10-6-2025

Dieticians’ Perceptions of Pediatric Obesity Education in Children’s Hospitals Located in Northeast Maryland

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This is to certify that the doctoral dissertation by

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September 2025

Abstract

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by

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MA, Walden University, 2019

BS, University of Liberia, 2010

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Services

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Abstract

Dieticians play a vital role in the fight against pediatric obesity in the United States. The purpose of this qualitative study was to explore dieticians' perceptions of internal and external reinforcements and barriers to childhood obesity interventions in children's hospitals within Northeast Maryland. The study was framed by the social cognitive theory described by Bandura. As applied to this study, the theory focuses on prevention and intervention strategies used by dieticians working in children's hospitals while offering educational interventions and other health care services. Interviews were conducted with eight dieticians with a minimum of 4 years working in children's hospitals located in the Northeast region of Maryland who were actively engaged in educational obesity services. Analysis of coded data yielded several emergent themes: nutritional interventions to foster healthy eating, motivational counseling to address the challenge of living unhealthily, dietary education for behavioral modification, encouragement to develop achievable goals to build patients' confidence, patient incentives and rewards for adoption of a healthy alternative lifestyle, health literacy programs among multidisciplinary clinicians, the use of appropriate languages and enhancement of health literacy, the challenge of addressing weight stigmatization, and dieticians as an educator. Positive social change may occur through health professionals' application of the findings to provide best strategies for addressing pediatric obesity. Understanding and applying the study's findings towards pediatric health services may improve policies and enhance interventions regarding healthy living and health literacy.

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Dedication

This study is dedicated to my dad, who passed away in June 2021; he helped me along the way up to his passing to pursue my dreams. He was supportive and my biggest inspiration, especially when I felt overwhelmed, and I am forever grateful for the time I spent with him. He always knew when I was struggling and instantly cheered me up. His empathy, kindness, and inspiring words always picked me up through my struggling days, and I am thankful. To my mom, siblings, and the rest of my family and friends, who helped me and were always willing to listen and cheer me up on this journey, thank you. Without you all, I would not have the courage and determination to acquire my doctorate to make a difference in the community and be an example to my peers at large.

Acknowledgments

I am profoundly thankful to Almighty God for bestowing upon me the courage, wisdom, and perseverance to complete this voyage. This accomplishment would not have been attainable without His direction and blessings. I dedicate this dissertation to the cherished memories of my deceased father, whose support, principles, and encouragement perpetually inspire me. Although he is deceased, his essence and teachings continue to illuminate my life. I wish to convey my sincere gratitude to my family for their steadfast love, patience, and understanding during this journey. To my confidants, whose sacrifices and prayers have consistently provided me solace, and to my siblings, who have supported me in myriad ways—thank you for your unwavering belief in me and for serving as my pillars of strength. This achievement belongs to you as much as it does to me.

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Chapter 1: Introduction to the Study

Pediatric obesity is a severe health problem in the United States and other developed countries (Hoelscher et al., 2022). Dieticians' roles in terms of combating pediatric obesity involve assessing, diagnosing, and providing treatment interventions. Registered dietitian nutritionists in children's hospitals develop and deliver theory-based nutrition and physical fitness education programs. Also, they implement environmental and policy changes in order to improve access to comprehensive lifestyle intervention (Holescher et al., 2022; Resniscow et al., 2024).

In Maryland, 17.6% of pediatric patients between the ages of 10 and 17 are obese, which means Maryland has the 10th highest rate in the nation, while the national obesity rate for the same group remains at 15.5% (Maryland Department of Health, 2020). Dietitians' interventions involve intensive and comprehensive lifestyle changes (dietary counseling, weight loss plans, nutrition education, nutrition assessment, meal planning, dietary diagnosis, and chronic disease management) for pediatric obesity trends in children's hospitals.

Intensive lifestyle treatment programs for pediatric obesity patients are more effective with greater contact hours and might require involvement of family members for services such as portion control, shopping and making of healthy meals, finding fun ways for patients to engage in physical activity, and enforcing less screen time (Davis et al., 2024; Samuels et al., 2023). Some dietitians provide comprehensive treatment intervention involving non-stigmatizing approaches to obesity treatment, tailoring cultural individualized treatment programs, motivational interventions that address physical and nutrition habits, setting of SMART goals, and tailoring obesity treatments to the needs of patients (Fowler et al., 2021; Saulsberry et al., 2020).

Standard intervention includes physical and nutritional guidance, comprehensive screening, referrals, anti-obesity medication, and surgery. Evidence-based data regarding dietitians' perceptions of care for pediatric patients in children's hospitals are needed. These standards might help improve intensive and comprehensive educational obesity programs for pediatric patients who are diagnosed with adult-onset diseases such as fatty liver disease, sleep apnea, and type 2 diabetes (Hitt et al., 2024; Puma et al., 2023). Failure to implement these recommended standards might result in pediatric comorbidities that might continue into adulthood (Stead et al., 2024).

Little or no data for long term follow-up regarding comprehensive and intensive obesity programs as well as inconsistencies and lack of access to pediatric obesity services further perpetuate pediatric obesity trends in Maryland (Newson et al., 2024; Obita et al., 2023; Oshman et al., 2023). Findings from this study could help enhance dietitians' knowledge regarding obesity health services as well as individualized treatment interventions and implementation of behavioral interventions in children's hospitals. This research might help provide more evidence-based data for anti-medication and surgical interventions. These interventions might enhance the development of individualized treatment according to needs of pediatric patients in children's hospitals in Maryland.

The Maryland Academy of Nutrition and Dieticians recommended dieticians in children's hospitals should follow evidence-based interventions and work within the scope of their programs. Dietitians should educate pediatric patients to follow through on obesity best practices and guidelines involving comprehensive and intensive lifestyle intervention (physical and dietary programs, comprehensive screenings, referrals, anti-obesity medication, and surgery as needed). Most obese patients in Maryland children's hospitals have developed unhealthy lifestyle behavior due to inconsistency in terms of treatment intervention (Maryland Department of Health, 2020). Furthermore, pediatric patients who have little or no access to intensive and comprehensive treatment may also be the reason for increased obesity trends in Maryland children's hospitals (Bomberg et al., 2023; Freeney et al., 2023; Yudkin et al., 2024).

In Maryland children's hospitals, obesity health services start with the intake process, insurance verification, and registration, which are all part of hospital policy and procedure guidelines. Furthermore, patients must complete questionnaires, consultation, and creation of SMART goals. Smart goals incorporate individualized obesity program plans. Two of the most used intensive pediatric obesity programs in Maryland are the POWER Kids Weight Management Program and IDEAL Weight Loss Program (Maryland Department of Health, 2020.)

These programs include educational group sessions on portion controls, healthy grocery shopping, fitness videos on cardio exercises, and educational healthy living pamphlets. Dietitians provide videos on healthy cooking portions, fluid intake control, and ways to engage in physical activity interventions. Additionally, dietitians in children's hospitals who are implementing the POWER Kids Weight Management Program and IDEAL Weight Loss Program may recommend follow up intensive and comprehensive lifestyle interventions along with rescreening and reevaluation of patients. Moreover, referrals may be recommended, as well as anti-obesity medication and bariatric surgery if needed (Yudkin et al., 2024).

Obesity programs implemented by dietitians in children's hospitals are only as effective when patients consistently follow through on recommendations and interventions (Kim & Burton, 2024; Maryland Department of Health, 2020; Puma et al., 2023). Moreover, some insurances do not cover all services within these programs, resulting in lack of consistency and follow-up on obesity health care services in children's hospitals. Dietitians in Maryland children's hospitals may prefer watchful waiting and may not follow up on pediatric obesity guidelines and hospital policies (Castillo et al., 2024; de Gooijer et al., 2023). Dietitians' lack of following up on pediatric obesity guidelines and policies may have also contributed to the high trend of pediatric obesity rates in Maryland children's hospitals (Conway et al., 2020; Kharofa et al., 2024; Robinson & Armstrong, 2024).

There are certain challenges in the provision of dietetic services, especially in low-income communities. Lack of pediatric obesity training, lack of time to provide effective and consistent obesity treatment, encountering of pushback from families, lack of insurance, and pediatric patients' unwillingness to adhere to healthy life choices are some of the major challenges when providing health services in children's hospitals (Johnson et al., 2023; Kim & Burton, 2024; Puma et al., 2023). Dietitians' perceptions of pediatric obesity treatment and comprehensive lifestyle interventions in children's hospitals are important to make effective improvements in pediatric obesity care services.

Background

Pediatric obesity trends are increasing despite treatment interventions, and as a result, children may have shorter life spans and may develop medical issues like diabetes, coronary disease, hypertension, high blood pressure, and cancer. Also, pediatric patients may face psychosocial issues like bullying, discrimination, stigmatization, and poorer quality of life (Caprio et al., 2020; Danquah et al., 2020; Fox et al., 2023; González-Álvarez et al., 2020; Kumari et al., 2023). Even though there is existing literature on pediatric obesity trends and treatment in the United States, there is little or no documented evidence on dietitians' perceptions of outcomes regarding pediatric obesity education as an effective health care services intervention in children's hospitals. Existing studies are mainly focused on treatment (anti-obesity medication or surgery), and less on dietician's role regarding provision of care (education on individualized care plan, counseling sessions, tailored meal plans, and education on evidence-based food and dietary intervention) as it pertains to health services provided by dieticians in children's hospitals (Braddock et al., 2023; Butt et al., 2023).

The literature does not entirely address dieticians' perceptions of educational interventions for pediatric obesity in children's hospitals, therefore justifying the importance of this research. This study may empower and provide expert guidance to dieticians to educate obese pediatric patients and their family members. Also, this study may provide evidenced-based data on pediatric obesity educational interventions and may educate family members regarding using available accessible resources to create a judgment-free and stigma-free environment, especially in children's hospitals within low-income communities (Maryland Department of Health, 2021).

Problem Statement

The increasing prevalence of pediatric obesity in children’s hospitals poses a significant issue for health care from the outset. The prevalence of obesity among U.S. children aged 5 to 17 doubled from 2016 to 2019 (Prvulovic et al., 2023). There is currently no verified treatment to effectively reduce pediatric obesity, which has increased from 18% to 22% between 2019 and 2023. The issue is that current research has documented little to no evidence regarding dietitians’ perceptions of consistent methodologies and outcomes related to comprehensive education for pediatric obesity. This gap limits the ability to assess dietitians’ views on intensive and comprehensive educational interventions for treating pediatric obesity in children’s hospitals, especially when using social learning theory (SLT) as the framework.

Pediatric obesity continues to rise due to inconsistent adherence to obesity health services and pediatric obesity guidelines at children's hospitals in Northeast Maryland (Deal et al., 2020). I examined dieticians’ perceptions of obesity health services and sustainable educational interventions related to pediatric obesity in children’s hospitals located in Northeast Maryland. Emerging evidence indicates that insufficient education on intensive and comprehensive lifestyle interventions, along with inconsistent recommendations from pediatric obesity programs, may contribute to the rising trends of pediatric obesity, particularly in low-income communities (Fyfe-Johnson et al., 2023; Jenssen et al., 2021)

Purpose of the Study

The purpose of this qualitative study was to explore dieticians' perceptions of health services provided by dieticians for obese pediatrics within children's hospitals in Northeast Maryland. Most studies on pediatric obesity show limited evidence of dietitians' consistent methodology and outcomes regarding pediatric obesity treatment, particularly within health services programs in children's hospitals. Several studies have been conducted on pediatric obesity (Bruni et al., 2019); however, this study sets itself apart by focusing on dietitians' perceptions of best practices within children's hospitals. Specifically, it examines the opinions of dietitians regarding the most sustainable and recommended health care service programs for treating pediatric obesity in children's hospitals in Northeast Maryland. This study is significant as it provides valuable insights into dietitians' perceptions of interventions related to pediatric health services offered by dietitians in children's hospitals, both in Northeast Maryland and across the United States.

Research Questions

The research questions (RQs) for this study were as follows:

RQ1: What are the dieticians' perceptions of the internal and external reinforcements that positively and negatively affect the pediatric patients' behavior change? How do the dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change? (reinforcements)

RQ2: What are the main gaps or barriers identified by dieticians in the treatment of pediatric patients who are obese? What improvements do they recommend in the treatment of pediatric patients who are obese?

Conceptual Framework

This study's conceptual framework is reciprocal determinism, which is from the social cognitive theory (SCT) that Bandura (1986, 2019) founded. This explorative study focuses on dietician perceptions (self-monitoring), lived experiences (self-judgment and foresight), and focuses on self-regulation as an encouragement for behavioral change (self-evaluating). The SCT suggests how people are shaped by their environment as new knowledge and experiences emerge. The SCT method applies to this research since it allows for a focus on dieticians' perception of behavioral change by informing obese pediatric patients of essential nutrition information; helping to motivate obese pediatric to change; and providing them with the skills, techniques, and strategies necessary to accomplish the change for pediatric obesity through semi structure interviews. The SCT has been used on numerous occasions for nutritional and weight interventions for low-income populations. The study will assess dieticians' perception of the most sustainable treatment intervention using the SCT. The SCT will be used as the framework for intensive and comprehensive educational interventions toward obesity in children's hospitals within northeast Maryland.

Nature of the Study

To answer the RQs of this study, I employed a descriptive qualitative approach. By utilizing open-ended questions, this method will illuminate the perceptions and social phenomena surrounding educational interventions in children's hospitals located in low-income communities. A descriptive qualitative study aims to explore and provide deeper insights (Yin, 2015). This design will facilitate a better understanding of how dieticians think and deliver services to pediatric patients.

Alternatively, a phenomenological qualitative approach could be used to investigate dieticians' experiences and perceptions of enhancing parental involvement in the care of obese pediatric patients. This approach could also help to connect the theoretical framework with the research method through thematic analysis (Paponetti et al., 2023). Additionally, it could broaden the understanding of the lived experiences of perception, which reflects an interpretation of the mind and the surrounding world, aiding in the thematization of meaning (Merleau-Ponty et al., 2013).

Nonetheless, a descriptive qualitative study is beneficial for gathering insights into experiences, perceptions, and behaviors related to intensive and comprehensive interventions in Maryland children's hospitals. The researcher will analyze, transcribe, and categorize the collected data to generate themes. The participants were eight dieticians working in children's hospitals in low-income communities in and around northeast Maryland. I used in-depth interview questionnaires, and with the approval of participants and of the Walden University Institutional Review Board (IRB), interviews were audio recorded. The data were hand-coded to identify themes. A thematic analysis ensured that the verbatim transcripts aligned appropriately with the focus of the childhood obesity study.

Definitions

The following keywords are used in this study.

Children's hospitals: This term refers to health facilities where dieticians render services and other best practices to obese children to improve how they live and to reduce health-related issues (O'Connor et al., 2019).

Dieticians: For this research, the term refers to qualified health care personnel involved in the clinical practice of medicine. Dieticians offer crucial expertise for the ongoing management of nutritional and dietary needs. They conduct sessions on food portions and mealtime protocols and support obese children in adhering to interventions aimed at promoting a healthy lifestyle (Finlayson et al., 2021).

Exercise: This term involves being active and being motivated through physical activities related to sustained health and mental benefits. It comprises of mind and body wholesomeness and a better quality of life (Dohnalová et al., 2022).

Health care organizations: Individuals may often call it a health facility, a place where services for improving life and wellbeing often happen. Health care organizations provide offerings to patients via clinical authorities like nurses, doctors, pharmacists (Centers for Disease Control and Prevention [CDC], 2021).

