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Physical Activity and Dietary Interventions for Adolescent African Americans in Mississippi

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Walden University

College of Health Sciences

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Tanga Robinson

has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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The Office of the Provost

Walden University
2019

Abstract

Physical Activity and Dietary Interventions for Adolescent African Americans in
Mississippi

by

Tanga Hart-Robinson

MS, Walden University, 2014

BS, Walden University, 2014

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

Walden University

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Abstract

African American (AA) adolescents have higher rates of obesity than many other ethnic groups, which increases their risk for obesity-related diseases. Culturally sensitive obesity preventive interventions have been unsuccessful, resulting in a steady increase of obesity among AA adolescents. AA adolescents in the southern region of the United States are at a higher risk for obesity and physical inactivity; knowledge and understanding of causative factors remains limited. To identify the impact of programs, a systematic review of the literature focused on structured physical activity and/or dietary education interventions in Mississippi. The ecological framework was used to guide this study. The Joanna Briggs Institute Critical Appraisal Checklist for Systematic Reviews and Research Syntheses was used to evaluate the effectiveness of programs on reducing the body mass index of AA adolescents in Mississippi. Two reviewers evaluated the identified articles and reached agreement in identifying the body of literature as well as including/excluding the same papers. Eight papers were selected for review. Recommendations from all 8 studies indicated that structured physical activity, dietary education programs, and parental/caregiver involvement in the development of healthy eating habits are necessary to decrease body mass index among AA adolescents. This project might contribute to social change by providing evidence to support programs to reduce obesity and improve health among AA adolescents in Mississippi.

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Section 1: Nature of the Project

Introduction

Over the past two decades, the rate of pediatric obesity has steadily increased across the world. Because the problem is grounded in health disparities that contribute to future health risks in adulthood, researchers acknowledge the pediatric obesity epidemic (Ho et al., 2013). Obesity in adolescence—defined as ages 10 to 19 years (Sacks, 2003)—is associated with premature morbidity and mortality due to early etiology of chronic conditions such as diabetes and hypertension (Ho et al., 2013).

In the United States, the obesity problems and the related disparities are not equally distributed across adolescent populations. For example, the 23% prevalence among non-Hispanic African Americans, second only to the 26% in American Indian/Alaska Native at 26% (Singh, Kogan, Van Dyck, & Siahpush, 2008), is remarkably different from the prevalence for non-Hispanic Caucasians. Furthermore, these populations differ in their risk of developing comorbidities in early adulthood, such as diabetes, coronary artery disease, hyperlipidemia, fatty liver, hypertension, and depression (Kohl & Cook, 2013). Prevalence, morbidity, and mortality also vary across different states. For example, Mississippi has been noted as the “fattest” adult state due to the progression to adulthood, without intervention, of the more than 30% obese adolescents (MSDH, 2016). The purpose of this project was to conduct a systematic review to identify, evaluate, and synthesize the best research evidence about successful strategies implemented in Mississippi that have positively impacted the problem of overweight and obese adolescents and to recommend a strategic direction for the future.

Problem Statement

According to the Centers for Disease Control and Prevention (CDC), Mississippi has the eighth highest obesity rate in the nation (CDC, 2016). Obesity in Mississippi affects 31% of children (ages 2 to 5 years), which is significantly lower than middle school and high school children in Mississippi (Mississippi State Department of Health [MSDH], 2012). Due to lifestyle choices and behavioral habits, being overweight, combined with obesity, negatively impacts the age spectrum: kindergarten to fifth grade 40.4%, middle school (sixth to eighth grade) 46.1%, and high school (ninth to 12th grade) 46.7% (MSDH, 2018). With more than 40% of children in Mississippi considered overweight or obese (MSDH, 2012), the increased excessive weight is a health crisis for Mississippi with early onset of coronary heart disease, diabetes, hypertension, and even cancer (MSDH, 2012). The obesity problem also contributes to health conditions such as sleep apnea, asthma, and psychosocial issues including confidence, depression, and body image disturbance (MSDH, 2012).

The progression of overweight adolescents to obesity is recognized in this systematic review by including overweight and obese adolescents. *Overweight* is defined as having a body mass index (BMI) at or above the 85th percentile but below the 95th percentile; obesity is described as a BMI at or above the 95th percentile in the same age and sex (CDC, 2016). These definitions are relevant to identify children at risk for obesity, a prominent national goal (Janssen & LeBlanc, 2010). According to international consensus reports and expert national committees (Council on Child and Adolescent Health, 1988; World Health Organization Study Group on Young People, 1986),

adolescence is defined as ages 10 to 19 years, the period between the onset of puberty and the realization of an adult identity (Sacks, 2003). The purpose of this doctoral project was to address the issue at the community level focusing on a well-defined population—African American (AA) adolescents—to understand how published interventions in physical activity, diet, and behavior have impacted the obesity problem in Mississippi.

Purpose Statement

Gap in Practice

Rural Southern children have an increased vulnerability to obesity with rates as high as 33%, double the national average (Greening, Harrell, Low, & Fielder, 2011). This problem demonstrates a gap in practice that can be addressed for this evidence-based project. There is not an evidence synthesis for programs implemented in Mississippi to decrease obesity among AA adolescents (10 to 19 years). The evidence derived from programs using structured physical activity and/or dietary education to address obesity in the AA adolescent population in urban Mississippi needs to be synthesized and reported as best practices. Current research has addressed physical activity and obesity in adolescents in many other states and multicultural interventions (Janssen & LeBlanc, 2010), but not in Mississippi.

Local Context for Gap in Practice

There is a practice gap specific to the ability to link “desired learning” and “demonstrated learning” (Hanberg, 2006). Failure to bridge “desired learning” to “demonstrated learning” may result in inadequate quality of care (Hanberg, 2006). Another gap in nursing practice is a lapse in communication between researchers and

practitioners and the delivery of information such as lack of public awareness, poor financing, and a nonsupportive environment. Although lack of knowledge is one of the leading causes of the gap in practice, it is the lack of incorporation of research with the current nursing practice that contributes to the failure (Hanberg, 2006). According to HealthyPeople 2020 (2018), adolescents should participate in moderate to vigorous exercise (aerobic, bone strengthening, and muscle strengthening) for 1 hour per day, but these are recommended guidelines without specific structured physical activity. The state of Mississippi requires 150 minutes per week of activity-based instruction as defined by the State Board of Education in Grades K–8, and students in Grades 9–12 must earn physical education credit for graduation (Society of Health and Physical Educators, 2016).

