her lifestyle habits affect health; he or she has no reason to change (Bandura, 2004). The individual must also believe that he or she can produce the desired outcomes by his or her actions; there is

little incentive to act or persevere in the face of difficulties if he or she does not believe that the outcomes are attainable (Bandura, 2004).

The SCT recognized that health behavior is affected by the outcomes that an individual expects his or her actions to produce (Bandura, 2004). The outcomes of the behavior change may present as physical, social, and self-evaluative (Bandura, 2004). The physical outcomes present as the pleasurable and aversive effects of the behavior and the material losses and benefits (Bandura, 2004). With childhood obesity, a loss may present as eliminating sugary beverages but a benefit of weight reduction and improved health.

The social outcomes present as the approval or disapproval that the behavior produces in the individuals' personal relationships (Bandura, 2004). The social outcomes are a primary reason why the CPG needs to be developed in a culturally competent manner. The individual making the change such as the parent or child will seek social approval from the family while making this change. To achieve success, the CPG must be developed with the understanding that certain foods and practices are cultural and to change these traditions may result in social disapproval. The development of the CPG must not eliminate traditional foods and practices but rather work toward healthier options or not overeating.

Self-evaluative outcomes are those that give an individual self-satisfaction and self-worth (Bandura, 2004). With self-evaluative outcomes, an individual seeks to refrain from behaviors that produce self-dissatisfaction (Bandura, 2004). The motivation for self-evaluative outcomes may be enhanced by helping the individual recognize that the

changes that are being made are in his or her best self-interest and encourage the individual to achieve goals (Bandura, 2004). Regarding childhood obesity, the motivation to achieve self-evaluative outcomes will come from those that are close with the child such as family, health team members, and peers. Encouragement should be given to create a positive self-evaluation when changes are made to behaviors that are creating progression towards one's goal.

The SCT expresses that behavior is learned from the environment through observational learning (McLeod, 2016). The SCT can be directly applied to children because children are surrounded by influential models such as parents, friends, television characters, and other family members (McLeod, 2016). In an environment where the child's models are making poor health choices, it is likely the same behaviors will be adopted by the child. The poor health choices may then lead to childhood obesity. Using the SCT to develop the CPG, the elements of the CPG will be created in a manner that will promote behavior change for the family and the child. Although the CPG will focus on addressing obesity of the child, familial changes will have to be made as the child will not be preparing his or her own meals and will rely on his or her parents to provide nutritious foods.

Nerud and Samra (2017) applied the SCT to develop an intervention program for childhood obesity and noted that the SCT refers to one's confidence in his or ability to adapt to new behavior trends if it perceived that there is relative advantage over the old behavior. The theory applies to obesity as the individual's behavior must be modified to treat the problem. The theory also considers that the new behavior is more likely to be

adopted if it fits into the individual's daily routine, sociocultural values, and priorities (Nerud & Samra, 2017). The theory provides a frame of reference to understand why an individual changes his or her behavior and how the social and physical environments affect the change. The understanding would be used in development process of the culturally competent CPG to create guidelines that would create a positive environment for change.

Nerud and Samra (2017) used the SCT as the framework for the Make a Move intervention, which was a provider-led program for Head Start that aimed to produce changes in the outcomes of knowledge, attitudes, and behavior of physical activity and healthy eating. The Make a Move intervention consisted of four sessions that occurred once per week and each session was 60 minutes long (Nerud & Samra, 2017). The parents set goals each week towards physical activity and healthy eating, which provided motivation for the parents make the changes he or she chose for goal (Nerud & Samra, 2017). The program improved parents' knowledge of healthy eating but did not affect the attitudes or behaviors associated with healthy eating (Nerud & Samra, 2017). The intervention was successful in improving the parents' attitudes and behaviors of physical activity but did not improve the knowledge regarding physical activity (Nerud & Samra, 2017). Although the program did not include the children, it did appropriately apply the SCT to work toward behavior modification of the parents which would have an effect on the child's behaviors.