Nutrition: For this study, this term is considered as “the prevention, diagnosis and management of nutritional and metabolic changes related to acute and chronic conditions caused by lack of or excess of energy and nutrients” (Markoulli et al., 2023, p. 68).

Obesity: One is called obese or has a health issue called obesity when their body mass index (BMI) is 30 and more in excess fat their body has produced, which can lead to other emergent or non-emergent physical or mental problems (Bays et al., 2021).

Pediatricians: For this research study, a pediatrician is a doctor who worked or specialized in working with individuals from birth to on or before the age of 21 years. Pediatricians detect, manage, and prevent health issues relating to or that affect one’s way of living healthy and well (Finlayson et al., 2021).

Pediatric obesity: This term refers to when a child’s height and age does not correspond with the desired weight. It causes children to be susceptible to many different health and related issues because of the extra weight on their bodies (CDC, 2021).

Assumptions

The researcher was confident that individuals selected to participate in the obesity study provided verified and accurate responses, recalling their experiences and perceptions of educational interventions for pediatric obesity in relation to the most sustainable treatment strategies. The researcher also assumes that participants who have worked in children’s hospitals in northeast Maryland, particularly in low-income communities, possessed effective educational approaches and optimal treatment strategies based on their experiences with obese children in these settings. The researcher believed that this study on pediatric obesity may contribute to reducing the trend of obesity in low-income communities and improving treatment in children's hospitals. Furthermore, it is assumed that dieticians working in these hospitals will be fair and reliable when discussing obesity treatment and their responsibilities within their respective institutions. The dieticians were expected to perform their due diligence regarding the services offered to pediatric patients and had the potential to influence how obesity treatment was delivered.

Scope and Delimitations

The scope of this research study focuses on dieticians' perceptions regarding the provision of adequate education to pediatric patients and their perceived success in implementing sustainable obesity treatment through educational interventions in children's hospitals located in northeast Maryland. The researcher intended to select clinicians, particularly dieticians, who were employed in children's hospitals within low-income communities in and around northeast Maryland. These dieticians have been chosen due to their direct involvement with obese children and the existing gap in research concerning their perceptions of educational interventions for pediatric obesity and the most sustainable treatment strategies, particularly in low-income settings. The researcher excluded gynecologists and urologists from the study.

Additionally, dieticians who have not worked in children’s hospitals, especially in low-income areas, and those with less than 3 to 4 years of experience was not included in the study. The expected outcome of the study may yield evidence-based data that could improve the methods dieticians used to deliver sustainable obesity treatment services across the United States. Transferability was an important aspect of the study, as it aimed to provide evidence-based information applicable to similar research efforts.

Limitations

Having eight participants presented a limitation for the study. However, the qualitative method restricted the number of participants due to the time-consuming nature of data collection (Rahman, 2020). This sample size was intentionally chosen to explore the various treatment services provided by dieticians while also aiming to reach a point of data saturation. The findings from this research could be transferable to interventions related to pediatric obesity within children's hospitals in other low-income communities or local health departments in Maryland.

The potential for bias among dieticians also represents a limitation in the educational intervention, particularly regarding their perceptions of how sustainable obesity treatment was implemented. Bias from dieticians toward children with obesity can negatively impact their health (Auckburally et al., 2021). Such bias affects the relationships and communication between providers and patients, ultimately influencing patient outcomes. It may result in dieticians behaving unprofessionally or judging their patients internally (Auckburally et al., 2021). Furthermore, dieticians may lack respect for pediatric patients, believing that their weight issues stem from a lack of willpower to eat or exercise appropriately (Browne & Cuda, 2022). Education has been shown to significantly perpetuate weight bias among medical professionals (Rathbone et al., 2023). It is recommended that with comprehensive education on obesity, dieticians can reduce discrimination against their patients, which may enhance the effectiveness of the educational intervention process.

Researcher biases represent another limitation. Having worked with low-income children, one in four of whom are obese, I recognize the need to minimize bias. To achieve this, I will collaborate with dieticians individually to prevent the sharing of information among them. I will develop in-depth interview questions to gather data that accurately reflect each participant's perceptions.

Another limitation arises when there is inconsistency in participants' responses. If the study cannot be verified through rechecking the data, it may lack dependability (Rahman, 2020). Inconsistencies can render the data less credible, presenting a challenge for the study. To ensure consistency, I thoroughly checked and re-checked all data (Janis, 2022). Reflexivity was employed to confirm alignment between the data, RQs, and the overall purpose of the study. This process included data analysis, instrument improvement, management of the RQs, and addressing research bias, all of which contributed to enhancing dependability (Florczak, 2021).

Significance

The data gathered from this research regarding dieticians' perceptions and educational interventions about sustainable obesity treatment can assist other dieticians working in low-income communities in producing evidence-based research for pediatric obesity. The findings may be utilized to develop new interventions aimed at enhancing dieticians' perceptions and implementing educational best practices related to obesity. This research could inform new policies and regulations that may be adopted by pediatric hospitals in low-income areas to improve educational interventions for services provided by dieticians. The implementation of these policies has the potential to significantly impact the outcomes for obese children.

Implications of Social Change

This research finding has the potential to positively influence social change, as excessive unprocessed fat in the body is a significant concern in the United States and places a burden on the health care system (Henderson, 2021). By examining dieticians' perceptions of sustainable pediatric treatment, health care organizational leaders may enhance policies related to services provided to pediatric patients and implement educational best practices for sustainable obesity treatment in health care organizations throughout northeast Maryland. Additionally, this research can foster social change by assisting dieticians in developing sustainable approaches to pediatric obesity treatment that may improve the lives of children, particularly in low-income communities.

Evidence-based findings can be utilized to address inconsistencies in intensive lifestyle modification treatments in northeast Maryland. Pediatric obesity treatment, which primarily focuses on lifestyle interventions, may help mitigate stigma and discrimination faced by obese pediatric patients. This study may also encourage residents to adopt healthier eating habits and engage in exercise, benefiting their overall health and wellness, while supporting dieticians in enhancing pediatric obesity services offered in children's hospitals across northeast Maryland.

Summary

Treating excess abnormal fat is more expensive than treating patients with a normal BMI due to the resources required, which may include educational sessions led by dieticians to help manage pediatric conditions (Kinge & Morris, 2018). This research suggests that dieticians working with pediatric patients need access to appropriate resources and channels to coordinate interventions and manage obesity effectively, using best practices and educational materials tailored to their specific needs. This aligns with the current study focused on children's hospitals, which will explore how education and dieticians' perceptions can influence health services related to sustainable pediatric obesity treatment in northeast Maryland.

In Chapter 1, I briefly discussed the standard of care guidelines and best practices that dieticians are expected to follow when providing health services to pediatric patients. The American Academy of Pediatrics (2023) and Academy of Nutrition and Dietetics (2022) guidelines are adhered to by most dieticians in children's hospitals throughout

Maryland for pediatric obesity intervention (MD., 2023; Muth et al., 2023). This includes conducting initial assessments and developing individualized educational treatment plans.

Dieticians also provided referrals, education on anti-obesity medications, and information regarding bariatric surgery when necessary. Furthermore, educational interventions should consist of up to 26 hours of coursework and best practices over a period of 3 to 12 months, focusing on in-person, family-based, multicomponent treatment. Chapter 1 also highlighted how dieticians in northeast Maryland deliver pediatric health services, with a particular emphasis on physical assessments and initial evaluations. I recommend that dieticians in this region engage in nutritional counseling and offer one-on-one or group sessions for pediatric patients and their family members.

I introduced SCT as the study's conceptual framework. Dieticians can utilize the SCT to inform nutritional interventions and obesity prevention strategies, thereby enhancing services within children's hospitals. The SCT emphasizes the adaptation to one's environment and the imitation of role models. The literature points to poor diet and physical inactivity as significant contributing factors to pediatric obesity. Additionally, lifestyle intervention is identified as a vital component of the SCT. In Chapter 2, I will explore the literature supporting the RQs focused on educational interventions and the perceptions and concerns of dieticians regarding the implementation of best practices for obesity. The researcher will identify the gap that this study intends to address, outline the literature strategy, present the conceptual framework, and provide an evidence-based literature review.

Chapter 2: Literature Review

Introduction

The literature review for this research focuses on pediatric obesity, dietitians' perceptions, and educational interventions aimed at sustainable obesity treatment in children's hospitals in Northeast Maryland. The objective of this qualitative study was to explore dietitians' perceptions of intensive and comprehensive educational interventions related to the health services they provide for obese pediatric patients in these hospitals. This analysis is based on SCT. A notable gap identified in the existing research was the necessity for pediatric obesity treatment to be approached through educational interventions that fostered the most sustainable treatment strategies in children's hospitals across Northeast Maryland.

This chapter centers on a pediatric obesity study informed by SCT, investigating the treatment of pediatric obesity and the crucial role of dietitians in delivering intensive and comprehensive lifestyle interventions. It also reviews evidence-based research that highlights the rising prevalence of pediatric obesity, particularly in low-income communities. Furthermore, Chapter 2 emphasizes the role of dietitians in the assessment, diagnosis, and treatment of pediatric obesity, pointing out the value of adhering to established care guidelines. This chapter also outlined the literature search strategy, defined the conceptual framework, and conduct a thorough investigation of relevant concepts related to pediatric obesity.

Literature Search Strategy

I searched the national dietician and childhood six obesity peer-reviewed journals, PubMed Central, CINAHL Plus & MEDLINE, ProQuest Health, the Journal of Family Medicine and Primary Care, the National Heart Blood & Lungs Institute Website, The American Academic of Pediatric Website, Walden Health Services databases, & SAGE Journal, Academy of Nutrition and Dietetics website, Goggle Scholar, and the Department of Health's website. Keyword search terms used to find evidence-based literature on pediatric obesity included the following: *obesity*, *health care organizations*, *pediatrics*, *prevention and interventions*, *clinicians*, *perception*, *educational intervention practices*, *intensive treatment*, *dietician bias*, *health services*, *dieticians*, *assessment, treatment*, *diet*, *nutrition*, and *pediatric obesity.*

I gathered evidence-based data from 2019 to 2024. The most recent references from the last 5 years were utilized, along with older references when discussing the trend of pediatric obesity. The main sources used for this research are PubMed Central, the Journal of Family Medicine and Primary Care, the National Heart Blood & Lungs Institute Website, CINAHL Plus & MEDLINE, ProQuest Health, the Academy of Nutrition and Dietetics website, Google Scholar, Walden Health Services databases, SAGE Journal, and the Department of Health's website. Additionally, the search process includes repeatedly verifying citations and references used in similar studies on pediatric obesity. This step is essential to confirm that this study addresses the research gap concerning the need for sufficient evidence regarding treatment interventions for pediatric obesity.

Conceptual Framework

This study's conceptual framework was based on reciprocal determinism; a principle derived from Bandura's (1986) SCT. The reciprocal determinism framework examined the interplay between personal beliefs, individual behavior, and the surrounding environment. It illustrated how these elements influenced one another and how an individual's behavior can shape their actions. The environment can influence an individual's behavior in both positive and negative ways. The environment has the power to shape behavior, which in turn can either impact or improve an individual's lifestyle. The reciprocal determinism framework has been applied to intensive and comprehensive lifestyle interventions aimed at altering specific outcomes in various situations. At the core of the framework are the concepts of self-efficacy and outcome constructs.

Outcome expectancies referred to how individuals perceived the potential results of a situation before engaging in a specific behavior. These anticipated outcomes can significantly affect the effectiveness of that behavior. Such expectations primarily stem from past experiences but also depend on the value assigned to the outcome, which may vary based on individual motivation. Outcome expectancies were particularly relevant in the context of prevention and intervention strategies used by dieticians in children's hospitals, especially during intensive lifestyle interventions. These strategies may include counseling sessions, one-on-one dieting classes, group therapy, and educational materials on healthy meal plans and exercise.

In contrast, *self-efficacy* referred to a person's belief in their ability to control or perform a specific behavior at a given time. This concept is often employed in interventions related to behavioral change fundamentals. Motivation greatly influences self-efficacy; individuals who believed they could achieve their intended goals were more likely to succeed. It encompasses aspects of behavior, emotions, and motivation. People with high self-efficacy tend to be more persistent and were less likely to give up on their goals. They usually demonstrated confidence in their ability to manage their behavior, exert influence over their environment, and maintain motivation toward achieving their objectives. Additionally, the observational construct is vital, as it involves four important factors:

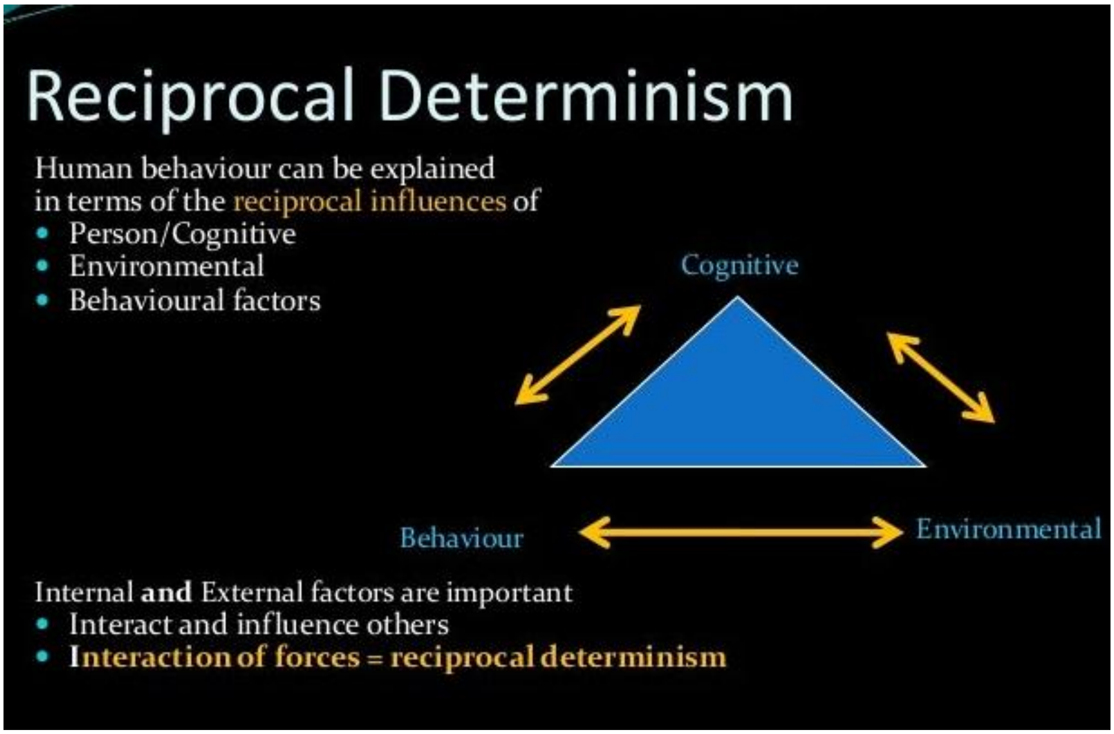
- Attention: In order for a person to follow direction or best practices, they would have to pay attention.
- Retention: After paying attention or engaging with the material, information about best practices and interventions must be stored in memory.
- Reproduction: Once the information is stored, the observer must be able to perform or replicate what was observed.
- Motivation: The observer's drive to achieve a desirable outcome based on specific circumstances.