Significance and Implications for Nursing Practice

The context of this project is an urban lower socioeconomic community health clinic with a predominantly AA patient population. The patients in this demographic area are at increased risk of acquiring obesity and obesity-related comorbidities due to physical inactivity (Baskin, Thind, Affuso, Gary, LaGory, & Hwang, 2013). These comorbidities may be a result of cultural practices and ethnic attributes, including limited physical activity and unhealthy dietary habits. According to Wong (2014) minority populations are at risk for developing obesity, hypertension, heart disease, and Type 2 diabetes due to their low educational level, disadvantaged socioeconomic status, inadequate income, and inability to access healthy foods (Wong, 2014). From 2011 to 2014, the prevalence of obesity remained stable at 17% and affected 12.7 million children

(CDC, 2016). Hispanic children (21.9%) and non-Hispanic African Americans (19.5%) had the highest rates of obesity in comparison with non-Hispanics Caucasians (14.7%) according to the CDC, but the prevalence of obesity was lower in non-Hispanic children, affecting about 8.6%. The consequences of childhood obesity are risks of weight-related morbidities, such as Type 2 diabetes, coronary heart disease, hypertension, dyslipidemia, insulin resistance, sleep apnea, impaired osteoarthritis of the knees, lower back problems, and premature mortality (Ho et al., 2013).

Population, Intervention, Comparison, Outcomes, and Time Method

This Doctor of Nursing Practice (DNP) project is a quality improvement project using a systematic review. Quality improvement begins with identifying a problem requiring a change, developing a plan for the change, and implementing the plan. This systematic review was organized with the Joanna Briggs Institute (JBI) method, considering the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines (Moher et al., 2015). The PRISMA guidelines include addressing the population, intervention, comparison, outcomes, and time (PICOT; Melnyk & Fineout-Overholt, 2011). I used the PRISMA guidelines to systematize the process for identifying eligibility for potential studies for the review (Moher et al., 2015).

Project Question

What is the impact of programs that focus on structured physical activity and/or dietary education interventions on the reduction of BMI among AA adolescents in Mississippi?

Population, Intervention, Comparison, Outcomes, and Time Process

The problem/patient/population/place of this project is obese and overweight (BMI > 84th percentile) AA adolescents (age 10–19 years) living in Mississippi. The intervention includes programs specific to overweight and obese adolescents, published in the literature, that involve structured physical activity and/or dietary education programs. The comparison is against no structured physical activity and/or dietary education programs. The desired outcome(s) are quantitative, such as BMI, weight loss, program compliance, and qualitative, such as engagement in physical and/or dietary activities, self-esteem, and body image. The type of project and time of the project were a systematic review from January 2007 to December 2018.

Response to the Gap in Practice

Routine physical activity can prevent obesity and obesity-related illnesses in adolescents (HealthyPeople 2020, 2018). There needs to be an increased clinician focus on educating AA adolescents in Mississippi about engaging in physical activity and responsible dietary habits. According to Healthy People 2020 (2018), adolescents should participate in moderate to vigorous exercise (aerobic, bone strengthening, and muscle strengthening) 1 hour a day. Structured physical activity and dietary habits should be specific to AA adolescents to reduce BMI. Clinicians should ask adolescents about their daily activities and eating habits during each visit.

Nature of the Doctoral Project

Project Sources of Evidence

A systematic review was performed using the JBI (2014) method. The sources of evidence were the research published in journals, including original research, scoping reviews, and systematic reviews. The evidence included qualitative and quantitative research.

Project Method

A systematic review was performed, using the JBI (2011) method. Systematic reviews are summaries of all past research from a method that is preplanned and documented in a systematic review protocol (Walden, 2018). The JBI method provides a robust and systematic process to search, select, assess, and synthesize research studies to generate evidence for a specific clinical question. The inclusion and exclusion criteria were done and evaluated by two researchers. The search strategy identified relevant articles published in peer-reviewed journals between January 2007 and December 2018, in the English language.

Project Pathway

The purpose of this doctoral project was to identify the impact of programs implemented to reduce obesity for AA adolescents in Mississippi. Specifically, the project sought to understand how structured physical activity and/or dietary education provided in programs impact BMI. The project identified the most successful strategies used by the programs to positively impact BMI. The results of the doctoral project were disseminated to stakeholders in a rural area of Mississippi to guide the development of

local programs. The results included recommendations for the evidence-based interventions that were demonstrated as most successful in reducing obesity.

Significance

Stakeholder Analysis

A clear and focused relationship between the primary stakeholders needs to be established to positively impact obesity in individual communities. The goal for this project was to work collaboratively with the stakeholders in a rural community in Mississippi to identify the most successful evidence-based strategies to reduce obesity among AA adolescents. The stakeholders for the community of interest include community health nurses, school officials, school nurses, community leaders, primary care physicians, parents, and children. Each stakeholder group had varied roles and interests in the success of implementing strategies to reduce obesity for school-aged children. Stakeholders are best positioned to support and to help implement evidence-based strategies.

Contributions to Nursing Practice

This evidence-based project contributed to nursing practice by raising awareness to the specific strategies demonstrated as effective at impacting obesity among AA adolescents in Mississippi. According to the CDC (2016), children whose weight is in the 85th percentile for their age and sex are *overweight*, and children whose weight is in the 95th percentile for their age and sex are *obese*. Healthcare providers often undertreat or underdiagnose AA adolescents who are considered overweight or obese (Baskin, Dulin-Keita, Thind, & Godsey, 2015) due to a lack of processes for referrals and insufficient

community resources. Education and treatment should be specific to the child (Baskin et al., 2015). The evidence from this doctoral project was disseminated to raise awareness about the effects of increased physical activity and healthy diets for AA adolescents to decrease their BMI.

Transferability of Knowledge

The results from this doctoral project are transferable to other disciplines. However, the purpose of this project was to synthesize the evidence specific to interventions involving overweight and obese AA adolescents in Mississippi. This information might be transferable to other overweight and obese AA adolescents in the Southern region of the United States. The successful interventions might be beneficial for nurse practitioners seeking to raise awareness and implement a standardized program for structured physical activity and/or dietary changes for AA adolescents.