The SCT has been applied to intervention programs that are designed to manage childhood obesity. Knol et al. (2016) used the SCT to develop a childhood obesity

program called the Home Sweet Home (HSH). The HSH was a program that targeted parents, guardians, and grandparents of preschool children who lived in rural areas. (Knol et al., 2016). The program was an educational program that consisted of four behavioral goals: reduction in sedentary activity, increase number of family meals served per week, a reduction of portion sizes through mindful eating techniques, and a reduction in energy-dense, nutrient-poor foods (Knol et al., 2016). The SCT constructs included behavioral capacity, observational learning, self-control, reinforcements, self-efficacy, and the environment (Knol et al., 2016). The SCT was appropriately applied in the study to address childhood obesity through behavior change, which was a goal of the CPG.

I used the SCT for this project to develop the elements of the evidence-based culturally competent CPG. The elements were developed to modify the behaviors of obese Hispanic children in effort to reduce obesity. The elements that were created to modify the behaviors were culturally competent and considered the beliefs of the culture on the weight of children, cultural foods, socioeconomic status, and access to healthy foods, and environmental influences such as peers or extended family members that may not be accepting of the behavior change.

### **Relevance to Nursing Practice**

The project is relevant to nursing as childhood obesity is a national epidemic (Gibson, 2016). Providing nursing and other clinicians with the evidence-based CPG will help in the management of these patients to reduce childhood obesity (Gibson, 2016). Nurses depend on guidelines to implement evidence-based interventions that will lead to health promotion (Penn & Kerr, 2014). The CPG will be used by nursing and other

disciplines when managing and treating children that are diagnosed from obesity.

Without guidelines such as this project there is no assurance that the management of the patients is evidence-based. Nursing strives to provide the most current evidenced-based interventions in order to deliver quality care.

The CPG will serve as a resource for the physician and her nursing staff to use when managing children suffering from obesity. The CPG will be used to provide consistency of care for Hispanic children diagnosed with obesity that are being treated by the physician and her nursing staff. It is important to create a guideline that may be used by other disciplines as well because management of childhood obesity is a team approach. McHugh (2016) reported that a single profession cannot solve the problem of childhood obesity by itself and that obesity care and prevention requires a multidisciplinary team and inter-professional collaboration. These data will be considered in the development of the project in order to improve the potential of success for the guideline.

The practice improvement project will positively affect social change. There are increased in health care costs with the epidemic of childhood obesity. Currently, it is estimated that the number of obese 10-year-old children will generate \$14 billion in health care costs for this age alone (Finkelstein et al., 2014). Children suffering from obesity are at a greater risk of developing noncommunicable diseases such as cardiovascular disease, Type 2 diabetes, metabolic syndrome, sleep apnea, and arthritis (Finkelstein et al., 2014). The development of the illnesses generates the increased cost in care. Obesity has also been identified as a significant cause of disability, increased

mortality, and low productivity (Finkelstein et al., 2014). The CPG will create change for obese Hispanic children within the selected practice to prevent these problems from developing in this group of children.

The project developed an evidence based CPG that was given to the practice to help reduce childhood obesity among Hispanic children at this location. The reduction of childhood obesity will help decrease costs while improving the health and quality of life of the individual. The end result will positively influence his or her lives by preventing chronic illnesses and promoting a healthy lifestyle. The project also supports Walden University's mission because the project will implement evidence-based practices to transform society in the southwestern United States by reducing potentially reducing childhood obesity in the area.

### **Local Background and Context**

The setting was a family practice clinic in the southwestern United States . The CPG was used by the selected pediatrician and her nursing staff with the vision that if successful, the CPG will be expanded to other providers and nursing staff within the practice. The CPG will be applied whenever a Hispanic child presents and has a diagnosis of obesity. The practice currently does not have a set follow-schedule for these patients and this was a component of the CPG. The current process for managing obesity in Hispanic children is left completely to the pediatrician. The process for treatment and intervention of childhood obesity in the primary care clinic in the southwestern United States is not effective and is in need of modification. The nursing staff is a valuable

resource that is not being used. Application of the CPG used the nursing staff to improve the management of these children.

It was feasible to accomplish the project in this setting. The project created a guideline for the pediatrician and her nurses to use while providing care to obese children. The clinic will be responsible for process of care and recording data, scheduling follow-up visits, providing patient education, and assist in monitoring progress.