Reciprocal determinism (see Figure 1), a key concept from SCT, has frequently been applied in nutritional and weight interventions targeting low-income populations. Bandura (1986, 2019) is credited with developing SCT. The concept of reciprocal determinism within SCT was utilized to create healthy eating programs and personalized health and wellness plans for individuals facing obesity and related challenges. Luszczynska and Schwarzer (2020) noted that SCT encompassed various constructs:

- Reciprocal determinism: A core principle of SCT that illustrates how an individual's behavior, their environment, and the surrounding context influence each other in a dynamic and reciprocal way.
- Self-efficacy: The belief that one can control or execute a specific behavior
- Expectations: The anticipated outcomes related to how individuals behave or are expected to behave
- Observational learning: The process of learning by observing and reproducing the actions of others. A fundamental aspect of SCT is that individuals learn by watching others.

Figure 1

Reciprocal Determinism



Note. Figure 1 of reciprocal determinism shows a key concept from SCT that had frequently been applied in nutritional and weight interventions targeting low-income populations. Also, it showed how childhood obesity was adapted in stages from personal cognitive, environmental, and behavior factors.

At the children's hospitals in Maryland, dieticians utilized observation, modeling, and outcome expectation constructs when tailoring diet plans for pediatric patients, ensuring that these plans aligned with what was important to the children and their families. It was recommended that dieticians deliver effective diet plans, conduct regular follow-ups, provide referrals, and offer education on lifestyle changes. This included screening and prioritizing referrals to identify the necessary types and scope of interventions. Dieticians interpreted diet histories to calculate nutrition prescriptions and engaged in daily consultations with other care team members, contributing to a comprehensive care plan.

Dieticians formulated nutrition care plans, offered nutritional counseling in group settings or one-on-one, and monitored and adjusted these plans as needed. Through educational sessions and lifestyle intervention plans, dieticians emphasized the importance of parents modeling healthy lifestyles, as children often emulated the behavior of their family members through observation and modeling. This construct related to the imitation of others' behaviors and encompasses several factors, including retention, attention, motor reproduction, and motivation. These elements were crucial for addressing pediatric obesity.

The provision of more resources and information regarding obesity treatment enhanced individuals' health decision-making (Schunk & DiBenedetto, 2020). SCT expanded on SLT by asserting that learning occurs through observation and the application of effective intervention strategies. The purpose of this qualitative study was to explore dieticians’ perceptions of health services provided by dieticians for obese pediatrics within children’s hospitals in Northeast Maryland. This research focused on identifying and exploring the most effective health services through educational interventions, treatment strategies, and dieticians' perceptions of the significance of intensive lifestyle modifications. Intensive lifestyle modifications included cooking classes and one-on-one nutritional sessions and physical fitness exercises. It was recommended that the intensive session classes should last from 3 months up to a year, making this framework relevant for this study because SCT dealt with observation and learning as well as the imitation of others.

Literature Review Related to Key Variables and/or Concepts

Despite numerous health services and pediatric obesity interventions, including intensive lifestyle changes, referrals, anti-obesity medications, and recommendations for obesity surgery, pediatric obesity continued to rise daily (Torbahn et al., 2024).

Historical Context of Pediatric Obesity

Before the first national surveys conducted in 1963, there was little to no research on pediatric obesity. These surveys revealed that the distribution of pediatric BMI remained stable from the 1960s to the 1980s before rising significantly in the 2000s (Cole et al., 2020). Over the last several decades, pediatric patients from low-income communities have experienced an increase in obesity for various reasons: unaffordable access to resources compared to their peers, the longstanding belief that obesity is inherited from family members (familial influences) (Elks et al., 2012), and a shortage of certified dieticians, which has exacerbated pediatric obesity and made it difficult to receive treatment. Pediatric patients in low-income communities have higher rates of obesity, premature death, and disability into adulthood (Chung et al., 2023).

Furthermore, trends in pediatric obesity have worsened in low-income communities due to a lack of access to information about healthier lifestyles and limited educational interventions focused on pediatric obesity (Komlos & Brabec, 2010). Obese pediatric patients in low-income or rural areas often have restricted access to healthy nutritional resources and face financial barriers, such as limited funds for transportation to children's hospitals, which hinders their ability to afford obesity treatment due to a lack of money or insurance (Fowler et al., 2021; Pope et al., 2023). Additionally, pediatric patients and their families often lack knowledge about available interventions and treatments because they have minimal access to dieticians or health care clinicians, as well as limited information regarding pediatric obesity (Rosenbaum & Leibel, 1989).

Research indicated that dieticians did not provide services for pediatric obesity in previous decades due to their limited understanding of treatment and interventions related to this condition (Flegal et al., 1998). Prior to the 1960s, health clinicians believed that pediatric obesity was not a significant trend compared to the situation in the 2000s. Schonfeld and Warden (1997) noted that our understanding of the causes of pediatric obesity was incomplete; however, they indicated that recent advancements in the biology of obesity had introduced new concepts that may had enhanced our understanding of the causes and treatment of pediatric obesity.

The United States Preventive Services Task Force (USPSTF), along with the Agency for Healthcare Research and Quality, conducted a comprehensive review regarding the assessment and treatment of pediatric obesity, excluding grandfathered plans that have been in effect since 2010 (Cook et al. 2005; USPSTF 2010; Whitlock et al., 2010). The grandfathered plan required clinicians to screen pediatric patients aged 6 and older and provide intensive lifestyle interventions to encourage healthy lifestyle choices. However, research indicated that dieticians have consistently faced numerous barriers in the treatment of pediatric obesity over time. Key challenges included the need for extensive coordination of pediatric obesity care, clinical-community integration, and adequate education for dieticians specializing in pediatric obesity care (Klein et al., 2010; Story et al., 2002), along with the necessity for insurance coverage for comprehensive pediatric obesity treatment (Caprio, 2006).

Additionally, disparities may exist during the treatment phase of pediatric obesity. Cunningham et al. (2022) highlighted that pediatric patients from low-income communities or certain racial backgrounds (specifically Hispanic or Black) experienced limited success in pediatric obesity treatment due to starting interventions later and potential genetic factors. The research findings also suggested that the American Academy of Pediatrics' recommendations to adopt a life course approach early in the lives of pediatric patients contributed to primary prevention efforts for pediatric obesity (Daniel et al., 2015).

In previous research regarding the treatment of pediatric obese patients, it was concluded that structural racism and racial discrimination were two of the main causes of disparity in pediatric obesity treatment (Powelle-Wiley et al., 2022). Further studies mentioned that immigrant concentration may also serve as a buffer to pediatric obesity, especially in low-income communities (Baez et al., 2023). While another study concluded that the trend in nutritional and physical patterns shifted globally, the impact of pediatric obesity increased drastically among pediatric patients in low-income communities due to a lack of access to educational intervention regarding obesity treatment. The researchers concluded that there was an increased in the trend of obesity among patients with a high school education or less compared to those with degrees (Forse et al., 2020).

There have been many research studies regarding the treatment of pediatric obesity (Bomberg et al., 2023; Epstein et al., 2023; Szczyrska et al., 2023). A few research studies concluded that dietary interventions could help with the pediatric obesity trend, while others indicated that physical activities combined with dietary intervention could be effective (Khalafi et al., 2023; Mead et al., 1996; Obita et al., 2023). However, there has been no definite one-stop treatment for pediatric obesity. Lifestyle interventions and physical activities are effective strategies for treating pediatric obesity.

However, according to Herouvi et al. (2023), the use of pharmacological intervention should also be considered more often alongside that of intensive lifestyle modification. A few clinical research trials also concluded that intensive lifestyle intervention involving increased physical activity and dietary intervention alone wasn't successful in certain patients until treatment like anti-obesity medication was given (Denova-Gutiérrez et al., 2023; Hampl et al., 2023; Torbahn et al., 2024). Evidence from this research study may help validate effective pediatric obesity treatments in children's hospitals by incorporating dieticians' insights and all collected evidence-based data.

Social Cognitive Theory

Theory Origin

In this study, I applied the SCT associated with the renowned psychologist Albert Bandura from the 20th century (Bandura 1989). His work emphasized observational learning, self-efficacy, and an approach to understanding human behavior. Other theorists like Julian Rotter and the American psychologist for personalities, Walter Mischel, have also influenced the development of the SCT by proposing different social-cognitive strategies. Julian Rotter and the American personality psychologist Walter Mischel have proposed different social-cognitive perspectives. Rotter's main idea emphasized the importance of experience, perceptions, and beliefs about the present situation, which are essential for addressing challenges in an individual's life (Rotter 1989). Furthermore, Walter Mischel developed the second cornerstone of SCT when he questioned the adequacy of personality theory. (Mischell, 1968). Rotter's SCT theory has effectively employed the concepts of experience, perception, and beliefs in several studies on nutritional interventions.

The main construct from those studies is important to nutritional best practices, which include learning by observation, reinforcement, self-control, and self-efficacy (setting of goals) (Coccia et al., 2020; Peterson et al., 2021; Schwarzer & Fuchs, 1996). Another important SCT construct that has effectively made a difference in nutritional and physical intervention is reciprocal determinism (Bandura, 1978). Reciprocal determinism is when a person sees themselves as both a change agent and a responder. This current study may benefit from this framework in that it effectively helped with treatment interventions for pediatric obesity in children's hospitals, as evidence-based findings are needed for all best practices, especially nutritional and physical interventions. The SCT framework may help dieticians incorporate activities like cooking demonstrations, fitness activities, and self-monitoring into an individualized treatment plan for all obese pediatric patients no matter their social and economic status.

Bandura's Social Cognitive Theory

The conceptual model employed in this research is based on the SCT developed by Bandura (1986, 2019). This theory emphasized the significance of positively adapting to our environment by observing the behaviors of others and reflecting on our responses. According to Bandura (2019), individuals are responsible for their actions and their willingness to change. He also pointed out that a person's past attitudes may or may not affect their current behaviors. The SCT model is widely recognized for its application in health interventions, particularly in areas such as healthy eating, effective exercise strategies, and appropriate meal portion sizes (Bagherniya et al., 2018). SCT effectively points to the value of implementing best practices in health service delivery aimed at reducing the prevalence of obesity in children.

This model is based on three essential constructs designed to enhance individual habits and improve the quality of care received. The first construct emphasized the individual as a whole, taking into account factors such as age and past behaviors related to healthy living. The second construct focused on the interactions among family members and caregivers, as well as the individual's community and their effective utilization of community resources. Lastly, the model examined the outcomes resulting from an individual's responses to their community, their interactions with loved ones, and their long-term achievements in maintaining a healthy lifestyle.

A critical aspect of SCT is that individuals learn about the world through three distinct processes: direct observation (being shown how to act or practice something), modeling (imitating the habits of others), and enactive experience (gaining positive or negative feedback from one's actions) (Bandura, 1986, 2001; Bandura et al., 2003; Bussey & Bandura, 1999). Another key principle of SCT relevant to this study is that individuals develop a preconceived sense of self, shaped by social and environmental factors, which can influence their daily behavior, particularly regarding their motivation to change based on their circumstances (Kitayama et al., 1997). Additionally, another concept within SCT that impacted this research is that people's behaviors and actions can be influenced by their performance in pursuing specific goals, highlighting the importance of performance accomplishment. As a result, success in self-regulation relies on the ability to consistently self-monitor and recognize one's progress (Bandura & Simon, 1977).

Performance accomplishments within the framework of SCT relate to an individual's attitude and ability to act, whether positively or negatively (Bourne et al., 2021). This research explored dieticians' perceptions of educational interventions based on their experiences treating pediatric obesity in children's hospitals. Their insights are crucial for assisting obese children seeking health services in children's hospitals located in low-income communities, highlighting the importance of personal experiences in learning and ownership of one's health journey. Successes experienced by dieticians may enhance their perceptions of effective treatment interventions that can positively impact the obese community, while experiences of failure could diminish self-efficacy. When individuals encounter setbacks in their efforts to lead a healthy and quality life, their dietician can implement a new, tailored strategy to improve the services that were provided.

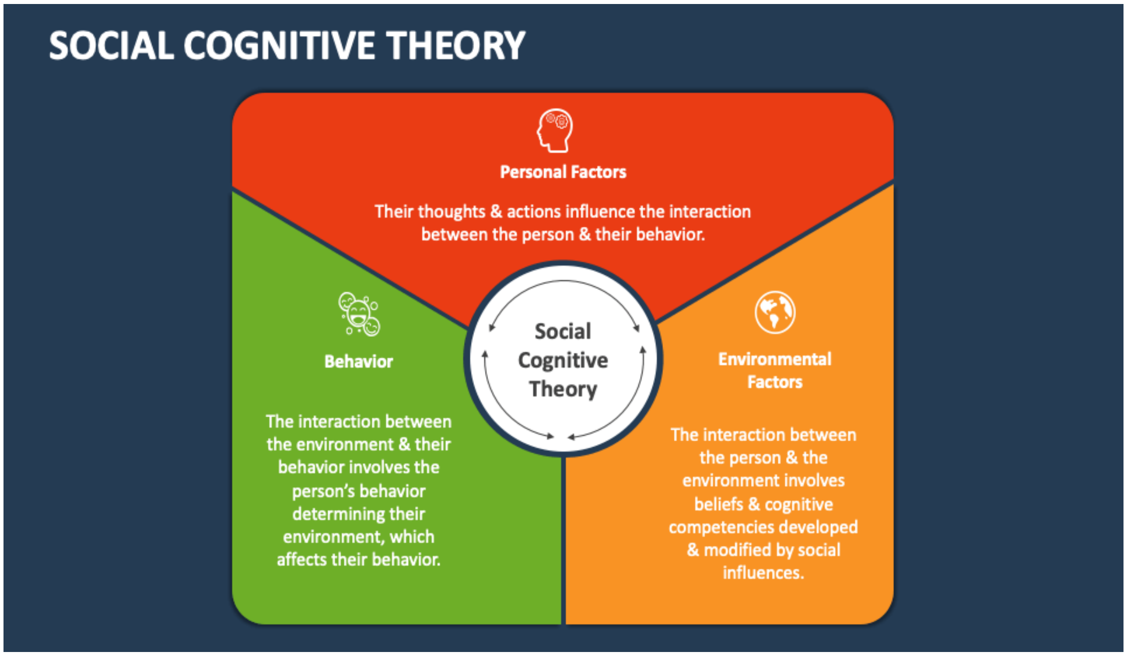
Moreover, Warner and French (2020) noted that vicarious experiences involve individuals serving as role models, sharing insights about factors that influence expected lifestyles. Healthy living habits should ideally be adopted by people, and obese people should be able to follow the example set by their family members. This researcher concentrated on the SCT concepts of observational learning, modeling, and enactive experiences, utilizing direct information from dieticians regarding their perceptions and educational interventions aimed at treating pediatric obesity in children's hospitals within low-income communities in Northeast Maryland.

SCT principles asserted that an individual's performance can influence their behavior and actions (see Figure 2). These theories also assisted researchers in examining how a person's responses to their environment impact their surroundings. Individuals may choose to purchase healthy foods or opt for fast food from local establishments. The actions of others often motivate people, leading to either positive or negative consequences (Bandura, 2019). SCT has been incorporated into research studies that explored educational interventions for healthier living, particularly in pediatric obesity treatment.

The intervention encompassed educational resources such as pamphlets and newsletters designed to educate obese children and their families about healthy habits, exercise recommendations, appropriate screen time, and other practices vital to overall well-being. These best practices aimed to enhanced quality of life, promoting safety and a healthy state of mind and body (Bagherniya et al., 2018). The emphasis on best practices brought attention to the relationship between dieticians, obese children, and their families. Obese children and their families relied on dieticians for accurate information and guidance regarding the child's health.