Implications for Positive Social Change

Establishing a structure for physical activity among AA adolescents can reduce BMI (Baskin et al., 2015). Health promotion strategies can develop and modify lifestyles and have a positive impact on the environment and social and economic conditions that determine health (MSDH, 2018). The benefits of promoting physical activity and healthy diets will have a positive social impact by increasing well-being, self-image, and self-esteem and decreasing the risk of early onset of chronic diseases and lowering the cost of managing obesity-related illnesses (MSDH, 2018).

Summary

Identifying causative factors of obesity and developing structured physical activity and dietary education strategies for AA adolescents living in Mississippi was the purpose of this project-based systematic review. The implications for social change in practice address the positive social impact health promotion will have by increasing well-being, self-image, self-esteem, and decreasing the risk of early onset of chronic diseases. The findings of this project provide the best evidence to implement structured physical activity among AA adolescents. A conceptual framework will be presented in Section 2 that integrates ecological, cultural, and social approaches to increase physical activity among AA adolescents in Mississippi.

Section 2: Background and Context

Introduction

The practice problem addressed in this project is obesity among AA adolescents living in Mississippi. The PICOT question for the project was: What is the impact of programs that focus on structured physical activity and/or dietary education interventions on the reduction of BMI among AA adolescents in Mississippi? This doctoral project will help address the obesity issue at the rural community level by identifying evidence-based interventions focused on AA adolescents in Mississippi. The ecological framework was used to identify factors contributing to AA adolescent obesity at the community level.

Theories, Frameworks, Models, and Concepts

This evidence-based practice project is a systematic review of literature using the JBI method. In this section, I present a conceptual framework that integrates ecological, cultural, and social approaches to increase physical activity among AA adolescents. According to Stokols (1996), health promotion programs that lack a specified theoretical foundation or are based on narrowly formulated conceptual models are not effective.

Theoretical foundations guide nursing practice, the merging of theory and clinical practice. An ecological framework was used to merge ecological, cultural, social, and behavioral approaches to improve physical activity, healthy eating, and weight management behaviors among AA adolescents (Sallis, Owen, & Fisher, 2015). The ecological perspective was a useful framework for understanding the multiple factors, including biological, environmental, and policy, that influence health behaviors (Golden & Earp, 2012). An ecological framework is specific to each population, addressing

certain environmental, cultural, social, and behavioral factors that may contribute to physical inactivity (Golden & Earp, 2012).

Ecological Model

According to Simpson (2015), developing a health promotion program that supports healthy lifestyle modifications requires comprehensive planning. Multiple determinants influence health behaviors, such as environment, cultural, and social factors. To identify the effectiveness of the programs identified for this systematic review, I targeted both individual and environmental influences reported to increase physical activity and improve dietary habits among AA adolescents (Simpson, 2015). An example of a program that does not consider the importance of the ecological framework is a lifestyle modification program that emphasizes individually focused behavior change strategies, while neglecting the environmental underpinnings of causative factors of the health and illness (Stokols, 1996).

Cultural Factors

The ecological model incorporates an individual's surroundings and cultural and social factors to determine the appropriate level of intervention. To determine the most effective intervention to increase physical activity and improve healthy dietary habits in AA adolescents, healthcare providers should understand their cultural norms (Davis & Davis, 2008). Culture can model an individual's physical activity and dietary intake habits (Swierad, Vartanian, & King., 2017). Culture represents a set of values, social norms, and traditions transmitted across generations that influence behaviors (Swierad et

al., 2017). Cultural and social norms often intertwine. Parental guidance and style of parenting influences a child's health behavior (Burton, Wilder, Beech, & Bruce, 2017).

Social Factors

The effectiveness of increasing physical activity and improving healthy dietary habits among AA adolescents requires social support from parents, caregivers, and the community. AA social beliefs and cultural practices may facilitate or hinder physical activity and dietary habits (Swierad, Vartanian, & King, 2017). For example, owning multiple televisions may represent a sign of economic attainment, but may also encourage sedentary behaviors.

Terms

Adolescence: Ages 10 to 19 years (Council on Child and Adolescent Health, 1988; World Health Organization Study Group on Young People, 1986); the period between the onset of puberty and the realization of an adult identity (Sacks, 2003).

African American: Black people living in the United States who are descended from families that originally came from Africa; non-Hispanic, non-Caribbean (Merriam-Webster, 2017).

Body mass index (BMI): A weight-to-height ratio calculated by dividing weight in kilograms by the square of height in meters; used as an indicator of obese and underweight status (CDC, 2016).

Overweight: Designation given to children and young people with a BMI at or above the 85th percentile and less than the 95th percentile among young people the same age and sex (CDC, 2016).

Obese: Designation given to children and young people with a BMI at or above the 95th percentile among young people of the same age and sex (CDC, 2016).

Physical activity: Any bodily movement produced by skeletal muscles that requires energy expenditure (World Health Organization, 2018).

Structured physical activity: Consists of programs (e.g., sports and instructional programs in dance, gymnastics, swimming, etc.) designed to increase the quality and/or intensity of physical activity (Hagan, 2007).

Project Relevance to Nursing Practice

Literature Review

This proposal is a systematic review of the literature. As such, a rapid review (Wilson, 2009) of the current literature was conducted to understand the depth and the breadth of the available evidence. The focus of the systematic review was shaped and narrowed through this rapid review process. The next section describes the rapid review that was completed with one database to test the search strategy and to refine the proposal focus.

Search Strategy

An electronic literature search was performed using studies primary from PubMed as this is the database identified through test search strategies as producing the most relevant research studies specific to Mississippi. For this brief review of the literature, the search strategy consisted of limiting data to the most current literature with publications restricted between January 2007 and December 2018; peer-reviewed articles, child or adolescents, English, controlled studies, and evaluation studies. The search terms for the

review included *Mississippi, overweight, obese, obesity, adolescent, children, teen, school-age, youth, African American, Blacks, and minority* in singular and plural forms.