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

As the DNP student, I created an evidence-based CPG for the practice. I was responsible for collecting and analyzing the data, reviewing the literature, and combining the information to create the guideline. The benefit was that the practice received the guideline to use and the work to create the guideline is an in-kind service provided by me. The organization did not have any expense due to the process being performed by me.

### **Summary**

The SCT was the theory used to develop the elements that will compose the CPG. The project is relevant to nursing practice as the project aims to prevent disease and improve the health of the Hispanic children affected with obesity. The project was needed because the current process of revision because the primary care clinic in the southwestern United States continues to have high rates of obesity among Hispanic children. My role as the DNP student in the process was to create a CPG to be used at the primary care clinic in the southwestern United States for Hispanic children with obesity.

The project was developed around a practice question, which is be identified in the following section of the document.

### Section 3: Collection and Analysis of Evidence

To develop and create the project, evidence must be reviewed and analyzed to assure the project was evidence based. The evidence was reviewed and the evidence-based CPG was created based on the findings identified in the literature that were applicable to the population. The purpose of this section is to identify the project purpose, sources of evidence, and analysis and synthesis of the project.

#### **Practice Focused Question**

The primary care clinic in the southwestern United States had a childhood obesity rate of 32.6% with 68% of these children being Hispanic. The care among the Hispanic children diagnosed with obesity was not consistent creating the need for standardized care among the population. The practice focused question was: “What is the effect of the development and implementation of an evidence-based clinical practice guideline to be applied by nursing and the pediatrician to manage Hispanic children with a BMI greater than the 95th percentile for age at a primary care clinic in the southwestern United States ?” The outcome of the project was an accepted CPG that the practice will use to manage Hispanic children with the diagnosis of childhood obesity.

#### **Sources of Evidence**

The primary source of evidence was scholarly literature and research. Search terms included *childhood obesity*, *United States*, *interventions*, *costs*, *chronic illness*, and *statistics*. Databases such as CINAHL and Medline were used to conduct the scholarly literature search. The CDC is a resource that was used to collect data. Two pediatricians and the medical director reviewed the elements of the CPG and gave expert feedback on

the validity of the CPG and the potential benefit to the practice. Modifications were made based on evidence-based recommendations that were made by the experts.

The participants for the project were the pediatrician and her nursing staff as they provided care to a large number of Hispanic children with a diagnosis of obesity. The pediatrician served as an expert reviewer to provide evidence that the CPG was valid. The need for practice improvement was identified through discussion and observation, which created the working relationship for the project. The selected participants were relevant to the process as these individuals have contributed knowledge and experience with the population to the project and will be the clinicians that are applying the CPG to the population.

The SCT was the framework to guide the project and create the behavioral elements of the guideline. The SCT has been applied to projects such as the Make-a-Move and HSH, which have shown a favorable influence on knowledge, attitude, and behavior toward healthy eating and physical activity (Nerud & Samra, 2017). The CPG incorporated elements of the SCT throughout the development such as the social influences that impacted obesity such as environment, cognitive factors, culture, ethnicity, and social groups (McEwen & Wills, 2014). The CPG addressed physical activity, environmental influences, eating behaviors, and the reason for poor eating habits. The CPG incorporated that socioeconomic status may be a cause of poor eating habits. The CPG was developed in a manner to be applied to Hispanic children and families regardless of socioeconomic status otherwise many may not receive the benefit.

The participants were protected as the clinicians and the location was not identified in the project. The participants provided participation in the project on a voluntary basis. The working relationship was created through the need to improve practice at the selected primary care clinic in the southwestern United States. The DNP learner was not responsible for implementing and applying the guidelines to the population, which assured that those using the CPG will have his or her identity protected. The role of the IRB for the project was to assure that there are no ethical violations and that no individuals were compromised or harmed by the project.