Figure 2

Social Cognitive Theory



Note. Figure 2 highlights the SCT principles that assert an individual's performance that can influence their behavior and actions. These theories also assisted researchers in examining how a person's responses to their environment impacted their surroundings

Pediatric Obesity

A child is considered obese when their weight is significantly higher than what is appropriate for their height and age, indicating poor health (CDC, 2021). Numerous health and real-life issues confront obese children. The CDC (2021) noted that as pediatric obesity continues to rise, it creates challenges in the health sector and places a strain on the economy. As these pediatric patients transitioned from obese children to obese adults, they faced various issues resulting from excess body fat. These patients suffered from cardiovascular and other medical conditions linked to their weight (Vazquez et al., 2020). Everyone plays a role in addressing obesity in children (Caprio et al., 2020). Pediatric patients often look to their family members for guidance at home. In school, they interacted with peers and observed their eating habits and activities, while in hospitals, they relied on dietitians as long as trust and a beneficial relationship are established. Therefore, it is crucial to take pediatric obesity seriously, as the trend continues to rise daily (Caprico et al., 2022).

Obesity is characterized by a lack of control over excess body fat (Lanigan et al., 2019). Obese children frequently come from families that engage in unhealthy habits, and they often view their living environment and family genetics as significant contributors to their obesity (Lanigan et al., 2019). It is recommended that interventions focusing on exercise and balanced meals may help prevent obesity. Without effectively managing the factors contributing to obesity, the number of obese children is likely to increase, leading to more obese adults.

Obesity ranks second in terms of mortality in the United States (Rakhra et al., 2020). Additionally, it has a significant economic impact, with estimates around $147 billion annually. The financial burden of obesity often leaves families with unmanageable medical bills. Despite ongoing data collection and intervention efforts, the trend of pediatric obesity in the United States continues to rise. Rakhra et al. (2020) emphasized that lifestyle choices contribute significantly to pediatric obesity, including excessive screen time, unhealthy eating habits, lack of exercise, and insufficient physical activity at home or school.

Causes of Pediatric Obesity

There were limited documentation on pediatric obesity in the United States prior to the national survey conducted in 1963. According to surveys from the 1960s to the 1980s, the trend of pediatric obesity remained steady until it began to rise in the 2000s (Cole et al., 2000). Two recent studies (Kolmos & Brabec, 2010; Reither et al., 2009) traced the history and origins of pediatric obesity from the 1960s to the 2000s, focusing on the BMI of obese pediatric patients. These studies concluded that before the 1600s, there was minimal information available about pediatric obesity. Findings from the 1970s indicated a significant increase in the trend. The origins of pediatric obesity stem from a combination of environmental and genetic factors, which included lifestyle choices, genetic influences (such as polymorphisms in genes that regulate appetite and metabolism), and family history.

Numerous factors contribute to the rising trends in obesity (Wang et al., 2021). Furthermore, it is possible to mitigate some of the contributing factors to pediatric obesity. These include having control over food choices, personal behavior, participation in exercise, and the willingness to consult a dietitian or pediatrician regularly. According to Loos and Yeo (2022), there are unavoidable factors associated with obesity, including genetics and family lineage. However, pediatric patients cannot change the families they are born into, and their genetic background is largely beyond their control. Lifestyle choices are considered the most common contributors to childhood obesity, particularly in relation to caloric intake and diet.

Children often face risks due to limited or nonexistent education on appropriate meal portion sizes, as they tend to eat whatever they want at home and in other environments (contributing to poor dietary habits) (Wong et al., 2023). Additionally, many children struggle to remain active enough to burn off the excess calories they consume, which contributes to obesity (lack of physical activity). Furthermore, the family's lifestyle plays a crucial role in pediatric obesity. Families may lack the time to monitor their children's healthy eating habits or to educate them on the frequency of physical activities that can help reduce body fat.

According to Wong et al. (2023), the lack of recreational centers or safe places to ride bikes, play ball, or engage in other physical fitness activities has contributed to the rising trend in pediatric obesity. The environmental issues that contribute to obesity may be beyond the reach of pediatric patients and their families. Given the numerous factors related to obesity, whether medical or otherwise, it is essential to provide the necessary resources to equip dieticians who are tirelessly working to reduce pediatric obesity in hospitals across Northeast Maryland and the United States.

Treatment of Pediatric Obesity

Dieticians who specialize in patient care have developed strategies for treating and reducing obesity (Smith et al., 2020). They believe that some treatments used by clinicians may be more effective when combined with evidence-based interventions. It is essential for dieticians to possess the necessary skills and provide ongoing support while collaborating with other clinicians who adhere to best practices in obesity treatment. Dieticians should tailor their approaches to obese children based on their age, willingness to change their eating habits, and frequency of exercise to effectively burn the calories consumed. Adjusting dietary intake is a crucial component of addressing pediatric obesity.

Smith et al. (2020) emphasized that for dieticians to successfully modify a patient's food intake, they must provide detailed explanations. This approach may necessitate in-person dietary sessions with a multidisciplinary team, particularly involving a dietician who is knowledgeable about the patient's care. Such sessions may span 3 months to a year. Most treatment plans also required the involvement and commitment of the family to ensure adherence.

When discussing treatment plans, dieticians should first guide patients on portion control and food choices while also educating them on maintaining healthy eating habits to support weight loss (CDC, 2019). An individualized eating plan is vital for weight loss success. It is crucial for patients to engage in thorough and personalized counseling sessions, as shortcuts in dieting or calorie counting can result in increased fat accumulation. There is no simple solution to overcoming pediatric obesity; therefore, dieticians must develop comprehensive plans tailored to each patient's unique needs, with a focus on exercise and healthy eating.

In addition, St. George et al. (2020) emphasized that dieting and educational best practices for minimizing obesity should be tailored to the individual rather than generalized, as each person has unique needs and levels of willpower to adhere to obesity management strategies. Dieticians' personalized plans are essential due to the individuality of each patient. According to Hagman et al. (2020), in Sweden, specialized care for children up to age 18 has been provided at children's hospitals for over a decade to help combat obesity. Services offered at these hospitals are customized to meet the specific needs of each pediatric patient, and family members receive education on managing obesity-related issues (Hagman et al., 2020). Providing such services when pediatric patients are younger allows for more practical treatment before they transition into adulthood.

When implementing a comprehensive treatment plan for obesity, it should include meal planning and portion control, balanced and healthy eating, an exercise regimen, behavioral modeling, effective use of environmental resources, and adherence to recommendations from educational sessions (Hampl et al., 2023). For the treatment to be effective, dieticians should conduct follow-up sessions and in-person forums, tailor educational materials to the patients' comprehension levels, and ensure that all programs span at least 26 hr or potentially up to a year, involving the entire care team.

The entire care team's active participation ensures uninterrupted treatment continuity. There is no single method to prevent or manage pediatric obesity; effective treatment plans depend on the collaborative efforts of the care team and the tailored interventions for each obese patient. Other treatment options for pediatric obesity may include anti-obesity medications or surgery for patients aged 13 and older, as determined necessary by dieticians and the obesity treatment team (Hampl et al., 2023; Kelly, 2023). Furthermore, research indicated that multidisciplinary care teams, which incorporate various educational programs, are crucial for effective pediatric obesity treatment (Johnson et al., 2021; Wilfley et al., 2017). These teams play a vital role in reducing or managing the BMI of obese pediatric patients during and after the intervention phase, especially when patients are referred at an early age (Ahmed, 2023; Dhillon et al., 2024; Marten et al., 2023).

Multidisciplinary Obesity Teams

A multidisciplinary team consists of a clinician specializing in obesity medicine, a pharmacotherapy's, a nurse or nurse practitioner, a counselor, a physical fitness trainer, and a psychologist (Semlitsch et al., 2019). This comprehensive care team may also include dietitians who educate individuals, particularly those who are obese, about dietary requirements. This education covers healthy eating habits, appropriate meal sizes, and, importantly, effective calorie-burning strategies. It is advisable for team members to possess expertise and experience in educational best practices applicable in children's hospitals to enhance the quality of care for obese children.

Multidisciplinary dietitians employ patient-centered medication counseling to facilitate weight loss (Ockene et al., 2021). While physicians are ultimately responsible for selecting appropriate appetite-suppressant medications, they rely on the expertise and insights of other team members, who offer valuable perspectives regarding the necessity and potential effects of various medications based on their observations of patients.

The team evaluates how a medication impacts patients' long-term goals through their specialized viewpoints. Dietitians assess drug-nutrient interactions, such as the cobalamin deficiency associated with metformin. Lodewijks et al. (2022) noted that behavioral therapists take into account the psychological and social factors influencing patients' adherence to medication. Moreover, multidisciplinary teams implement combination programs that stress a low-calorie diet, sufficient physical activity, and psychotherapy, leading to the most significant weight loss outcomes for patients.

Although dietary modifications alone can result in weight loss, incorporating exercise and cognitive behavioral therapy can enhance the effectiveness of dietary treatment (Kirk et al., 2022). Multidisciplinary teams may comprise a physician with pharmacotherapy expertise, a nurse or nurse practitioner, a dietitian, an exercise physiologist, and a psychologist. This collaborative approach can develop a comprehensive weight loss program that leverages the most effective interventions from each discipline. Consequently, it has been proposed that a multi-component weight management intervention, integrating nutrition services from a multidisciplinary team, could effectively lower children's BMI (Kirk et al., 2022).

Educational Interventions for Pediatric Obesity

The educational treatment intervention for pediatric obesity, grounded in the reciprocal determinism framework and SCT, takes a comprehensive approach (CDC, 2019). It encompasses individuals, health organizations, dieticians, and the broader community. This collective system plays a crucial role in addressing the obesity crisis. The CDC (2019) emphasized that educational interventions are vital for reducing pediatric obesity and the related behaviors. Cuda and Censani (2019) noted that many parents have little or no understanding of how to effectively address obesity in their children.

Additionally, approximately one fourth of family members require customized educational resources that are accessible and comprehensible to enhance their knowledge of healthy habits for their children, particularly regarding portion sizes, weight management, and practical skills (e.g., correctly mixing infant formula). The U.S. Surgeon General identified health literacy as a key factor contributing to the national obesity crisis (CDC, 2019).

The literacy skills examined in this research focus specifically on educational treatment interventions conducted by dieticians in children's hospitals located in low-income communities in and around Northeast Maryland. Literacy significantly impacts the effectiveness of these educational interventions. In a randomized cluster-controlled trial assessing educational intervention across four pediatric residency clinics, Sander et al. (2021) enrolled infant-caregiver dyads during the 2-month well-child visit. Eligible participants included parents who spoke either English or Spanish and had infants with a birth weight of 1500 grams or less.

Moreover, the pediatric obesity educational treatment intervention provided a parent toolkit at each well-child visit and advocated for training providers in effective health communication. The primary outcome measured was the proportion of obese children (defined as having a BMI at or above the 85th percentile) by 24 months of age. Secondary outcomes included the children's weight status, measured by BMI z-scores. A total of 459 intervention dyads and 406 control dyads were enrolled.

In total, 49% of all children were obese at 24 months. The adjusted odds for obesity at 24 months (treatment versus control) were 1.02 (95% confidence interval [CI]: 0.63 to 1.64). The adjusted mean BMI z-score differences (treatment minus management) were −0.04 (95% CI: −0.07 to −0.01), −0.09 (95% CI: −0.14 to −0.03), −0.19 (95% CI: −0.33 to −0.05), −0.20 (95% CI: −0.36 to −0.03), −0.16 (95% CI: −0.34 to 0.01), and 0.00 (95% CI: −0.21 to 0.21) at 4, 6, 12, 15, 18, and 24 months, respectively (p. 103). The results of this intervention study showed a reduction in weight gain up to 18 months, but this did not persist in 24 months. Clinic-based educational interventions may be beneficial for early weight management. However, greater intervention intensity will be necessary to sustain these positive effects, suggesting the need for educational interventions from dietitians to enhance services from multidisciplinary care teams, ultimately improving the quality of care for pediatric patients.

The treatment intervention demonstrated the effectiveness of educational strategies for managing obesity in pediatric patients, which makes it relevant to research on educational interventions for pediatric obesity. The trial included training modules that emphasized effective health communication techniques, such as teach-back, goal-setting, and plain language, with specific examples to support the toolkit content (e.g., avoiding sweetened beverages and recognizing safety cues).

The trial concluded with a reduction in participants' weight after 18 months, which was no longer observed by 24 months. Additionally, the trial offered fresh perspectives on preventing pediatric obesity and promoting health, especially in low-income communities. These findings, along with other clinical trials, suggest that integrating educational primary care treatments may help prevent rapid early childhood weight gain (Trude et al., 2018). Furthermore, the SCT utilized in this research aligns well with the Greenlight intervention by providing instructive data about early childhood growth trajectories and health behaviors in low-income and historically underrepresented minority communities.

Moreover, according to Sanyaolu et al. (2019), the Growing Right Onto Wellness (GROW) trial also included educational materials for obesity prevention and treatment targeting underprivileged communities. Findings from the GROW trial indicated that participants who engaged with the educational materials experienced substantial improvements and significant changes in their BMI. The key difference was that parents could read, understand, and relate to the materials provided, which were designed to align with a sixth-grade reading level.

For low health literacy groups to fully absorb instructional content and retain knowledge in preventing pediatric obesity, a Simple Measure of Gobbledygook (SMOG) assessment must be performed. The SMOG is a readability assessment that targets up to the sixth-grade level, which proved useful in developing a culturally relevant workbook for parents of obese children. The study indicated that the intervention was successful due to the materials being tailored to the educational levels of these families, enabling both parents and their obese children to effectively engage with the content.

Another educational intervention for pediatric obesity treatment was implemented to build upon the findings from the GROW intervention (Horiuchi et al., 2022). Additionally, color-coordinated diagrams were utilized to help parents articulate their understanding of obesity management. This color coordination program was successful, as parents expressed what they observed and the changes they made in their dieting and monitoring of their children's exercise routines. Through these educational treatment interventions, parents learned effective strategies to minimize and manage pediatric obesity.

Stakeholders are increasingly involved in combating obesity and advocating for obesity-related legislation (Zhou et al., 2020). Moreover, healthy eating initiatives, sessions on pediatric obesity management, and proper exercise regimens are being taught across the United States to improve the care provided to obese children. One preventive intervention focuses on monitoring a child's food intake, including meals and snacks (Pereira & Oliveira, 2021).

Assessments of portion sizes and mealtime protocols have shown that parents who measure food intake accurately and regularly engage with educational materials on nutrition can significantly enhance their child's quality of life (Sanyaolu et al., 2019). In Maryland, organizations such as the Maryland Obesity or Health of Nutrition Program through the Department of Health and Mental Hygiene and Move it Maryland are responsible for ensuring that health care practitioners adhere to the standard of care for obesity.

Dietitians working in children's hospitals in Northeast Maryland must educate obese children and their families about the various factors contributing to obesity, some of which are beyond their control, including environmental influences, genetics, and socioeconomic status. By educating pediatric patients and their families, a shift may occur in how health services are perceived and accessed, fostering a more supportive environment for these patients when interacting with dietitians.

Dietitians working in children's hospitals in Northeast Maryland need to educate obese children and their family members about the various factors contributing to obesity, some of which are beyond their control, such as environmental influences, genetics, and socioeconomic status. By providing this education, a shift may occur in how health services are perceived and accessed, enabling pediatric patients to interact with dietitians without fear of judgment. When pediatric patients, their families, and dietitians are aligned in their understanding, trust can flourish.

Dietitians can avoid fat-shaming their pediatric patients and their families by establishing this trust. Rather than labeling children with obesity as "fat" or using derogatory terms, dietitians should engage with their patients using more respectful and individualized language, such as “people-first language,” which is recommended in pediatric care settings (Howes et al., 2021). When dietitians demonstrate empathy and respect toward their pediatric patients, these patients are more likely to open up about their health issues. Furthermore, building trust and openness can encourage dietitians to feel more confident in adopting respectful language, which may help reduce the stigma of obese patients.