Rapid Review

When developing evidence-based physical-activity interventions, the peer-reviewed literature was searched in a systematic manner to understand the current research knowledge. In this rapid review, multiple papers were found to address the PICOT question. For example, there are papers addressing the parental role in the evolution of obese children, including the adolescent ages. Webber & Loescher (2013) reported excessive weight during childhood among minority groups is linked to obesity related illnesses. Specifically, parent role modeling of healthy eating and physical activity for their AA children showed an increase in obesity from 6.5% in 1980 to 19.6% in 2008 in 6 to 11 years. The authors propose parental inactivity and poor diet contribute to having overweight children (Webber & Loescher, 2013).

In addition, health policies can impact obesity in children. Amis, Wright, Dyson, Vardaman, & Ferry (2012) reported Mississippi and Tennessee, with the highest levels of childhood obesity and health disparities related obese children in the nation, were positively impacted by legislation that increased physical activity in high schools. As such, new legislation focused on changing the conditions for children at risk for obesity is proposed as an intervention (Amis et al., 2012).

Finally, direct interventions have been reported to positively impact obese AA adolescents. For example, in a pilot study by Fletcher, Cooper, Helms, Northington, and Winters (2009), the first weight control program modeled specifically designed for AA

children was implemented in Jackson, Mississippi. The authors reported positive outcomes resulting from the interventions such as decreased body mass index and average waist girth as well as positive behavioral changes (Fletcher et al., 2009).

Evidence to Address the Gap-in-Practice

Physical inactivity and poor diets are known to be the primary contributors to adolescent obesity (Sallis & Glanz, 2009). There is ample research addressing physical activity and dietary change interventions for obesity in adolescents, but this research primarily focuses on multicultural populations. AA adolescents are at the highest risk for physical inactivity and poor dietary habits (Ebbeling & Antonelli, 2015). The current research based on multicultural interventions (Wilson, 2009) fails to address the lifestyle and living situation of AA adolescents in a largely rural Southern state such as Mississippi.

An important risk factor for obesity in AA adolescents is parental guidance that encourages behaviors that result in obesity (Steeves et al., 2017). Parents and/or caregivers are the primary role models responsible for influencing dietary habits and physical activity. They manage the home food environment, create health-promoting or hindering rules, and model behaviors for physical activity or inactivity (Steeves et al., 2017).

Previously, HealthyPeople 2020 suggests adolescents should participate for one hour a day in moderate to vigorous physical activities (aerobic, bone strengthening, and muscle strengthening). However, the recommended guidelines do not include structured physical activity. The recommendations focus on improving practices that can address

community-level problems for AA adolescents, including combining education and behavioral change strategies to increase physical activity, improve dietary habits, and change other targeted behaviors.

Local Background and Context

Evidence to Justify the Problem

The necessity for this project was determined after working at my clinical practicum site, a clinic in an urban low-socioeconomic community as well as working as the school-based Nurse Practitioner in impoverished area. The clinic provided patient care to all ages but specialized in children. By answering the question of is physical inactivity in AA adolescents, evidence to support establishing structured physical activity can be implemented. According to Baskin et al. (2013), the successful implementation of evidence-based practice is dependent on clinicians because they have first knowledge of the population and culture of the target population (Baskin et al., 2013).

Institutional Context

The context of this project setting is in an urban low-socioeconomic community health clinic with many of the patients being AA adolescents. The patients in this demographic area exhibit an increased risk of acquiring obesity, hypertension, and or type II diabetes. The strategy was to identify the causative factors contributing to physical inactivity, poor dietary intake, and develop a structured physical activity to decrease the body mass index (BMI) in AA adolescents.

Local Terms and Definitions

The Mississippi Obesity Action Plan requires for Mississippian to actively join the movement through policy and systematic change to prevent obesity and maintain change for generations (MSDH, 2018). The program specifically targets government officials, communities, healthcare workers, and coalitions for greater influence to meet the action plan objective and strategy and to gain partnership (MSDH, 2018). The program strategies were to promote and support healthy eating and active living on the population level (MSDH, 2018). These strategies correlate with the Women Infant and Children (WIC) program in Mississippi, a supplemental food program for pregnant, breastfeeding, postpartum women, infants, and children under five years of age. These strategies make healthy eating habits accessible, as well as engage and mobilize multiple partner sector including government agencies, businesses, communities, schools, childcare, healthcare, and worksite (MSDH, 2018).

State and Federal Context

HealthyPeople 2020 goals have outlined the federal context problem presented in this doctoral project. The HealthyPeople 2020 (2017) objective PA-11.1 identifies interventions that can help increase physical activity in children ages 3 to 17 years. The target audiences are healthcare professionals, public health professionals, and policymakers. The need to maintain healthy body weight and the need to provide nutritional education is identified in HealthyPeople 2020 objective NWS-6.

Role of the DNP Student

Professional Relationship to the Project

The DNP role in clinical prevention and population health for quality improvement influences the provision of practice focus on health promotion and risk reduction/illness prevention for individuals and present evidence concludes that there is a need to develop structured physical activity and educate the target population on nutritional programs (American Association of Colleges of Nursing [AACN], 2006). My practice focus is the effectiveness of the impact of programs targeting physical activity and healthy eating habits to decrease obesity in AA adolescents. The role of the DNP candidate was to expedite expert informative meetings and support the process to impact the diagnosis, current structured physical activity programs, and nutritional counseling of overweight and obese AA adolescents.

Professional Role in the Project

The role of the health care provider involves diagnosis, nutritional education, and involvement of both caregiver (parent) and child in a healthy lifestyle; however, this is not always accomplished or documented (Reyes, 2015). According to the MSDH (2012), more than 40% of children in Mississippi are considered overweight or obese (MSDH, 2012). Evidence suggests that combines physical activity, dietary habits, and behavior in children will decrease BMI (MSDH, 2012). The DNP prepared nurse role in developing structured physical activity and nutritional programs for overweight and obese adolescents is early identification and raising awareness of the problem to the public.

Motivation for Completing the Project

The motivation to complete this project is based the perspective that prevention is the best way to manage illness and that lived experiences are important, especially those of friends and family with reduced quality of life or early mortality due to obesity-related diseases. This project provides the project investigator with an opportunity to understand the problem of obesity in AA adolescents in Mississippi, including programs implemented to reduce obesity.

Potential Biases

The first potential bias is in the published papers might be influenced by the funding provided for interventions based on the size of the school district. As such, there might be more large school district or urban versus rural community interventions reported in the literature. A second potential bias is publications with commercial application might be funded by large private grants; consequently, published in journals requiring payments. Both of these biases can be exposed with the correct cataloging of papers to report the type and place of publication. Finally, a third potential bias is related to paper selection errors, but this is reduced with the inclusion of the second reviewer.