### **Analysis and Synthesis**

The evidence for the project was organized and the integrity of the evidence was validated using the American Association of Critical-Care Nurses (AACN) levels of evidence. Using this model the validity of the evidence was validated through determining the level of evidence then critiquing the study to determine if the evidence was credible (Peterson et al., 2014). The AACN level of evidence model rates meta-analysis or systematic review of randomized controlled trials (RCT) as a level A which is the highest level on the model (Peterson et al., 2014). Level B evidence is evidence generated by controlled studies randomized or nonrandomized that consistently support an action, intervention or treatment (Peterson et al., 2014). The evidence reviewed for the practice improvement project was to be organized and applied through use of this model.

A comprehensive literature review was used to develop the CPG. Studies were evaluated and organized using AACN level of evidence model. This assured that the best quality of evidence selected to create a valid CPG. The CPG was constructed considering

believes and behaviors that are specific to the Hispanic population. Only literature that provided knowledge of the culture was used to create the elements of the CPG that were applicable to the Hispanic population. Literature that was not specific to the population but was valuable to the development of the CPG was used as well however; it was important to assure that this evidence was culturally appropriate and provided value to the CPG.

The outcome of the practice improvement project was the creation of a CPG that was approved and implemented into practice at a primary care clinic in the southwestern United States (see Appendix A). An expert panel of two pediatricians and the medical director reviewed and approved the CPG and provided recommendations for alterations that were deemed necessary to assure the CPG meets the needs of the organization. Going forward the pediatrician and nurses will initiate the guideline whenever a Hispanic child present who meets the criteria of childhood obesity which is a BMI greater than the 95<sup>th</sup> percentile for age.

### **Summary**

Project development starts with identification of the practice problem. After the problem was identified, the literature review process began. The literature reviewed was scholarly, evidence-based, and peer reviewed. The project used the evidence to create an evidence-based CPG. The level of the evidence was determined using the AACN level of evidence model. At the completion of the project, the practice may use the guideline to treat Hispanic children diagnosed obesity. The findings and recommendations generated from the project will be introduced and discussed in the subsequent section.

#### Section 4: Findings and Recommendations

Childhood obesity among Hispanic children within a primary care practice in the southwestern United States is a problem. The gap in practice was a lack of a standardized plan to manage these children and optimize health outcomes. The practice focused question was: What is the effect of the development and implementation of an evidence-based CPG to be applied by nursing and the pediatrician to manage Hispanic children with a BMI greater than the 95th percentile for age at a primary care clinic in the southwestern United States? The purpose of the doctoral project was to create an evidence-based CPG to provide standardized care for Hispanic children in the practice with a diagnosis of childhood obesity. The sources of evidence used to create the CPG were scholarly literature retrieved from CINAHL and Medline that were selected using the AACN levels of evidence method. Using this method allowed for the evidence to be organized according to the level of evidence and assured that the best quality of evidence was used to create the CPG.

#### **Findings and Implications**

The findings from the project resulted in the review and acceptance of the CPG by an expert panel within the practice that consisted of two pediatricians and the medical director. There were minor adjustments made to the CPG to assure that the needs for the site specific population were met. The elements of the guideline were created through specific recommendations from additional literature such as: assessment of the home food environment and food journaling (Pinard et al., 2014), laboratory testing to evaluate for medical problems caused by obesity (Minossi & Pellanda, 2015), and

recommendations for laboratory testing to rule out underlying medical causes of obesity (Mason, Page, & Balikcioglu, 2014). These resources were added in addition to the initial literature review due to recommendations from the expert panel. The expert panel expressed that these components were necessary to include in the CPG to best serve the population.

The nursing staff will monitor the use of the CPG and trend the results produced. A pop-up message will be added to the chart when the CPG is implemented to allow the nurses to know if the CPG has been implemented in the child's plan of care. The nurses will monitor the BMI at the follow-up visits to track progress as a result of the CPG. The electronic medical record (EMR) at the organization displays the weight and BMI change from the previous visit whenever the new data is recorded (see Appendix A). The EMR will allow the nurse to quickly evaluate if there was a change in weight. This will be an ongoing process for the practice. There were no unexpected limitations or outcomes of the project.

The implications from the acceptance of the CPG may result in improved outcomes for the Hispanic children diagnosed with obesity in the practice. The organization may benefit as there is potential for an increase in referrals to the organization if the program generates success. The pediatrician and her nursing staff are also fluent in Spanish which may attract Hispanic families to the organization knowing that care will be delivered in the native language. The potential implications for positive social change are reduction in health care costs, prevention of chronic illnesses,

improvement in health of the individuals, and improving the quality of life influenced by the CPG.