Effective Support of Dieticians Using Educational Interventions

Dietitians should have the necessary resources to develop individualized plans using educational best practices, ensuring that their patients understand the information being provided (CDC, 2021). Some patients may have speech impairments, so dietitians could utilize sign language or engage an interpreter to address language or cultural issues in children’s hospitals located in low-income communities. Understanding tailored educational interventions and implementing obesity management strategies are critical in addressing obesity (CDC, 2021). Language may present challenges when applying best practices to mitigate obesity trends (Dianne et al., 2019).

Additionally, dietitians need to be mindful of how to effectively individualize and create care plans that pediatric patients and their families can relate to. Some educational interventions may prove ineffective within health care organizations, particularly in low-income communities, due to dietitians' limited understanding of patients' literacy levels, ethnic backgrounds, primary languages, social classes, and other socio-cultural factors. Therefore, cultural competency is essential for educational and obesity interventions.

Moreover, evidence-based data from 670 news organizations (Hyzy et al., 2023) indicates that poor eating habits, unhealthy lifestyle choices, inadequate portion control, lack of physical activity, ineffective dieting, and insufficient obesity policies may contribute to rising obesity rates. Additionally, there is a scarcity of cultural competency articles in health care journals that could aid in educating obese pediatric patients and their families (Torres, 2023). Ofosu et al. (2023) noted that if dietitians and their patients possess a solid understanding of cultural competencies, obesity rates could decline. The authors of the study compared cultural competencies related to other health issues with those pertaining to obesity.

The news media have reported that obesity-related problems, along with other chronic health issues, are impacting many individuals in society (Lope et al., 2021). As a result, the more attention placed on obesity, similar to other chronic health conditions, the more seriously everyone will engage in the effort to reduce pediatric obesity (Lopez et al., 2021). Additionally, cultural competence is vital in health care reporting. The CDC (n.d.) has indicated that when dietitians understand their patients' cultural needs, they can effectively create plans that patients are likely to adhere to over time, potentially leading to positive outcomes in reducing obesity.

To support dietitians effectively, they must understand their target populations. Their educational interventions should be clear, focused, and tailored to the needs of the individuals they serve, rather than based on assumptions. These implementations and interventions must also address the feelings of alienation that dietitians may experience across various settings, including health care organizations, communities, and social environments. Clinicians, particularly dietitians, need access to appropriate resources to provide care for obese children, as one major challenge faced by children with severe obesity is limited access to adequate care and support (CDC, n.d.).

Dietitians should receive physical and hands-on training early in their careers, as many clinicians have reported feelings of inadequacy, lacking the confidence, knowledge, or skills necessary to integrate evidence-based interventions for obesity care into their practice (Albury et al., 2020). Furthermore, it is crucial that dietitians are equipped early in their educational journey with the knowledge and expertise necessary to help manage and mitigate obesity effectively. It is recommended that dietitians maintain ongoing communication with the families of obese children to foster a safe environment and build trust among all parties involved in care.

Dietitians should also receive early and continuous medical education focused on assessing, exploring, and addressing implicit weight bias, which will enhance their ability to support patients effectively (Dianne, 2019). Health care organizations are encouraged to adopt the World Health Organization growth chart for clinicians working with children aged 0–59 months, while the CDC growth chart should be used for children aged 2 years and older. Additionally, ongoing training on the effective use of these growth charts is essential (CDC, n.d.).

Challenges of Implementation of Pediatric Obesity Interventions

The prevalence of obesity among children continues to rise, presenting significant challenges for families and society at large. Many clinicians believe that to effectively reduce pediatric obesity, dietitians and other health care professionals must act promptly to alter perceptions and attitudes regarding the causes of this issue (Wolfenden, 2019). While Wolfenden (2019) mentioned that surgical interventions could address obesity, the role of dietitians remains critical, as the problem extends beyond surgical solutions. The World Health Organization (2021) noted that dietitians and other clinicians face challenges in delivering evidence-based interventions, often due to misconceptions held by pediatric patients and their families or a lack of trust in health care providers.

Rhee et al. (2018) conducted a mixed-methods study in a pediatric obesity care setting to explore provider perspectives on managing pediatric obesity in primary care. The participating providers were from San Diego County, and the study utilized a questionnaire that identified issues encountered in service delivery. The questionnaire comprised four sections: (a) provider knowledge and expertise, (b) time allocated to service delivery, (c) follow-through on services provided, and (d) available resources for delivering these services.

Moreover, barriers to care delivery are unavoidable, making it essential for the entire health care team to collaborate when providing obesity services. Survey results indicated that 23.8% of providers delivering obesity services consistently focus on the behaviors contributing to childhood obesity and seek ways to improve these behaviors through effective evidence-based counseling and educational best practices in children's hospitals (Rhee et al., 2018).

While dietitians acknowledge the importance of weight management, the mixed-methods study concluded that considerable work remains. The findings revealed that dietitians favored a comprehensive approach to addressing pediatric obesity, partnering with other clinicians to share their unique experiences and expertise. In conclusion, leveraging collective experiences and expertise can facilitate changes in children's hospitals regarding service delivery for obese children, ultimately enhancing the quality of life for pediatric patients. According to the CDC (2019), clinicians have observed a trend in obesity among primary school children since the early 2000s, and they anticipate that this trend will continue to rise over the next decade.

Pediatric obesity remains a significant concern, prompting health care professionals to take substantial action to address this trend and reduce the burden on the health system and individuals. Extensive programs are being developed in hospitals and communities to tackle this issue. According to Cunningham et al. (2022), a study on pediatric obesity analyzed trends among children from two different environments over more than 12 years. The authors utilized the Early Childhood Longitudinal Assessment, revealing that children who were not obese in kindergarten faced a 4.5% increase in obesity by the time they reached secondary school. Additionally, those who were already obese in kindergarten maintained their obesity status throughout secondary school.

Despite the number of obese kindergarten children remaining steady, 4.2% of those children were not classified as obese.

Other related trends continue to rise, with many obese pediatric patients likely to become obese adults. Furthermore, non-obese pediatric patients are also at risk of transitioning to obesity, influenced by lifestyle choices, environmental factors, and their engagement with available services. The study indicated that regardless of a child's initial weight status, their lifestyle and response to care significantly impact their health trajectory. The findings confirmed that the prevalence of pediatric obesity has increased over the past 12 years. Kansra et al. (2021) highlight the critical role of dieticians and other clinicians in addressing pediatric obesity, as it can lead to various health complications that affect a child's social and physical well-being. Given the urgency of obesity prevention, dieticians must be adequately prepared to provide high-quality services in children's hospitals.

Initially, dieticians viewed obesity primarily as a common health issue stemming from insufficient willpower, lack of discipline, or poor personal choices (Anderson et al., 2023). However, as they gained more knowledge about obesity, their perspectives shifted, leading them to recognize it as a disease. Other dieticians are still evolving in their understanding that obesity is a disease. They believe that primary care often overlooks obesity-related comorbidities and undertreats obesity.

Serban et al. (2021) noted that dieticians feel they typically do not formally address or treat obesity-related comorbidities. Cohen et al. (2019) reported that half of clinicians perceived key barriers to managing pediatric obesity, including a shortage of government-funded dietitians for referrals, a lack of success in controlling pediatric patients' weight, time constraints that hinder meaningful discussions and monitoring, insufficient expertise, and a limited number of individuals who understand how to mitigate overweight and obesity.

Furthermore, 60% of dieticians identified patient- and family-related barriers to obesity management, as many obese families may be viewed as poor role models. They perceived pediatric patients and their families as non-compliant with recommended lifestyle changes and believe that both groups show little interest in altering their behaviors. Additionally, Anderson et al. (2023) indicated that 70% of practitioners recognize the obesogenic environment and societal factors surrounding children as significant barriers to managing pediatric obesity.

Although health care clinicians see themselves as playing a crucial role in addressing and reducing obesity in children, some believe that more effort is needed, as no interventions have demonstrated a substantial decrease in obesity rates. Clinicians often lacked the expertise and understanding necessary for providing continuous, quality care for obese pediatric patients. They also feel discouraged when addressing pediatric patients and their families, as dieticians may place the responsibility for obesity and related health issues on the patients themselves.

Kaufman et al. (2020) indicated that dieticians have made progress in providing services to pediatric patients regarding their eating habits, portion sizes, fitness regimens, and developing tailored plans that consider the patients' feelings without passing judgment on their families. However, dieticians often express concerns about having limited time for patient sessions and worry that hospital resources may be inadequate to effectively manage obesity (O'Hara et al., 2020).

Furthermore, O'Hara et al. (2020) emphasized that dieticians should be mindful of their interactions with pediatric patients and their families to prevent misunderstandings and build trust. According to Vela et al. (2022), looking down on pediatric patients and blaming them for their appearance can discourage them from seeking help, as they may fear ridicule. This dynamic can lead to increased feelings of depression and shame, ultimately fostering unhealthy habits.

In today's society, there are common expectations regarding behavior and dietary choices (Talumaa et al., 2022). However, some individuals disregard these societal norms. Many people fear discussing their weight due to concerns about judgment from others. Dieticians and other clinicians should focus on how to positively impact the lives of pediatric patients, promoting improvement without ridicule and avoiding the blame placed on patients for overeating or not exercising. This approach may help mitigate complications related to obesity.

When individuals working to improve the care of pediatric patients begin to doubt and look down on them, they create an avenue for bias, which can lead to poor service delivery (Pearl et al., 2020). Additionally, 45% of clinicians believed that pediatric patients are responsible for the health issues they encounter. Some clinicians perceived pediatric patients as lazy and unwilling to change their lifestyles or utilize available services (Puhl & Himmelstein, 2018).

Brochu (2020) recommended that dietitians address patients with respect, avoiding judgment or shame. Evaluating patients can have several negative consequences, as some may feel discouraged. Cohen et al. (2019) noted that others might seek alternative methods to feel acknowledged, which can be dangerous and potentially lead to suicidal thoughts. Negative attitudes from dietitians can diminish the trust patients have in their providers. Children may hesitate to speak up in class for fear of being ridiculed. This dynamic can also cause dietitians to delay providing services and recommendations, as they may feel the patient deserves to be obese and not pursue related obesity interventions.

Calcaterra et al. (2020) indicated that dietitians have varying perspectives on obesity treatment. However, when facing the challenges of educational interventions, many clinicians perceive a lack of resources, with bias playing a significant role. Obese individuals are often judged by their size and mistreated, as others assume they should be able to control their eating and calorie expenditure (Standen & Mann, 2022). Ultimately, everyone should have the opportunity and desire to strive for self-improvement in order to lead a quality, healthy life. In contrast to Auckburally et al. (2021), who argued that a person can only be healthy with a proper diet or exercise regimen, the belief that someone who is obese cannot be fit is flawed.

There is no evidence to support the notion that an obese person cannot be healthy. This belief contradicts recent ideas about energy balance and societal expectations regarding body image, creating challenges for clinicians who provide services in hospitals, low-income settings, and schools. Pausé et al. (2020) argued that criticizing and belittling obese children fostered distrust and shame in both the children and the clinicians, which undermines the quality of care. Without trust, dieticians may struggle to effectively communicate recommendations and best practices that could help obese children improve their lives.

Many articles indicate that clinicians are often unprepared or lack the necessary training and resources to manage or prevent obesity over the long term (El-Beheiry et al., 2020). Recommendations for obesity management should be ongoing, yet dieticians and other health professionals often lack the educational resources and programs needed for sustained obesity care. This deficit of high-quality educational programs is particularly evident in remote areas where implementing effective interventions is especially challenging. Ironically, these remote locations frequently experience some of the highest trends in obesity and obesity-related issues, while dieticians faced difficulties in delivering timely and effective services to patients in those regions.

Siegel and Mallow (2021) asserted that it is essential for dietitians to have access to the necessary resources and expertise when providing services aimed at managing their patients' weight, especially if they wish to address the alarming rise in obesity rates. Many obese children do not have sufficient access to the care they need to manage their weight effectively. This issue is not confined to communities where families struggle to afford basic necessities; it spans across the entire United States and can even affect middle-class families dealing with obesity. Furthermore, limited access to appropriate care is a major obstacle for children suffering from severe obesity. Michalsky et al. (2018) noted that low-income and minority populations experience particularly acute limitations in accessing obesity resources, and these groups exhibit higher prevalence and severity rates of pediatric obesity. Their study emphasized educational interventions implemented in children's hospitals in Northeast Maryland.

The U.S. Food and Drug Administration (2018) has indicated that, although the prevalence of obesity among children continues to rise in the United States, this trend is even more pronounced in areas where families lack sufficient community resources for exercise and healthy eating. The environment in which a child lives plays a crucial role in influencing obesity and related health issues; communities without recreational centers, gyms, or parks often have higher rates of obesity among children compared to those with facilities that encouraged exercise and promote healthy choices.

While pediatric patients in these underserved communities may have access to fresh produce from farmers' markets and healthy food options, there are often limitations on their screen time compared to children in low-income areas, who may face not only a lack of healthy food choices but also fewer restrictions on screen usage. It is vital to provide equal resources and educational interventions to children across all communities to effectively reduce or eliminate obesity.

Franceshi et al. (2021) promoted dieting and other nutritional behavior through an app and the use of cooking manuscripts in 30 primary schools and obesity facilities within the community of pediatrics who are unfortunate to have a better life by educating pediatricians and their teachers on meal size and portion control, the type of healthy food to eat, snacking, and other health benefits to keep the children healthy and well. After the intervention, others were tested on what they learned through post-questions about how they should live after the educational intervention at their school and in the community.

Pediatric patients from low-income communities often lack healthy food options, which is why they were included in the educational intervention aimed at teaching them about healthy eating and effective strategies for burning excess body fat. The community intervention demonstrated that primary school students began participating in more classes focused on consuming more vegetables and adopting healthier eating habits.

Additionally, these students increased their understanding of physical fitness and ways to avoid accumulating body fat. Reports, however, showed that the pediatric patients' BMI-z scores did not significantly drop after 6 months at the obesity facility. According to Franceschi et al. (2021), there was a slight increase in healthy eating habits, but exercise levels remained low due to limited access to resources in their community. The results revealed that the BMI-z scores did not decrease significantly (-0.17 ± 0.63, $p=0.15$).

Furthermore, the use of wireless devices and other information-gathering tools proved ineffective in managing the weight of obese pediatric patients, particularly in communities with a high immigrant population. While information was utilized, it did not successfully address the weight management needs of obese pediatric patients in areas with limited healthy options or resources. As the obesity trend continues to rise among these low-income populations, it is essential to establish best practices for managing and preventing pediatric obesity. The implementation of educational resources and best practices tailored for low-income communities in health facilities may enhance the effectiveness of educational interventions, which are currently having an impact on health care clinicians in these settings.

Treatment Interventions Used by Dieticians for Pediatric Obesity

To effectively create social change, it is crucial to consider treatment interventions at all phases when implementing obesity treatment in children's hospitals located in low-income communities. Sanchez-Ramirez et al. (2018) organized a 1-day health care conference attended by 67 health workers, all of whom agreed to complete various surveys before and after the conference anonymously, thus enhancing the validity and trustworthiness of the data collected. The survey questions addressed their expertise, knowledge gained, challenges encountered in providing health services, and sustainable treatment strategies. The participants reported improvements in their ability to access weight-related information indicated by ($p = .4$), this identified various methods for managing weight-related issues, and ($p < .001$), which indicated how educated patients adhered to treatment plans, encouraged fitness activities, and provided nutritional education on healthy eating.