Role of the Project Team

Team Members and Background Information

The project team role was to provide feedback from the stakeholders on the final dissemination of findings. The feedback process provided information and findings from expert committee members included second reviewer, health care providers team, community leaders, and school officials. Team involvement included the development of

policy and methods to address the gap in practice. The stakeholders focused on the team members' consistent participation to complete the project.

Team Member Responsibilities and Work Timeline

The work timeline to gather the information for this project was six months. The project has another DNP candidate, a practicing nurse practitioner, assisting with the identification of qualified studies, cross-referencing studies, and identifying studies for inclusion and exclusion. The project leaders analyzed and synthesized the included studies and articles for the systematic review.

Summary

The ecological framework used to merge ecological, cultural, social and behavioral factors, to contextualize the obesity reduction programs identified in the literature for AA adolescents in Mississippi. Current research addressing the problem is primarily focused on multicultural and not specific to AA adolescents but can be applied or adapted to the AA culture (Wilson, 2009). The doctoral project addressed the issue at a community level specific to AA adolescents. The ecological framework provided the guideline for data collection in the next section for this systematic review.

Section 3: Collection and Analysis of Evidence

Introduction

This project sought to explain the state of the research literature specific to obesity reduction programs implemented in Mississippi for AA adolescents. The PICOT question for the project was: What is the impact of programs that focus on structured physical activity and/or dietary education interventions on the reduction of BMI among AA adolescents in Mississippi? The purpose of this doctoral project was to understand the obesity issue at a community level focusing on AA adolescents and the incorporation of physical activity, diet, and behavior.

Practice-Focused Question

Physical inactivity can be linked to childhood obesity (CDC, 2016). Overweight and obese children have an increased risk of developing comorbidities in early adulthood, such as Type 2 diabetes, hyperlipidemia, coronary artery disease, fatty liver, hypertension, and depression (Gungor, 2014). There is a practice gap specific to the ability to link “desired learning” and “demonstrated learning” (Hanberg, 2006). Failure to bridge desired learning to demonstrated learning may result in an inadequate quality of care (Hanberg, 2006). Another gap in nursing practice is a lapse in communication between researchers and practitioners and the delivery of information such as a lack of public awareness, poor financing, and a non-supportive environment. Although lack of knowledge is one the leading causes, it is the lack of incorporation of research with the current nursing practice that contributes to the failure (Hanberg, 2006). According to Healthy People 2020, adolescents should participate in moderate to vigorous exercise

(aerobic, bone strengthening, and muscle strengthening) for 1 hour per day. This can be achieved through organized after-school sports, physical education classes, and parental involvement.

Project Purpose and Method Alignment

In this project, I sought to explain the state of the research literature specific to programs implemented in Mississippi to reduce obesity in AA adolescents. The project purpose was to conduct a systematic review to identify, analyze, synthesize, and report the research literature. The purpose of a systematic review is to identify the best evidence to improve a clinical practice (Walden, 2018), such as weight management for AA adolescents in Mississippi.

Sources of Evidence

The JBI systematic review checklist, a review of cohort studies and articles, qualitative, quantitative, and randomized controlled trials evaluating the effectiveness of programs, focusing on structured physical activity and/r dietary education interventions, on the reduction of body mass index of AA adolescents in Mississippi causative factors concerning obesity will determine a structured physical activity. A systematic review was performed to provide evidence through searching several online databases: CINAHL, Cochrane Database, JBI Database, PsycINFO, and PubMed. The restrictions to this systematic review search included peer-reviewed research papers, published between January 2007 and December 2018, based in the English language.

Two reviewers were necessary to measure the success of the search strategy in identifying the same body of literature as well as including/excluding the same papers.

The review process complied with the step-by-step process outlined in the JBI criteria (Sallis, Owen, & Fisher, 2015). The titles and abstracts identified for inclusion and exclusion were analyzed independently by each reviewer. The inclusion of studies was determined through collaboration and agreement by both reviewers. Papers not meeting the inclusion criteria were excluded but recorded. Disagreements were recorded and adjudicated by discussion, but no papers were excluded if there was a review disagreement. When there was a doubt, the paper was included.

Published Outcomes and Research

The strategy of this systematic review used Walden library online search incorporating the following databases: CINAHL, Cochrane Database, JBI Database, PsycINFO, and PubMed. Only peer-reviewed databases were selected for the systematic review of the literature. The search strategy was discussed with the university librarian prior to implementation,

Description of Data Collection

The procedure for data collection process followed JBI's (2014) systematic review of the literature. The method allowed for a structured search and to cross-reference multiple databases simultaneously, in a similar manner, to identify qualified studies for review. The project leader and the second reviewer engaged in a discussion about the included papers, noting the impact of structured physical activity and nutritional programs. The included papers were summarized and critiqued per the JBI process, with the data recorded in a Summary of Evidence Table (Appendix A).

Procedures

The JBI Critical Appraisal Checklist for Systematic Reviews and Research Syntheses was utilized to identify the best structure physical activity. The data was entered an Excel spreadsheet for analysis (discussed in the data analysis section). The conceptual framework was used that integrates ecological, cultural, and social approaches to increase physical activity and improve healthy dietary habits. If applicable, the Ecological Model of Health Behavior was referenced to illustrate the structures and their effectiveness in integrating ecological, cultural, and social approaches to increase physical activity and improve healthy dietary habits.

Search Strategy

An electronic literature search was performed from Walden Library and librarian simultaneously such as MEDLINE, CINAHL, EBSCO, PubMed, ProQuest, and OVID. The search strategy consisted of limiting data to the most current literature with publications restricted between January 2007 and December 2018; peer-reviewed articles, or adolescents, English, controlled studies, and evaluation studies. The search terms were *Mississippi, overweight, obese, obesity, adolescent, adolescents, child, children, teen, teens, school-age, youth, African American, Blacks, and minority*. Studies for this will be identified through PubMed searches, MEDLINE, ProQuest, OVID, CINAHL, and EBSCO. To clarify the screening, identification, eligibility and inclusion and exclusion criteria for the studies a PRISMA flow diagram (Appendix B) was included. A systematic review utilizing the JBI Critical Appraisal Checklist for Systematic Reviews and Syntheses of the impact of programs, focused on structured physical activity and/or

dietary education interventions, on the reduction of body mass index of AA adolescents in Mississippi. The review considered all studies related to adolescents, AA adolescents with a BMI at or above 85th percentile for age and sex in Mississippi. AA adults in Mississippi was excluded for this review.