### **Recommendations**

The recommendation for this project was to implement the CPG at the time the child is diagnosed with obesity. The application of the CPG at the time of the diagnosis allows for the opportunity to close the gap in practice. The application of the CPG assures that management of Hispanic children with obesity is standardized throughout the population. The standardized care has the potential to improve the quality of life within the population and improve the health of the individual as he or she returns to an appropriate weight.

The pediatrician and her nursing staff will be responsible for the implementation of the CPG. The pediatrician and her nursing staff did not have an implementation date at the completion of the project: however the DNP learner left the tools for the nursing staff to conduct an evaluation three months after the CPG is implemented. The nurse will perform an impact evaluation to assess if the CPG is being used for intended population. An impact evaluation was selected as this type of evaluation measures the extent to which the program has caused short term changes in the target population (Hodges & Videto, 2011). The target population for the evaluation will be the pediatrician and the pediatric nurses. The nurse performing the evaluation will evaluate if the CPG is being implemented into the care for Hispanic children that meet the criteria. The nurse will perform chart audits at three months after implementation and assess for the popup alert that the CPG has been initiated for the child. The EMR allows her to filter the charts by

race and BMI as well as select the timeframe that will be filtered. She will then record if the CPG was initiated or not on a form that was provided to the facility. This type of evaluation was selected because when addressing a problem such as childhood obesity, it may take several years for the results to be seen. It is also impossible to evaluate what is happening outside of the office and if the CPG is being applied at home. The evaluation allows the nurse to assess data that can be monitored and is in a controlled environment.

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

There were several strengths and limitations to this project. The strengths of the project were the CPG was created from current evidence, it was culturally competent, and the CPG was population-focused. A focus on Hispanic children with obesity was the primary need at the time for the organization. The limitations of the project were that the project focused on one provider and her nursing staff in a single organization. While the focus on the Hispanic population was strength of the project, it was also a weakness as other populations within the practice did not receive any benefit from the CPG. Another limitation of the project was that the child is only seen on an intermittent basis, and regardless of the education provided, it is impossible to control if the elements of the CPG will actually be applied in the home environment.

The CPG may be expanded to other providers in the organization. For future projects addressing the problem, a CPG may be developed for another population of children with obesity. Future projects may look to address childhood obesity as a whole or select another specific population. The selection of a specific population will allow the

researcher to address the needs of the selected population as there are different customs and foods throughout different ethnicities.

## Section 5: Dissemination Plan

The CPG was disseminated to the practice through a formal presentation. The audience consisted of the pediatricians, the medical director, and the pediatric nursing staff. The elements of the CPG were presented along with the rationale for elements. The presentation allowed time for questions to be addressed as well as for feedback on the likelihood to use the CPG. Suggestions were taken from the audience for future projects of this nature.

As the project is a CPG, appropriate settings for dissemination would be educational settings. The setting may be a classroom setting, conference, or in-service at a health care organization. The appropriate audience for the content would be nursing professionals at all educational levels, physicians, and physician assistants. Dissemination in this manner allows the contents of the project to reach a great number of professionals that may use the information and apply the evidence to practice to improve patient outcomes.

### **Analysis of Self**

Through the progression of the project as a practitioner, I gained knowledge on the topic that can be personally applied to practice to improve patient outcomes. My skills have been enhanced through the knowledge gained as a result of the research and development of the project. As a scholar, I gained research skills that I formerly did not possess. I learned how to organize and critique evidence. In the role of project manager, I gained skills such interdisciplinary communication as I worked with nursing and physicians to create the project. Organizational skills were gained through this process as

well. As a self-critique, time management skills were and issue in regards to physically working on the project. The project provided the opportunity for me to see the importance and the connection between research and practice. As strictly a clinician, it is easy to lose the importance of the connection between the two and now as a practitioner I find myself seeking the *why* in practice. For my long-term professional goals, the project has made me want to work more on the practice problem and potentially lead more projects related to childhood obesity. I also look to expand beyond strictly focusing on Hispanic children.