The 1-day program was deemed successful, with authors noting positive changes and improvements in participants' service delivery 6 months post conference. Additionally, many clinicians recognized that their previous approaches to managing obesity were misguided. The conference illuminated best practices and evidence-based strategies for effectively assisting obese pediatric patients and their families. Dietitians, in their pursuit of innovative methods to curb the obesity trend, could greatly enhance obesity care through ongoing educational interventions (CDC, 2020).

Shama et al. (2019) conducted a 2-year study using the Child Health Early Childhood program, focusing on healthy eating, exercise, and engaging in physical activities for children aged 3–5 in early childhood programs in Houston and Austin, Texas. The study included both children and their parents. The weights and heights of the pediatric patients were measured, and surveys were distributed after each session to assess learning outcomes and any improvements in the children's weight. By the end of the 2-year program, significant success was observed, with notable changes in the children's weight attributed to continuous educational sessions and parental follow-ups regarding healthy living, resulting in weight reductions for some participants. The findings indicated significant improvements in the BMI z-score [$\beta = -0.26$ (95% confidence interval, CI: -0.50 to -0.01), $p = .041$] and BMI percentiles [$\beta = -6.5$ (95% CI: -12.4 to -0.69), $p = .028$] over the 2 years (p. 58). This study demonstrated that best practices in educational sessions focused on healthy eating, physical activity, and movement can substantially enhance the lives of obese children and help decrease obesity trends. Furthermore, educational treatment interventions for obesity are essential in school settings (Lambrinou et al., 2020), as the classroom is where most pediatric patients spend a significant portion of their day, making it vital to influence their interactions and dietary choices at school.

There are varied reasons for the importance of addressing pediatric obesity. Most pediatric patients must attend school to establish a solid educational and social foundation, which is crucial for their social development. The hours students spend in school typically cover the entire morning and afternoon, during which they may have access to two meals. Schools provide nutrition and dieting classes and encourage children to engage in physical fitness activities. If school administrators integrate nutrition information into the curriculum, students can participate in these classes to earn passing grades. Teachers play a vital role in implementing health programs, as students often respect and look up to them as role models.

The study highlighted health and wellness programs initiated in the Midwest region of the United States for fifth graders, focusing on obesity-related issues from 2015 to 2016. A total of 628 children participated in the study, which involved various programs designed to transform their lifestyles to improve both their weight and overall health. Additionally, pediatric patients in the treatment school program took part in a comprehensive healthy school transformation initiative consisting of six components.

“Waist-to-Height Ratio” (WHtR) and BMI were calculated and used as measures of obesity (Lambrinou et al., 2020). An analysis of covariance (ANCOVA) revealed a significant difference in WHtR between treatment and control groups at time two (T2) FMI (1,6148.14) = 4.43, $p = .035$, R^2 = 0.64, R^2 Treatment = 0.01, with no significant differences based on age, sex, or race. The ANCOVA for BMI indicated a marginally significant lower BMI among the treatment comparison group students FMI (1, 614) = 3.575, $p = .059$, R^2 = (Mdiff = −0.23, 95% CI upper boundary: −0.03)" (p. 6).

Overall, the study had a positive impact, improving students' eating behaviors and the amount of time they dedicated to exercising, regardless of their gender or age. The findings suggest that education is vital; with appropriate educational resources, participants in the 8-month program gained access to relevant and tailored information, which is essential for obesity education, particularly in low-income communities. Furthermore, obesity poses a significant economic burden, costing approximately $100 billion annually. Associated care costs may increase as pediatric obesity rates continue to rise. Additionally, certain cultural groups have higher rates of pediatric obesity than others. Specifically, Hispanic, or Mexican children show higher obesity rates compared to other racial groups. Taylor et al. (2021) noted that many families in low-income communities depend on state-provided food assistance programs. The fear of losing their ability to provide for their families can create insecurity, potentially contributing to an increase in obesity.

With a revised and robust food assistance program, dieticians can educate their patients and family members on what type of food to purchase, the kind of fluid intake to consume, the portion of food when bought, and other healthy living tips (Silver & Cronin

2019). By educating obese children and families, they could make better choices when benefiting from the assistance program (Darling et al., 2023).

The Quality of Health Care Services and Pediatric Obesity Treatment

Obesity affects a child's quality of care in so many ways. It can be mental and physical and may lead to other issues all through one's life span while having to deal with one or more related life problems. The World Health Organization (2022) highlighted that there is 1 obese child in every 3 children, making this study relevant for dieticians to use educational treatment strategies in children's hospitals to target obesity at all tiers. By targeting obesity at all tiers, dieticians may enhance the quality of care being provided in children's hospitals in low-income communities.

Dieticians in children's hospitals employ various strategies to educate pediatric patients and their families about managing and preventing childhood obesity. Most of the time, dieticians tailor interventions for the needs of the patients and work with other clinicians and those who are essential to the patients both in the health settings and out to continue care provided without interruption to the services at all levels of the patients' lives.

The right health care service is essential, and the care provided should be accessible, safe, and efficient (Larson et al., 2019). With the right skills and educational requirements, clinicians, especially dieticians, and pediatricians, may offer excellent services to obese children and their loved ones. Obese pediatric patients were faced with many other issues, some of which are physical, while others deal with emotional aspects.

All these issues have cumulated significant financial spending in terms of care (Utkirzhonovna, 2022). Due to the increase in obesity, the health care budget keeps increasing daily. It will continue if something is not done sooner than later because it was estimated that obesity care in the last 3 years was around $173 billion and is expected to increase in the coming years. With all the negative aspects surrounding obesity, there are still fewer educational best practices being offered to help reduce the number of children who are obese.

With better quality of health care services, pediatric patients and their family members will seek services without fear of discrimination or bias on the part of those who are providing the services. If dieticians offer quality health care services to pediatric patients and their family members, especially to those underprivileged, a decrease in the trend for obesity may be seen (Davis, 2019). Pediatric patients will be more open to discussing care with their clinicians, boosting the patient and clinician's relationship, and making services effective and efficient.

With appropriate skills and educational backgrounds, clinicians—especially dieticians and pediatrician can provide excellent services to obese children and their families. Obese pediatric patients face numerous challenges, including both physical and emotional issues, which have led to significant health care expenditures (Utkirzhonovna, 2022). The rising prevalence of obesity continues to inflate health care costs, which are projected to escalate further; it was estimated that obesity-related care over the past 3 years amounted to around $173 billion. Despite the pressing issues associated with obesity, there is still a lack of effective educational practices aimed at reducing the number of obese children.

The Importance of Improving Quality of Care

Quality of care is essential in all aspects of health care delivery, particularly concerning pediatric obesity. An obese pediatric patient may not live their expected life span due to complications associated with obesity (González-Álvarez et al., 2020). These children may also develop additional health issues, leading to ongoing unhappiness and illness. Danquah et al. (2020) highlighted that problems related to pediatric obesity often stem from bullying, discrimination, judgment from others, and unkindness based on their size, contributing to the unhappiness of obese children. Sarma et al. (2021) also pointed out various medical and non-medical issues associated with obesity in children, such as diabetes, hypertension, certain cancers, and heart disease. Furthermore, obesity can lead to depression, poor academic performance, stigmatization, and low self-esteem. Providing quality care may enhance the likelihood of positive outcomes and decrease the chances of negative results in obesity management.

Quality care fosters effective communication, builds trust, and allows patients to engage with their dieticians in a respectful and attentive environment (McMahan et al., 2021). Patients are more inclined to utilize hospital services when they feel safe and respected. Services should be timely, tailored, and personalized to prevent patient impatience, which can exacerbate fear and discourage them from disclosing their concerns. Quality care is vital because it is integrated and coordinated across all levels.

Integrated care ensures the continuous delivery of services aligned with the best practices that patients have received or are slated to receive.

Quality care fosters effective communication, builds trust, and allows patients to engage with their dieticians while feeling respected and heard (McMahan et al., 2021). Patients are more likely to utilize hospital services when they feel safe and respected. Services should be timely, tailored, and personalized to prevent patient impatience, which can heighten fear and discourage them from disclosing their concerns. Quality care is crucial because it is integrated and coordinated across all levels. With integrated care, continuous services can be provided without interruption to align with the best practices patients have received or are scheduled to receive.

Summary and Conclusions

Obesity poses significant financial, social, and health care challenges to our economy (CDC, 2019). It is essential for everyone to engage in efforts to minimize or prevent childhood obesity. Health care clinicians, particularly dietitians, encounter considerable challenges in their roles. However, with the right mindset and a broad base of knowledge, reducing the number of obese children is achievable. Dieticians equipped with the necessary education can effectively educate obese children and develop personalized treatment plans that may help address childhood obesity.

Alexander et al. (2021) emphasized that dietitians should be eager to acquire new skills and remain open to implementing best practice strategies to enhance care services. We can achieve this by pursuing effective educational practices and establishing supportive policies, particularly in low-income communities. Obesity rates are likely to rise in areas where families face economic hardships (Kim et al., 2020). Kansra et al. (2021) noted that the lifestyle of pediatric patients significantly influences their overall health and wellness.

Despite this knowledge, there remains a lack of information regarding the underlying causes of pediatric obesity. Additionally, there is limited understanding of the duration required for effective obesity treatment to counter the increasing trend of pediatric obesity (Vajravelu et al., 2023). This research could potentially fill the knowledge gap by providing valuable insights into consistent treatment options for pediatric obesity. Furthermore, the evidence-based findings from this study could assist other dietitians in developing effective and tailored treatment plans for children in hospitals throughout Northeast Maryland. Chapter 3 of this research delineates the research design and elaborates on the researchers' roles, justifications, key elements, study protocols, and analysis.

Chapter 3: Research Method

In this descriptive qualitative study, utilizing SCT, the researcher explored dieticians' perceptions of health services provided by dieticians for pediatric obesity through educational interventions aimed at providing sustainable obesity treatment in children's hospitals in Northeast Maryland. Caprio et al. (2020) have identified pediatric obesity as a significant global issue that continues to escalate annually. Chapter 3 detailed the research design and methodology, the researcher's role, methods for data collection and analysis, as well as the ethical considerations that dieticians navigated while playing a crucial role in pediatric obesity care.

There was a notable lack of clear and effective treatment interventions for pediatric obesity, highlighting the need for research that supplies dieticians with evidence-based data. Moreover, Maryland has limited resources for pediatric obesity treatment, particularly regarding dieticians' perceptions of treatment strategies in children's hospitals.

This study examined SCT to gain insights into dieticians' views on intensive lifestyle modification interventions. Dieticians primarily utilized SCT to inform dietary and physical interventions, aiming to identify best practices and perceptions essential for educational interventions addressing pediatric obesity.

Given the rising prevalence of pediatric obesity, the demand for effective treatment interventions is increasing, despite existing evidence-based research in this area. The concept of reciprocal determinism within SCT is vital in educational interventions, emphasizing that individuals can serve as both agents and responders to change. When pediatric patients believe in their capacity to change their lifestyle, they were more likely to adopt positive changes that can significantly enhance their daily habits, thereby improving the health services available to them.

In Chapter 3, the researcher outlined their role, the study design, the research techniques employed, data analysis methods, participant recruitment strategies, and communication mediums. Additionally, the chapter concluded with a brief discussion on credibility, transferability, dependability, ethical procedures, and a summary.

Research Design and Rationale

The RQs addressed in this study were as follows:

RQ1: What are the dieticians' perceptions of the internal and external reinforcements that positively and negatively affect the pediatric patients' behavior change? How do dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change? (reinforcements)

RQ2: What are the main gaps or barriers identified by dieticians in the treatment of pediatric patients who are obese? What improvements do they recommend in the treatment of pediatric patients who are obese?

Central Concept of the Study

The SCT will be used to explore dieticians' perceptions of health services provided by dieticians for obese pediatrics within children's hospitals through educational treatment interventions, with a focus on sustainable obesity treatment, their roles and responsibilities, and how these perceptions may affect the delivery of services to obese children and their families in Northeast Maryland. The main goal of this study was to collect data on the importance of educational interventions for sustainable obesity treatment and their necessity in children's hospitals within low-income communities, with the aim of improving the quality health services for pediatric patients and reducing pediatric obesity in Northeast Maryland.

This study aimed to provide dieticians with the essential education and skills needed to deliver high-quality, sustainable obesity treatment services to pediatric patients in children's hospitals in and around Northeast Maryland. Multidisciplinary obesity specialists, especially dieticians, played a vital role in delivering exceptional services and enhancing the care that obese children receive; therefore, they must understand their roles and responsibilities in providing obesity services.

Research Tradition and Rationale

For this study, the researcher explored Bandura's (1989) SCT through a qualitative research lens. The primary objective of utilizing SCT was to assist dieticians in formulating dietary interventions, alongside understanding their perceptions of treatment strategies that were most sustainable. This focus included examining dieticians' views on educational interventions concerning pediatric obesity in children's hospitals located in low-income communities.

Over time, SCT has been shaped by the contributions of other philosophers, including Julian Rotter (1989) and American psychologist Walter Mischel (1968). These psychologists introduced various social-cognitive strategies that relate to cognitive factors influencing how individuals respond to environmental stimuli. At the heart of this cognitive framework was the concept of reciprocal determinism, which suggested that believing in one’s ability to improve can lead to actual improvements, such as adopting a healthier lifestyle.

Mischel, a student of Julian Rotter and a colleague of Bandura, emphasized that to understand a person's personality, it was essential to consider the situational context they were in. In contrast, Rotter believed that personalities evolve over time. Despite these differing views, all three theorists acknowledged that individuals often exhibit consistent patterns of behavior across variations, leading to changes in SCT over time.

Connecting these philosophical theories to this research, Bandura's qualitative phenomenological approach (1989) focused on an individual's perception and willingness to enhance their lifestyle through observation, modeling, and self-preservation. This approach provided insights into various themes and contribute to the study's theoretical framework, ultimately impacting the lives of obese pediatric patients (Bandura, 1989; Capraro, 2024). Furthermore, the intensive and comprehensive lifestyle interventions proposed aligned with Rotter's (1986) theory of personality change within SCT. For this study, the interpretation of research data was anticipated to capture dieticians’ perceptions and lived experiences related to various themes within the SCT framework.

Role of the Researcher

As the researcher and instrument in this study, my role was to evaluate thoroughly and provide detailed analysis throughout. The researcher bears the responsibility of verifying the accuracy of the study's data and ensuring that the participants' provided information remains unaltered. This researcher used peer-reviewed articles to monitor and reduce bias. Seeking peer approval was essential for an authentic and logical research inquiry (Hayashi et al., 2019). The researcher has been a health administrator for about 10 years and has never worked or had any relationship with any of the participants, personally or professionally, for the sake of transparency. The researcher used semi-structured open-ended interview questions (see Appendix A) to help eliminate bias. To analyze the research data for this study, the researcher was to utilized NVivo but opted using Atlas.ti due to a higher cost for NVivo. Atlas.ti was used to create codes and identify themes. The researcher adhered to the guidelines set forth by the Walden University IRB regarding the consent form, participant privacy, communication with participants, and the protection of human rights. By no means was the names of participants revealed or released at any stage in the process to prevent ethical issues.

I took measures to protect research participants’ privacy and the confidentiality of their data. The researcher explained the study's purpose, the participants' role, the researcher's role, and goals, and how the study will be published. Participants were informed that they will be protected by the researcher, so no harm came to them. The researcher effectively and efficiently put a safeguard in place during the research study to keep participants out of harm’s way. If the researcher was to run short on participant interest, the researcher will add an addendum to the IRB for a drawing for a $25 or $50 gift certificate after interviews were completed.