Protections

The Institutional Review Board (IRB) approval was required to begin the project. Following approval by the DNP Project Committee, approval from the Walden University IRB can be completed, as required for all DNP projects. This project does not involve human subjects.

Analysis and Synthesis

Data Integrity

According to Moody and McMillian (2002), the process of attaining and maintaining data integrity is viable to ensure a successful systematic review. The process of achieving data integrity involves developing protocols in data collection, training of data collectors, and data monitoring. For this DNP project, the JBI Appraisal Checklist for Systematic Reviews and Research Syntheses (JBI, 2014) was utilized by two qualified reviewers, a family nurse practitioner and the DNP candidate, who will assess the eligible studies. The studies will be appraised, and its methodological quality will be evaluated using the following 11 criteria, including: Clarity and explicit statement of the review question; appropriateness of the inclusion criteria for the review question; appropriateness of the search strategy; sources and resources were appropriate for the search; appropriateness of the criteria used to appraise the study; critical appraisal

completed by two or more independent reviewers; methods minimized of errors in the extraction of data; methods to combine the studies were appropriate; likelihood of publication bias was assessed; reported data supported the policy or practice recommendations; and directives for new research were specific and appropriate (Moher et al., 2015).

Data Analysis

The eligible studies and articles were assessed by the primary and secondary reviewers utilizing the JBI Critical Appraisal Checklist for Systematic Reviews and Research Syntheses (JBI, 2014). The reviewers reached complete agreement on article selection. Studies were appraised, and the methodological quality evaluated using 11 JBI criteria. The data from each study was entered in an Excel spreadsheet. The data included: Bibliographic information, research methodology and method, evaluation of the quality, conceptual model and/or framework, location of study, number of participants, participant demographic information, types of interventions, study findings, and recommendations. The data were analyzed and organized through categorization. The synthesis was completed by grouping the data, from each study for reporting as themes and focuses. The final studies were presented in the Summary of Evidence Table (Appendix A).

Summary

Recent data indicates that AA adolescents are gaining weight at an alarming rate. The problem of overweight or obese children is more prominent in Southern states (Fletcher et al., 2009). Mississippi has the eighth highest rate of overweight youth

nationwide (Fletcher et al., 2009). Mississippi Obesity Action Plan 2018 promotes increase involvement of healthcare professionals; increase knowledge in communities regarding obesity epidemic; height and weight standards, nutrition choices for healthy eating by distributing and/or developing educational materials on healthy behaviors and obesity prevention for the public (MSDH, 2018). The Mississippi Obesity Action Plan aligns with other programs that target increasing physical activity and healthy dietary programs such as school-based programs, Comprehensive Fitness Test, and the Jackson Heart Kids Pilot Study. The next section provided an analysis of the results of the systematic review after approval by the committee; oral defense, URR, and IRB approval are completed.

Section 4: Findings and Recommendations

Introduction

In the United States, the obesity problems and related disparities are not equally distributed across adolescent populations. Additionally, prevalence, morbidity, and mortality vary across different states. With more than 40% of children in Mississippi considered overweight and/or obese, the increased excessive weight is a state health crisis for Mississippi with early onset of coronary heart disease, diabetes, hypertension, and even cancer (MSDH, 2012). Adolescents in Southern states have an increased vulnerability to obesity with rates as high as 33%, double the national average (Greening et al., 2011).

There is a practice gap specific to the ability to link “desired learning” and “demonstrated learning” (Hanberg, 2006). Another gap in nursing practice is a lapse in communication between researchers and practitioners and the delivery of information, such as a lack of public awareness, poor financing, and a nonsupportive environment.

The practice-focused question for this project was: What is the impact of programs that focus on structured physical activity and/or dietary education interventions on the reduction of BMI among AA adolescents in Mississippi? In the project, I explained the state of the research literature specific to the programs implemented in Mississippi to reduce obesity in AA adolescents to recommend the strategic direction for the future. Another objective was to understand the obesity issue at a community level, focusing on AA adolescents and the incorporation of physical activity, diet, and behavior.

Finally, in this doctoral project, I conducted a systematic review to identify, analyze, synthesize, and report the research literature.

Findings and Implications

Eight articles were identified and analyzed from extracting relevant literature and research studies from PubMed database. Several of the studies' interventions utilized physical activities, dietary and a behavioral approach. Additionally, some of the studies focused on parental or caregiver perspectives of physical activity, dietary habits, and policy contributing to AA adolescent's obesity. Finally, implications for additional research specific to AA adolescents utilizing quantitative measures and development of structured physical activity specific to the child is recommended for future research. The selected articles are presented in the Summary of Evidence Table (Appendix A).

Recommendations

Recommendations from all eight of the research studies suggested that structured physical activity, dietary education programs and parental/caregiver involvement in the development of healthy eating habits are necessary to decrease BMI in AA adolescents. Recommendations as a result of this DNP project is:

1. Mandatory structured physical activity specific to AA adolescents
2. The development of culturally sensitive nutritionist for meal planning in schools (Davis & Davis, 2008).
3. Family centered fitness and nutrition programs.

Strengths and Limitations

The strengths of this project are the research studies focused on AA adolescents in Mississippi and the results were age specific. Most of the research studies interventions included physical activities and dietary habits as interventions. The review of literature provided evidence-based research specific to the research question.

The limitations of this project are small sample size and several of the studies did not use random selection. Another limitation was the limited amount of research studies specific to AA adolescents in Mississippi.

Summary

The development of structured physical activity and dietary habits should be specific to AA adolescents. Most of the studies used physical activity, dietary habits, and behavior modifications as necessary interventions.

Section 5: Dissemination Plan

This DNP project showed that although there is limited amount of structured physical activity programs designed for AA adolescents, parents, caregivers, and the community are aware of the rising problem. Policies have been implemented in the schools, but funding is based on the size of the school district. To ensure that the findings of this DNP project are implemented into practice and raise awareness, the following dissemination strategies are recommended:

1. Use social media.
2. Seminar at historically Black colleges and universities (HBCUs) in Mississippi.
3. Conduct several webinars on YouTube about the problem.
4. Network with healthcare providers in Mississippi on how to identify children who are at risk.