The completion of the project was a great personal success. The biggest challenge that presented with the project was staying on track with the projected timeline. The lack of time management did create delays in my academic success. To resolve these challenges, I had to work harder to complete the milestones for the project. Time had to be allotted weekly specifically for the project and during these time blocks there were no interfering activities. The insights gained on the journey were the amount time it takes to develop a project such as this, serving as project leader, and the amount of research that goes into a project such as this. I gained a new respect for individuals before me that have put the effort to serve in these roles and create evidence that I apply in practice. Without individuals in these types of positions health care would not advance and patient care would be negatively affected.

### **Summary**

The purpose of this doctoral project was to create and evidence-based CPG for Hispanic children diagnosed with obesity at a primary practice clinic in the southwestern

United States. The CPG was created through the review of scholarly literature. Evidence from the literature was used to construct the guideline. The guideline was reviewed and accepted by an expert panel within the organization. The DNP learner was not present for the implementation of the CPG, but will follow-up with the organization and discusses the success of the implementation, the use of the CPG, and results produced as a result of the CPG.

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## Appendix A: Clinical Practice Guideline for Hispanic Children with a Diagnosis of Obesity

Childhood obesity affects approximately 17% of children in the United States (Centers for Disease Control and Prevention [CDC], 2017). Hispanic children are affected at a higher rate at 21.9% (CDC, 2017). The diagnosis of childhood obesity creates an increased risk for the child to develop chronic health issues such as diabetes, cardiovascular disease, and bone and joint disorders (CDC, 2017). These children are also more likely to be affected by mental health issues such as low self-esteem and depression (CDC, 2017). The purpose of this document is the creation of a culturally competent clinical practice guideline (CPG) to be implemented for Hispanic children that present with the diagnosis of obesity. The guideline will serve as a template to provide standardized care for the population. The components of the guideline are as follows:

1. Establish the diagnosis of childhood obesity which is a BMI greater than the 95<sup>th</sup> percentile for age.
  - The child must have a diagnosis of obesity for the CPG to be initiated into the plan of care.
2. Add a pop-up in the patient's electronic medical record (EMR) that the child has been identified as obese and meets the criteria for the CPG to be implemented
  - Addition of this alert to the EMR allows the provider and nurse to be aware that the child has met the criteria for the CPG to be initiated in the plan of care. The alert will also serve as reminder for the nurse and

pediatrician to review the previous BMI and weight to evaluate for any change in these values.

3. Provide education regarding childhood obesity in the native language of the patient and the family.
  - Providing the education in the native language reduces the change for miscommunication or lack of understanding of the information that is being delivered regarding the diagnosis and the plan of care (Lindsay et al., 2011).
4. Approach the topic of obesity during the visit with the child and the parent.
  - The parent and the child must be informed of the diagnosis. This should be done in a sensitive manner to avoid resistance or conflict between the provider and the patient/family.
5. Discuss with the parent that obesity is not healthy. Having an obese child is often seen as a healthy child in this culture therefore, this though process must be changed in order to achieve success (Lindsay, Sussner, Greaney, & Peterson, 2011).
  - The parent and child should be made aware of the complications of obesity and that being overweight is not healthy. The culture overall believes that obese children are healthier than normal body weight children making education on this topic essential for the CPG to be successful (Lindsay et al., 2011).
  - Advising the parent and patient of the complications of obesity such as chronic health issues for example diabetes, heart disease, joint disorders,

and sleep apnea allows for the individuals to learn the seriousness of obesity (CDC, 2017).

6. Medical causes of obesity must be ruled out such as an endocrine disorder to assure the child is being managed appropriately.
  - Medical causes should be ruled out to assure that there is not a reversible medical cause that can be corrected (Mason et al., 2014).
7. Laboratory testing such as hemoglobin A1C, lipid panel, thyroid studies, and complete metabolic panel should be obtained to assess for the development of chronic disease processes that are need of intervention.
  - Laboratory testing allows the provider to assess for the development of chronic illnesses such as hyperlipidemia or diabetes allowing for the provider to treat the illness if treatment is warranted (Minossi & Pellanda, 2015).
8. A dietary assessment should be completed to evaluate the type of foods the child and the family are eating.
  - Dietary education should be provided in a manner that considers the cultural foods the child will be exposed to and in the native language of the child and family members (Lindsay et al., 2011). The child will likely continue to be exposed to high a high carbohydrate diet as these are foods that are common of the Hispanic culture. Dietary education must be tailored around these foods and focus on portion control and what foods can be substituted for healthier options (Lindsay et al., 2011). Education

should also be provided on eliminating sugary beverages or fast foods in the instance these are present in the diet (Lee & Lein, 2015).