Therefore, all ethical principles depicted by the university was applied to this research study. Every action expected to be taken was completed through the Walden University IRB. The IRB’s role was to protect and minimize risk to human subjects. The purpose of the IRB's review of research ethics was to evaluate the research methods, ensuring they were ethical both prior to and throughout the duration of the research study. Sometimes, there was a conflict of interest between the researcher and the participants because they were too close to the study thus all issues were rectified. Some ethical challenges included maintaining confidentiality, obtaining informed consent, and ensuring that participants were aware of their rights and not unduly influenced.

Participants were asked to share their experiences related to the study. Their information was kept confidential and was protected throughout the process. The researcher treated all participants with the utmost respect and maintained effective communication with them at all times. If an interpreter was needed, the participants were notified that one would also be provided at every stage in the process. The researcher ensured trust, respect, confidentiality, and anonymity.

Methodology

Participant Selection Logic

The population for this study consisted of eight dieticians who worked with obese children in Northeast Maryland. This population consisted of dieticians from Northeast Maryland who had 4 to 5 or more years of experience working with obese children in children's hospitals located in low-income communities

This SCT descriptive qualitative research aimed to understand dieticians' perceptions of pediatric obesity education concerning sustainable treatment approaches in children's hospitals within the region. Participants were specifically selected from those who resided or worked exclusively in Northeast Maryland. Foley (2021) noted that researchers often pursue in-depth, purposeful sampling to effectively target participants with specific characteristics. Foley argued that this method typically yields rich, abundant data regarding the phenomenon under investigation. Consequently, this methodology guided the overall approach of the study.

Thus, primary criteria stipulated that dieticians must have worked for 4 to 5 or more years in settings primarily serving low-income families and obese children. Dieticians who did not work in a multidisciplinary care setting, such as children's hospitals, lack the required experience, or have not worked with obese children in low-income communities were excluded from the study. Once consent was obtained, the researcher l conducted in-depth interviews via Teams.

The focus of this descriptive qualitative research study was to explore dieticians' perceptions of health services provided by dieticians for obese pediatrics through sustainable obesity treatment in children's hospitals within Northeast Maryland. Through the data collected, the researcher aimed to gain a clearer understanding of the obesity education interventions implemented in hospitals serving low-income children. By gathering insights into dieticians' perceptions of effective educational strategies for obese children in Northeast Maryland, the study may help address the gap in sustainable obesity treatment.

The researcher developed an interview guide to gather specific information about the participants' perceptions (Olukotun et al., 2021). Reflexivity was maintained by recording notes on biases and ideas, reflecting on social positions related to race, socioeconomic status (SES), ethnicity, and both verbal and nonverbal reactions in a reflective journal throughout the research process. Snowball sampling was utilized to recruit participants. Parker et al. (2019) noted that snowball sampling fosters a strong connection between the researcher and participants.

Snowballing sampling brings together individuals who shared similar interests regarding a specific issue. Snowball sampling was an effective recruitment strategy in which participants engaged with others in their social network, informing them about the study and promoting participation. All participants worked in a multidisciplinary care team and possessed 4 to 5 or more years of experience with obese children. Therefore, the sample for this research was convenient. A digital version of the flyer was posted on social media platforms.

Snowball sampling was an effective recruitment strategy in which participants engaged with others in their social networks to inform them about the study and promote participation. All participants worked in a multidisciplinary care team and had 4 to 5 or more years of experience with obese children. Thus, the sample for this research convenient. A digital version of the flyer was posted on social media platforms.

Those who agreed to participate and met all the requirements received an email copy of the invitation and consent form. They were asked to sign the consent form via email by responding with the words “I consent.” The interviews were conducted based on the participants' preferences; while all social media platforms were acceptable, the researcher preferred Microsoft Teams (no-video recording) to facilitate connection.

Sample Size and Data Saturation

As noted by Braun et al. (2021), a sample size of eight to 10 participants was sufficient to achieve data saturation for this study focused on dieticians’ perspectives on pediatric obesity in Northeast Maryland. The purpose of this research was to collect comprehensive data on dieticians’ views regarding pediatric obesity, which may contribute to enhancing the quality of care for obese children. The researcher continued data collection until no new information emerged from any of the participants. Braun and Clarke (2021) emphasized that sample size was crucial in research, as it determines the amount of data necessary to reach what was known as “data saturation.” Data saturation is defined as the point at which information becomes redundant, meaning participants stop providing new insights, allowing the researcher to conclude that adequate information has been gathered. The collected data was organized to identify themes through thematic analysis, and data analysis commenced immediately after each participant's interview was completed.

Instrumentation

To collect participant data, the researcher was solely responsible for gathering the information. The researcher conducted interviews using open-ended questions, adhering to a specific interview protocol (see Appendix A). Additionally, the researcher incorporated questions or tools from other researchers into her study. To ensure the validity of the research, I developed my own tools and interview protocol. This protocol consisted of guided questionnaires that were approved by the IRB. The interview questionnaire included questions grounded in the conceptual framework and RQs, supported by empirical literature.

The primary tool for data collection was an audio recorder (Jain, 2021). Audio recording is straightforward and yields authentic data. The information collected was from dieticians with 4 or more years of experience working with obese children in children's hospitals in Northeast Maryland. It focused on their perceptions of educational interventions and treatments relevant to the study's purpose and RQs. The data source comprised information gathered during the questioning of participants via Teams.

For this research study, the instrument used consisted of well-structured questionnaires that received approval from Walden University's IRB. Sürücü and Maslakci (2020) noted that questionnaires are highly effective for conducting surveys. Furthermore, questionnaires did unify all components of the study by aggregating information from survey participants. The collected information was analyzed to develop best practices for dieticians in children's hospitals in Northeast Maryland. By consolidating information from participants, the questionnaires integrated all aspects of the study. The data was analyzed to address the RQs (Alam, 2021). Additionally, the researcher tested her computer's video and microphone prior to conducting interviews.

Procedures for Recruitment, Participation, and Data Collection

The research data was collected from responses to questions posed during interviews with teams of dieticians working in children's hospitals in Northeast Maryland. The focus was on their perceptions of using educational interventions to provide quality services in low-income communities. The researcher employed a semi-structured interview method, which allowed participants to be familiar with some of the questions. Based on their responses, follow-up questions were posed, giving participants additional time to organize their thoughts and provide accurate information (McGrath et al., 2019).

All participants signed a consent form before the interviews commenced to establish the study's credibility. They were given an informed consent form, confirming their willingness to participate after being briefed on the research procedures before, during, and after the study. Participants had the option to engage virtually via Teams. While various social media platforms were acceptable, the researcher preferred audio communication through Teams (without video recording) to connect with participants.

The researcher informed participants that the interview would last approximately 45–60 min and obtained their verbal consent to audio record the sessions. Participants were assured they could withdraw from the study at any time without fear of retaliation, and the researcher explained measures to protect their identities. During the transcription of the interviews, participants were identified by numbers. Data collected for the research will be discarded 5 years after the study. During this period, all data will be stored on a flash drive secured in a locked cabinet. After 5 years, the researcher will destroy the data containing participants' information, including both paper and electronic documents.

Data Analysis Plan

The researcher initiated this study by thoroughly reviewing field notes and listening to recorded interviews multiple times. To organize topics and categories related to the literature, the researcher chose to use ATLAS. ti instead of NVivo, primarily because ATLAS. ti was significantly more affordable. This software facilitated the creation of columns of participant responses in either an Excel sheet or a Microsoft Word document. The researcher hand-coded the participants' responses, organizing them according to phrasing and similarities, and repeated this process (Saldana, 2016). By employing this coding method, the spoken words of the participants yielded valuable insights into the data and helped reduce researcher bias (see Miriam & Tisdell, 2016).

After categorizing all responses, a smaller set of themes was identified to address the RQs. Given the additional time available, manual hand coding was utilized for this study instead of relying on ATLAS.ti.

Issues of Trustworthiness

All studies conducted included concise and relevant attributes to prevent manipulation (Pratt et al., 2022). Researchers are held to high standards; any suspicion of manipulation in their work may lead to intense scrutiny. A researcher must establish authority and clarity in their presentation. The organization of the transcript system and the analysis of online content helped determine trustworthiness (O'Kane et al., 2021).

The researcher considered her experiences in health care to acknowledge any biases that could affect the outcomes of the interviews and the study overall. To provide a comprehensive understanding of trustworthiness, the researcher developed a subsection addressing the study's credibility, transferability, dependability, confirmability, and ethical procedures to safeguard all participants.

Credibility (Internal Validity)

Credibility in an evidence-based study is essential, as the study relies on it (FitzPatrick, 2019). The researcher ensured that the study was verifiable and free of conflicts of interest with similar studies. To maintain and guarantee the credibility of their research, the researcher provided authentic information that can withstand scrutiny from peers, IRBs, and external audits, avoiding any issues that could damage the reputation of either the researcher or the study. Credibility helps eliminate hasty generalizations, personal biases, and alignment pressures. According to Nassaji (2020), a credible researcher must not exhibit bias during the research process or hold preconceived notions about the findings.

A researcher must have complete confidence in the participants and trust that the information provided is authentic, without doubting or judging them (Ede & Rantakeisu, 2021). The researcher should also be transparent and rely on trustworthy sources. Ede and Rantakeisu (2021) emphasized that a researcher should have the authority to validate the study's authenticity by supporting findings with evidence-based references. Credibility is rooted in the reliability of the sources of information, including the origin and accuracy of the data. Ede and Rantakeisu (2021) stressed the importance of dependable sources, advocating for participants to be open and willing to examine references and citations to confirm the validity of the study they are involved in.

It is advisable for individuals in the study to be able to verify information and assess its reliability. The researcher will also employ triangulation to enhance credibility by ensuring that all aspects of the study align, thereby maintaining authenticity. This approach aids in drawing meaningful conclusions and ensures that the feelings of both participants and researchers remain their own, uninfluenced by the opinions of others.

De Leeuw (2021) argued that a researcher can validate the authenticity of the research through triangulation by ensuring that the various methods used in the study align and can be corroborated, confirming the accuracy of the data. The researcher will review the data provided by participants, using their words and insights to explore the perspectives of clinicians working with obese children in low-income communities.

Transferability (External Validity)

Transferability refers to the researcher's ability to compare their findings with similar research issues and target groups (Alexander, 2019). It involves ensuring there is sufficient evidence for others to validate the data collected during the research. De Leeuw et al. (2021) noted that a researcher can apply findings from one study to another, thereby demonstrating transferability. A crucial aspect is that both participants and researchers can relate the study's information to real-life situations. Additionally, transferability can be enhanced when clear information emerges from participants' wording.

To ensure the accuracy of the data, participants' information was rechecked against what was shared during the interviews regarding dieticians' perceptions of the most sustainable treatment strategies for pediatric obesity in children's hospitals in Northeast Maryland. This rechecking process provided descriptive insights into dieticians' perceptions, which can inform improvements in educational interventions for sustainable treatment strategies in children's hospitals serving obese children. Furthermore, the findings will be valuable in evaluating how clinicians' perceptions can guide educational interventions for obese children and their families, particularly in low-income communities, making the research applicable to other clinicians working with this population.

Dependability

Janis (2022) claimed to achieve consistency in the information; the researcher verified and rechecked all data. Janis (2022) suggested using reflexivity to evaluate the alignment between the data, RQs, and the study's objectives. Florczak (2021) stated that when a researcher's findings are verified by another researcher, it demonstrates authenticity and consistency. Consistency occurs when multiple researchers arrive at similar findings, indicating a level of reflexivity. Florczak (2021) argued that as long as a study incorporates reflexivity, it ensures dependability. Reflexivity encompasses data analysis, instrument improvement, management of RQs, and strategies to mitigate researcher bias. When all components of the study correspond with the researcher's reflection on significant aspects, this alignment fostered dependability.

Confirmability

Confirmability in research ensures information gathered throughout the study can be proven by someone other than the researcher (Nassaii, 2020). Nassaji (2020) claimed confirmability involves taking the version of the participants into serious consideration without any kind of favoritism or prejudice on the researcher's part. The researcher perceived that going through relevant data and re-evaluating while getting the same findings shows there is confirmability regarding the research. To establish confirmability, the researcher focused on participants' responses and checked that their answers were accurate by tracing the detailed findings of all evidence-based data in the research. The results were examined with a similar study, which were made public for others to scrutinize and confirm the authenticity without bias (Alexander, 2019). Emerging themes were double-checked after participants' spoken words were compiled into a matrix to avoid bias.

Intra- and Intercoder Reliability

Intra-coder reliability referred to the repetitive process of examining research findings by seeking authenticity and consistently revisiting the same facts, as described by O'Connor and Joffe (2019). *Intercoder reliability* involves a group of researchers or different individuals independently reviewing research findings and arriving at the same conclusions. O'Connor and Joffe noted that both qualitative and quantitative research utilize intra-intercoder reliability to ensure research validity. In this study, the researcher consulted with a peer during the dissertation process at Walden University who was not engaged in research on pediatric obesity.

Ethical Procedures

Taquette and Borges (2022) asserted that it is crucial for individuals to consciously discern what constitutes and does not constitute research. Taquette and Borges said researchers must follow the rules to keep everyone safe, as participants have the right to participate or not. The researcher informed all participants they can leave if they have doubts or can't continue.

It is recommended that the research provides participants with all necessary information about the survey to enable them to make independent decisions without coercion. The participants' data will remain confidential, as the researcher is obligated to protect this information unless the participant consents to its public disclosure. For this research study, participants should have a minimum of 4 to 5 years of experience working with obese children in Northeast Maryland. The researcher emailed forms to all individuals willing to participate and continued to reach out to participants, conducting interviews until no new information emerged and saturation was achieved.

The screening of participants took place upon receipt of a short invitation survey. Selected individuals received a welcome letter informing them to proceed to the next phase of the study (see Appendix B). The researcher and the participants discussed their roles and responsibilities to establish a mutual understanding before signing an agreement. Additionally, participants received a confidentiality agreement letter (see Appendix C) that detailed the researcher's intentions regarding their personal information.

Before the study began, I obtained the approval of the Walden University IRB (approval no. 03-18-25-0760142). Participants had the option to opt out, and the researcher reached out to others on the list to fill their spots. Those selected were informed about the timing and format of the interview, and a preliminary call made. Participants were informed that they can contact the researcher through email, telephone, or social media if needed. Sledzieski et al. (2023) noted that email was an effective method for reaching individuals who are otherwise difficult to contact. For security reasons, all collected information will be stored on a flash drive rather than on a laptop or in Dropbox. Five years after the study's completion, I will destroy the data on the flash drive, maintaining its confidentiality. Consequently, the data will be securely stored at the researcher's residence and will only be accessed by others if requested by Walden University to verify the accuracy of the research findings.

Summary

The researcher explored the SCT and conducted interviews with dieticians who had experience working with obese children for 4 years or more in children's hospitals in low-income health facilities within socioeconomically disadvantaged communities in Northeast Maryland. Semi-structured interviews were used to gather responses to investigate participants' perceptions of the support offered through educational strategies for sustainable obesity treatment. This approach aimed to enhance the well-being of obese children and their families. In situations where face-to-face interviews were not feasible, the researcher conducted conversations using Teams. Participant data was collected and analyzed through hand coding to identify emerging themes, with all information securely stored on a flash drive.

Coppock and McClellan (2019) noted that employing Teams as a communication medium was both easier and more cost-effective. This platform enabled the researcher to closely observe participants, including their body language and facial expressions. Both participants and the researcher gained insights into each other's environments and understood the emotions expressed during the interaction. Furthermore, Coppock and McClellan (2019) asserted that Teams are less expensive in terms of financial resources. If a participant prefers a face-to-face interview, the researcher will accommodate that request. However, the researcher opted to use audio recording (no-video recording).