Analysis of Self

In analysis of myself as a practitioner, I recognize that the project has improved my current clinical practices through reviewing the existing literature of effective strategies to reduce BMI in AA adolescents. The role of the DNP practitioner is to implement evidence-based practice into clinical practice. The professional role of the DNP is to bridge communication between researchers and practitioners to use evidence in program development.

In project management, my goal is to continue collaborating with community leaders and school officials to develop and sustain successful programs. The project has

provided access to scholarly information to be integrated into practice and the development of future programs.

Summary

Structured physical activity and dietary education programs are necessary to decrease obesity among AA adolescents. Healthcare providers should identify children at risk at each visit. To raise awareness, dissemination of these findings is necessary.

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Appendix A: Summary of Evidence Table

Author(s)	Davis & Davis	Fletcher, Cooper, Helms, Northington, & Winters	Greening, Harrell, Low, & Fielder	Moore & Bailey
Publication date	2008	2009	2012	2013
Title	A focus group study of African American obese children in Mississippi	Stemming the Tide of Childhood Obesity in an Underserved urban African American Population: A Pilot Study	Efficacy of a School-Based Childhood Obesity Intervention Program in a Rural Southern Community: TEAM Mississippi Project	Parental Perspectives of a Childhood Obesity Intervention in Mississippi: A Phenomenological Study
Database	PubMed	PubMed	PubMed	PubMed
Journal	<i>Journal of Cultural Diversity</i>	<i>Association of Black Nursing Faculty</i>	<i>Obesity</i>	<i>The Qualitative Report</i>
Keyword	childhood obesity, overweight children, African American children, Mississippi, focus groups	obesity, overweight, African American, Mississippi, children, BMI		parental perspectives, childhood obesity intervention, family-based intervention, community-based intervention, phenomenology
Theory or framework	Descriptive thematic framework	The conceptual model was based on three-level approach to preventing and/or treating childhood obesity	Social theory	
Method	A panel of qualitative researchers and those with pediatric experience reviewed the focus group questions for appropriateness and clarity.	Data were collected via a descriptive, developmental study.	Random sample; Parental consent; Statistical analyses conducted on the 450 students with complete data.	Qualitative research methodology
Design	Qualitative	Qualitative and quantitative	Qualitative and quantitative	Purposeful sampling strategy

Population	African Americans in Jackson, Mississippi	Microcosm of the minority population of Mississippi	Southern community in Mississippi	Central Mississippi
Sample	17 children 8–11 years old and 17 parents	12 students ages 13–17	450 children ages 6 to 10; AA (63% control; 5*% intervention) Caucasians (37% control; 42% intervention)	32 participants, average age 11.2; 57% Caucasian, 40% AA, and 3% biracial (10 parents)
Purpose	The purpose of this study was to provide a framework for conducting focus group studies and to inform regarding the experiences of overweight AA children.	The purpose of this project was to develop the first weight control program and model specifically designed for AA children in the North Midtown area of the city of Jackson.	The purpose of the study was to apply the social learning theory to a school-based childhood obesity intervention program in a state where the rate of obesity is the highest in the nation, Mississippi.	The purpose was to explore the journey of the parents' experience with their children in a family-based community intervention program, The Youngest Loser.
Limitations	The data is self-reporting; the sample is non-random; group think behaviors might have influenced some participants responses; Participants primarily from families or relatives that worked for the medical center.	Self-reporting for some of the data; small sample size and 92% of the participant was 9th grade females; sample did not represent population	Methodological limitations include the use of self-and/or parent-report measures for physical activity and dietary fat intake.	First, the research targeted a selected population of one program for childhood obesity. The sample size was limited. The Youngest Loser is a new program.