9. The food behavior must be modified in order to reduce obesity. A consult with a nutritionist may be an appropriate measure to provide dietary education and change the food environment.
  - The accessibility and availability of unhealthy foods should be assessed (Pinard et al., 2014). The behaviors of eating these types of foods should be modified. A nutritionist consult would allow the whole family to receive education and eliminate or reduce unhealthy foods in the home.
10. Education should be provided to the whole immediate family when able to create and environment for the child to achieve success (Lee & Lein, 2015). The parents will often have the most influence on the food environment and the family needs to work together and make healthy changes as whole.
  - The social cognitive theory (SCT) noted that health behavior is affected by the outcomes that the individual expects as a result of the change in his or her actions (Bandura, 2004). Behavior is learned through exposure of the environment and role models in the environment (McLeod, 2016). As recognized by the SCT, it is expected that the child learned the poor eating behaviors from his or her environment, education to the whole family to make behavior changes to create a change in the environment for the child (McLeod). It is important to note that the whole family may not make the

changes and the importance of the CPG is to make a behavior change in the individual patient.

11. Physical activity should be assessed.

- If there is limited physical activity, a physical activity routine should be created that can be done as a family so the child does not feel isolated (Knol et al., 2016).

12. Education must be continued at each follow-up visit to create and ongoing regulation of the behavior based on the child's environment (Knol et al., 2016).

- Assessing the education and change at each visit allows for gaps in education to be identified and these gaps to be filled with additional education.

13. Educational resources that can be performed outside of the practice such as online resources should be presented to allow the opportunity for self-study regarding the diagnosis, complications, and changes that can be made.

- While the CPG was developed to optimize time with the patient and family, there is still limited time and home self-study may provide additional benefit in combatting the obesity.

14. A food journal should be kept and presented at follow-up visits to allow the health care professional to assess the foods consumed and further modify the food environment.

- The use of a food journal allows the provider and nursing assess what foods are still available and what changes are actually being made (Pinard

et al., 2014). The journal allows the provider and nursing staff to make additional suggestions of changes that should be made to the dietary habits.

15. Behavioral therapy may be initiated if there is a behavioral source identified that is causing the child to overeat such as depression (Knoll et al., 2016).

- Referral to a behavioral health specialist allows for an assessment to evaluate for a behavioral health issue that is contributing to the obesity (Knoll et al., 2016). This referral will also allow for appropriate intervention if there is a behavioral issue that has developed as a result of the obesity.

16. Regular monthly follow-up visits should be initiated in the beginning stages of the implementation of this guideline. After success is achieved and maintained, follow-up visits may be reduced to three months and then tailored to meet the individual needs of the child and the family.

- The use of regularly monthly follow-up allows the provider and nursing staff to accurately track progress, identify any gaps in education or adherence to the guideline, and provide encouragement to the patient for making dietary changes and modifying eating behaviors.

17. Nursing staff may be available for education in between follow-up visits if appropriate.

- The availability of a nurse will allow access to education and to have questions answered in between visits. The nurse should be available to provide guidance should issues present that require professional advice.

### **Individual Results**

The individual results that are achieved through the use of the CPG will vary from patient to patient. The provider and nursing should recognize that not every patient will follow the recommendations. The education is applied during the visit which is a controlled environment however; the health care team cannot control what is actually occurring in the home.

### **Summary**

The above CPG was developed through the current evidence available on the subject. The CPG should be applied when a patient presents that meets the criteria for inclusion. The close follow-up allows for the health care team to monitor the success of the CPG. Results will vary based on adherence to the elements of the CPG.