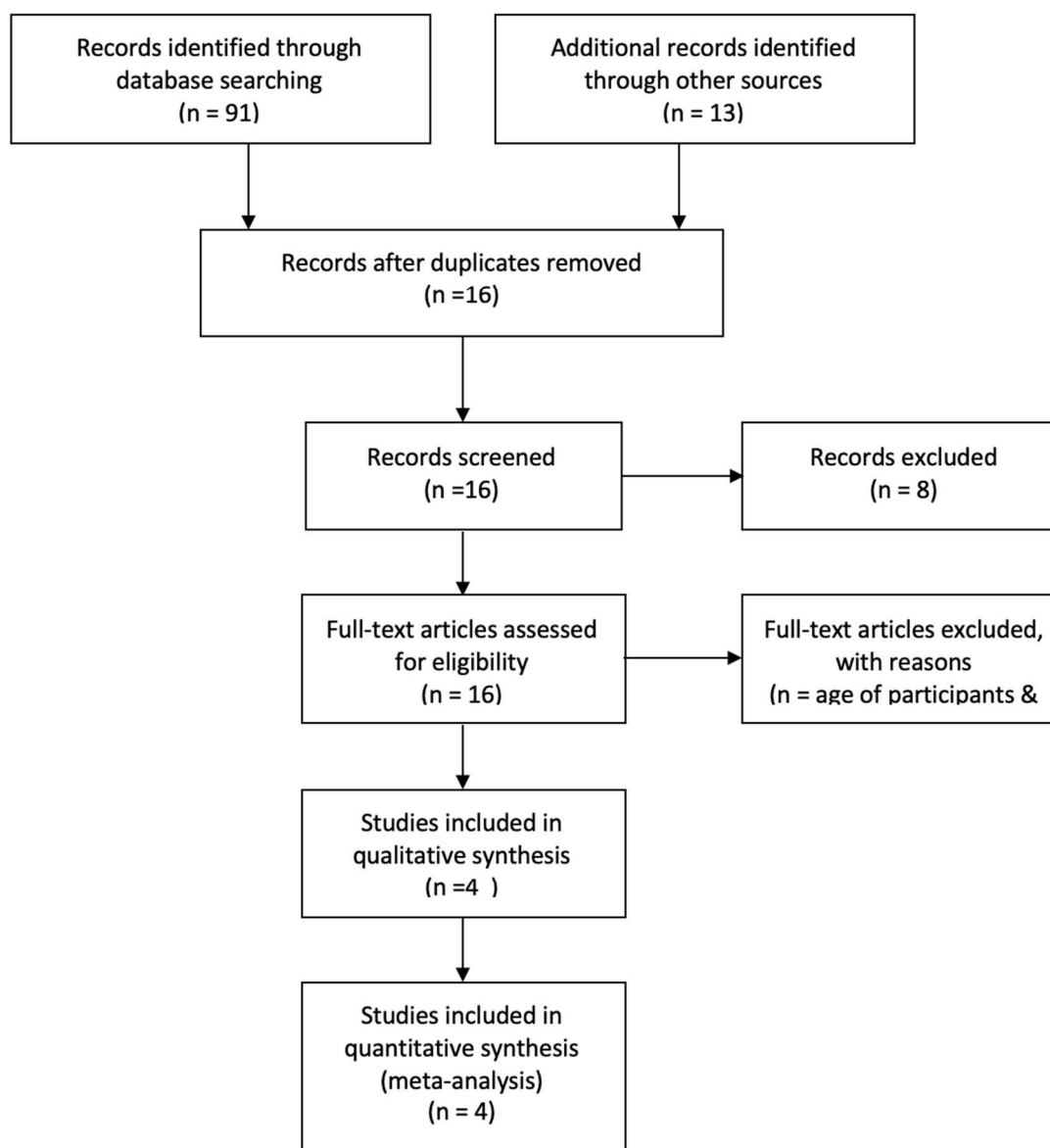
Results	Results suggest that children desire to lose weight but may not have the mechanisms at home or school to support this desire.	Results of the pilot project revealed the following changes among all participants: a decrease in BMI; a decrease in waist girth of greater than 4 inches; and positive behavioral changes as documented in the daily entries of the participants' food journal.	Evidence suggests that both boys and girls, and African American and white children can benefit equally from such interventions.	Parental influence is of utmost importance in the successes and failures in a childhood weight-loss program.
Implications	Implications for additional research include development of a quantitative measure which captures experiences of obese children from a variety of aspects such as social, economic, geographical and racial-ethnic.	To make significant contributions in the reduction of adverse health outcomes in African American children.	A population-based approach is recommended over a targeted approach to cultivate a culture of healthy lifestyle behaviors when children are developing their health-care habits.	Possible avenues for further research on this topic.
Author(s)	Tabak, Jones, Jacobs, Dobbs, Sutton, Dove, & Brownson	Zhang, Kolbo, Kirkup, Molaison, Hartbaugh, Werle, & Walker	Chang, Carithers, Leeke, & Chin	Burton, Wilder, Beech, & Bruce
Publication date	2013	2014	2016	2017
Title	Policy perceptions related to physical activity and healthy eating in Mississippi	Prevalence and trends in overweight and obesity among Mississippi Public School students, 2005–2013	Geographic disparity in funding for school nutrition environments: Evidence from Mississippi schools	Caregiver feeding practices and weight status among African American adolescents: The Jackson heart KIDS Pilot Study
Database	PubMed	PubMed		PubMed
Journal	<i>Nutrition policy, physical activity policy, public perception, obesity prevention</i>	<i>Journal of the Mississippi State Medical Association</i>		<i>Elsevier</i>

Keyword		childhood, overweight, obesity, trends		overweight, obesity, adolescents, funding, body mass index, waist circumference, Jackson Heart KIDS pilot study
Theory or framework	Telephone interviews with adult respondents were conducted using a random sample of 75% landline and 25% cell-phone numbers from residents living in 10 counties in Mississippi			
Method	Cross sectional, structured phone interview survey	Two-stage stratified probability design	In depth phone interviews of district child nutrition directors and school foodservice managers, which was matched to socioeconomic indicators of schools and communities	Interviews, Self-report questionnaire and survey. Data were drawn from the Jackson Heart KIDS Pilot Stud.
Design	10 counties in Mississippi (5 counties with the highest and 5 counties with the lowest obesity prevalence)	Cross-sectional	Qualitative research methodology	Qualitative and quantitative
Population	Random sample of 2,800 adults. 51% Caucasian (1,432), 45% (1,263) AA, and nearly 4% (105) were some other race	Mississippi Public School students	Mississippi	African American adolescents in Jackson Mississippi

Sample	Determine the public perceptions about policies related to physical activity and healthy eating to inform efforts to change policy for these important public health issues	41.8% (1,826) Caucasians; 53.4% (2,358) AA; 4.8% (218) other; students Grades K–12	811 schools	212 AA adolescents, ages 12–19
Purpose	Limitations include a cross-sectional design, which limits causal inferences. Secondly, the study design is not representative of state or national samples. The response rate for the sample was low. There may have been bias in those choosing to participate in survey.	The purpose of this study was to continue monitoring the prevalence of obesity and overweight among public school children amidst increased prevention.	About 56% of schools in the sample received some funds toward oven/steamers in the last few years. Small schools, schools in non-metro counties, and those in low-income minority areas were significantly less likely to be funded. Obtainment of funds was associated with a 45 percentage-point reduction in the probability of serving fried foods.	The aim of the study was to examine the associations among caregiver feeding practices and child health outcomes in a sample of AA adolescents from the southern United States.

Limitations	Study showed strong policy support among Mississippi residents for a diverse set of policies aimed at promoting healthy eating and physical activity behaviors	The study is limited it is not examining the extreme outliers on both ends of the weight spectrum.	The generalizability of findings beyond the southern United States. The main variables of interest were obtained from a single source: self-report questionnaires completed by caregivers. The study did not assess whether the reporting caregiver was a primary caregiver.	
Results	Future research efforts should investigate the use of such components to target social marketing campaigns, such as those aimed at building support for policy change.	There is a severe increase seen among racial minorities students	Funds obtained by schools for advanced food preparation technology contributes to creation of healthier nutrition environments for children. Funds availability is associated with community characteristics, possibly contributing to geographic disparity of child health.	Results from this study suggest that dietary and behavioral counseling focusing on feeding practices among African American caregivers should be tailored for age and sex of the youth.
Implications		Implications for future practice, policy and research	Future research should examine the role of culture in the caregiver feeding patterns, as differences may be related to traditions, values, and priorities	

Appendix B: PRISMA 2009 Flow Diagram



PRISMA documents are distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. Source: Moher et al., 2015.