Chapter 3 of this research outlined the rationale for conducting the study, the design chosen by the researcher, the role of participants, the data collection methodology, and the instruments used for data gathering. It also addressed the study's dependability, conformability, intra- and intercoder reliability, credibility, and the ethical procedures involved. This study aimed to fill the knowledge gap by exploring dieticians' perspectives on educational treatment interventions for pediatric obesity, utilizing evidence-based data. The researcher evaluated the process to ensure the study's credibility and validity while emphasizing the importance of aligning the interview questions with the RQs and the overall objectives of the study.

Chapter 4: Results

The purpose of this descriptive qualitative study was to explore dieticians' perceptions of health services provided by dieticians for obese pediatrics through obesity educational treatment interventions regarding sustainable obesity treatment, dieticians' roles and responsibilities, and how their perceptions may help change how services are provided to obese children and their family members in Northeast Maryland. The goal was to use a specific framework from SCT to improve the support and training for dieticians in children's hospitals in Northeast Maryland and see if their views on education for kids in these hospitals could help make obesity health services better.

I interviewed eight participants who had worked with obese children in Northeast Maryland for 4 to 5 years. In this chapter, I discuss the settings, demographics, data analysis and collection, the results of the study, and the data collection process. After that, I went over the trustworthiness verification process before presenting the study's findings. The Walden University IRB approved Chapter 4, ensuring strict adherence to all procedures and ethical considerations. Moreover, this chapter included the interview outcomes and procedures used during data analysis. The two RQs led to the collection of the interview data outcomes. The RQs were as follows:

RQ1: What are the dieticians' perceptions of the internal and external reinforcements that positively and negatively affect the pediatric patients' behavior change? How do dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change? (reinforcements)

RQ2: What are the main gaps or barriers identified by dieticians in the treatment of pediatric patients who are obese? What improvements do they recommend in the treatment of pediatric patients who are obese?

The findings of this study could potentially improve the health services dieticians provide. This study may bring about social change by assisting dieticians in developing sustainable pediatric obesity treatments that can improve the lives of children, particularly in low-income communities. Furthermore, health care organizational leaders may improve policy regarding services rendered to pediatric patients, and dieticians may implement educational best practices and sustainable obesity treatment in health care organizations in and around northeast Maryland.

Setting

I recruited eight individuals for this study. Dieticians employed in northeastern Maryland made up the entire study's participants. We did not associate the study with any specific organization, nor did we impose any specific circumstances on the participants. The interviews were all audio recorded using Zoom, and there was no video recording. Most participants chose to have their interviews in the mid-afternoon, while three opted for the evening due to their work schedules at the hospital and personal obligations.

Before starting the interview, I focused on safeguarding and respecting the privacy of all participants. I went over the consent form process and asked if they were willing to participate in the study or not. All eight participants responded verbally via the audio recording, stating "I consent," and there was no video recording. All participants had more than 4 to 5 years of experience working with pediatric obesity patients.

Five of the participants had their private pediatric facilities but also worked part-time in other children's hospitals within Northeast Maryland. The participants responded to the interview questions based on their extensive professional experiences working with pediatric patients in both low-income and high-income communities, as well as their levels of education.

Almost all of the participants consented to follow-up questionnaires via email if the need arises. Three of the participants consented to Zoom via audio recording (no video recording). It took a month and a few weeks to reach all the participants in the study as well as to gather all the data from the interviews. The researcher reached out to the participants via both social media and LinkedIn. Five participants responded via email and verbally within 1–2 days to confirm their consent to participate in the study, while the remaining three participants responded within a week.

Few participants asked for my permission to post my flyers in their professional network or email them to coworkers. The researcher then emailed the consent form to the participants, requesting their availability for the interview. The researcher assigned a number and a letter to each participant in the study for identification. The researcher used the letters and numbers D1 to D8 to represent the participants instead of referring to them by their names. The letter and number helped maintain confidentiality and minimize any form of unconscious bias.

The recruitment and consent data for this study were stored on a USB hard drive and kept in a locked space that will be safeguarded at the researcher's residence and will not be viewed by anyone except via a request by Walden University to document the accuracy of the research completion. The researcher also kept all the emails from the participants prior to the informed consent that led to the interview in a safe place. Once we received informed consent, we agreed on the interview date and time. During the interview process, some participants requested the posting of the interview questions in the chart room to enhance their understanding. Once again, there was no organizational or personal attachment that may have served as a barrier to the study.

Demographics

This study had eight participants. Though saturation for the research data was reached after the first six participants were interviewed, the interview data collection stopped with eight participants. Other demographic data were not collected. Participants in the study were assigned a number and a letter for identification. D1 was used for the first person who took part in the interview, and D8 was the last person who participated in the interview study. The participants had many years of experience as a registered dietician; the least was 4 years, and the most was 20 years: 4 (D1), 6 (D2), 12 (D3), 5 (D4), 20 (D5), 6 (D6), 4 (D7), and 8 (D8).

Data Collection

For this research, I interviewed eight participants. All participants were dieticians working with pediatric patients in children’s hospitals in Northeast Maryland. Most consented via email and verbally at the start of the interview. All interviews were audio recorded, with no video recordings. Social media recruited some participants, while previous interview participants referred others. A few participants who initially agreed to participate later opted out due to various time constraints.

Each participant provided their best responses to the interview questions. Saturation was achieved with six participants, but I interviewed two additional participants to enhance the validity of the study. After interviewing these two, no further recruiting or interviewing was necessary, as I had already reached saturation. There were no in-person interviews; most participants were interviewed via Zoom, with sessions lasting between 30 and 58 min. Three participants encountered problems with Zoom and opted to proceed with their interviews via audio-recorded Google Meet. Additionally, some participants requested that the interview questions be posted in the chat during the session to facilitate a smoother and quicker interview process due to their other obligations.

The first two participants mentioned that they had issues with Zoom and consented to continue their interviews via audio on Google Meet, without video recording. The last participants indicated that the Wi-Fi at the children's hospitals was fluctuating, and they also agreed to audio recording on Google Meet. Three of the participants requested that the interview questions be posted in the chat during the session to facilitate a smoother and quicker interview process due to their other obligations.

It is important to note that a few of the participants agreed that if a follow-up interview were necessary, I could always send an email. Additionally, throughout the study, the researcher referred to most of the participants by their chosen names. For this research, I interviewed eight participants using their preferred names. I will safeguard all identifying information as described in Chapter 3. The interview process extended over approximately 1 month and a few weeks from the date of IRB approval due to participants postponing their scheduled interview dates for various reasons.

After the interviewing process, I started familiarizing myself with popular words and themes. Even though the interview process was audio-recorded, not video-recorded, I still asked for the participants permission regarding the process every step of the way. All the interviewers answered the same interview-cored questions via the Zoom and Google Meet recordings in order to maintain equality and validity of the study. After interviewing each participant, I audio-called (no video recording) each participant and asked if they had any additional information to add.

All participants mentioned that they were satisfied with their responses and had nothing to add. The process of verifying with the participants helped the study's credibility. I mentioned to the participants that they had a week to contact me if they chose to clarify or add new information. Participants did not follow up or email any new information or have ethical concerns.

Data Analysis

The first step, the data analysis, the initiating process, was assigning labels to the participants. I opted to use the label "D" to assign the participants, assigning numerical identifiers to each participant, as participant 2 (D2) was assigned to the second participant, and so forth. The software NVivo was to be used, but because of the exorbitant price for the software, the researcher opted to use ATLAS. ti, and manual coding was used for the research data analysis.

I imported the exported transcripts into the ATLAS. ti program and developed codes to categorize the data. While learning to navigate ATLAS. ti, I obtained helpful information about coding qualitative data. The initial stage involved searching for catchwords or phrases to apply codes to the corresponding participants. I generated codes and identified phrases based on participants' responses to the warm-up and interview questions, using an iterative process that involved analyzing their answers during the interviews.

Some of the codes I identified included, but were not limited to, a healthy plate, meals and snacks, food groups, grocery shopping, prioritizing healthy eating, macronutrients, specific eating habits, a lack of access to a food pantry, and unhealthy eating. Additionally, I eliminated redundancy and slang used by participants. I organized various sections of the interview data into categories and themes. Throughout the interview process, I engaged in data evaluation and utilized reflexive journaling.

I skillfully facilitated discussions after each participant's interview to extract rich data from their shared experiences. I then reviewed the audiotapes to familiarize myself with the recordings, reread the transcripts, and selected the appropriate codes. The researcher identified patterns in the repeated codes, leading to the establishment of broader categories that eventually developed into themes.

The development of these themes began midway through the interview process, once the researcher reached data saturation. Following the first interview, the researcher dedicated 2 to 3 hr each day for about a month and a half to reviewing the interview tapes and transcripts. Some participants required a week or more to schedule their interviews after consenting to participate, while others were able to do so within 1–2 days.

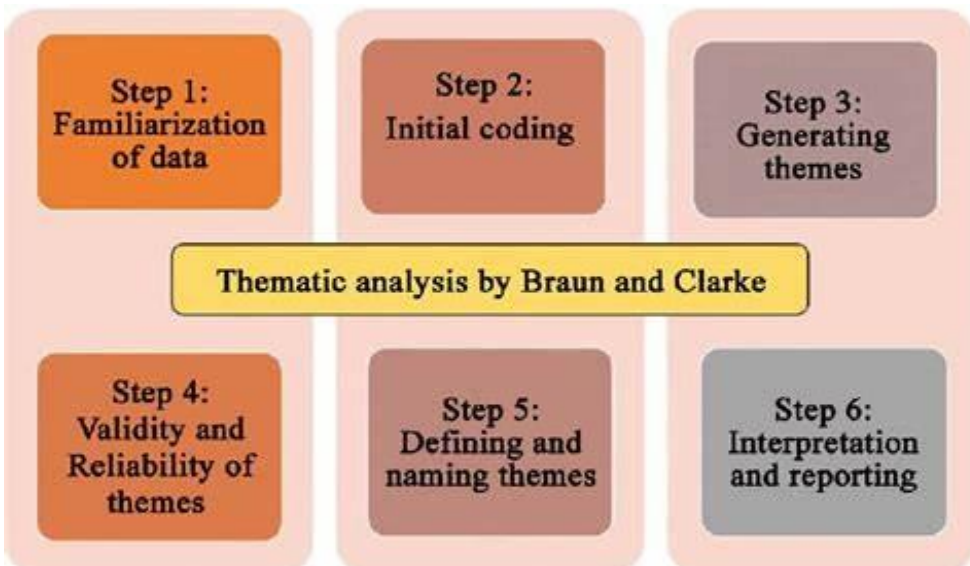
The researcher categorized the participants' repetitive words based on their inherent meanings (Braun & Clarke, 2006; Liebenberg et al., 2020). After categorizing these words, the researcher organized the codes into meaningful groups to identify patterns and relationships, thereby adding to the insights drawn from the participants' responses to the RQs. Throughout the process, the RQs remained a central focus to assist the researcher in identifying the main categories of the study.

Throughout the interview process, the main categories of the research included communication, the use of appropriate languages, multidisciplinary collaboration, and education, as well as identifying subcategories and main categories. The researchers also looked for similar words and phrases in the transcripts, paragraph by paragraph. Thematic analysis by Braun and Clark (2006) was used to identify patterns that were similar.

According to the interview queries, the primary categories included listening, education, accountability, and collaboration, followed by the identification of the main categories and subcategories. I looked for patterns in the transcripts, line by line. The thematic analysis, created by Braun and Clark, aimed to identify patterns in the participants' responses to the RQs in six steps, as illustrated in Figure 3.

Figure 3

Thematic Analysis by Braun and Clarke

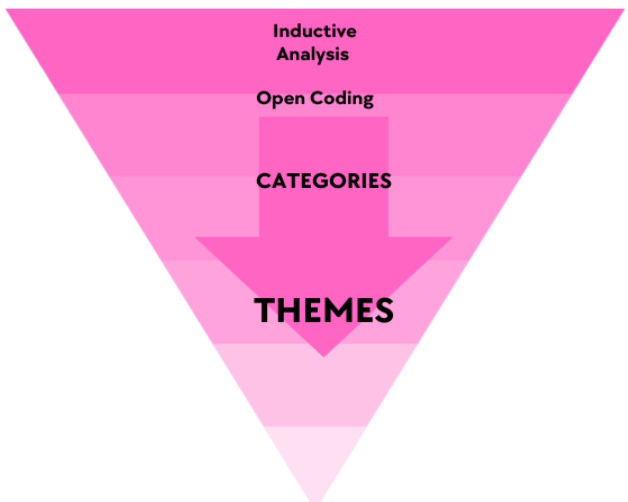


Note. Figure 3 illustrates the thematic analysis that was created by Braun and Clark to identify patterns in the participants' responses to the RQs in the six steps.

I utilized Atlas software and manual coding to develop themes from already generated data. Figure 4 illustrates steps required for completing the inductive thematic analysis, which helped add asperity to the study.

Figure 4

Inductive Thematic Analysis Process



Note. Figure 4 highlights an inductive thematic analysis processes from using inductive qualitative interviews with Dietician.

An Excel file was used to organize the data before switching to a Word document when I was cleaning and organizing the transcripts from the interviews. Since all interviews were audio recorded, I had to correct a few misspelled words and omitted words like "um" and "hmmm." The researcher utilized Grammarly and Google Meet's dictation features and also proofread each sentence to ensure thoroughness. The research study consisted of 12 interview questions and two RQs.

The researcher created tabs for frequently used words from each interview question. Most participants mentioned similar code words; however, in some cases, two participants did not mention one or more of the code words. The researcher also developed tabs for each participant, code, category, and theme.

The researcher used ATLAS to organize and identify codes within the imported data. To ensure validity, the researcher hand-coded the final codes and derived the final categories and themes. Codes include a healthy plate, meals and snacks, food groups, grocery shopping, prioritizing healthy eating, macronutrients, specific eating habits, a lack of access to a food pantry, and unhealthy eating habits. The researcher employed an open coding method to gather information from what participants said during the interviews, allowing for the development of concepts that emerged from each participant. Open coding was chosen to provide the researcher with the flexibility to explore and identify emerging patterns without predetermined categories. During the coding process, the researcher carefully read and reread each line of the data to understand the study's focus and concepts.

Open coding helped identify various concepts and ideas, distinguishing it from deductive coding, which relies on predefined codes and begins with a theory or hypothesis tested through observations. In this qualitative study, we divided the data set into smaller groups based on the questions asked during the interviews. The researcher read and reread each line from these groups, developing codes from the various lines and paragraphs as needed. For instance, I extracted dieticians' perceptions of appropriate language regarding cultural differences. Deductive coding involves the use of predefined codes and begins with a theory or hypothesis, which is then tested through observations (Kumar & Ujiri, 2024).

In this qualitative study, I organized the data set into smaller groups based on the questions asked during the interviews. The researcher carefully read and reread each line from these groups, developing codes for various lines and paragraphs as necessary. For example, I identified dieticians' perceptions of appropriate language concerning cultural differences and categorized the material under the "Cultural, Linguistic" issue. After developing codes from recurring words, the researcher proceeded to create categories and themes. This process required the researcher to read each transcript multiple times to find the most relevant words or lines that aligned with the study and RQs.

I utilized the coding frame to organize the codes derived from the interviews into specific words and phrases. I identified the most common themes. For instance, one theme indicates that dieticians perceive healthy eating as the most effective reinforcement for obesity education, along with additional themes generated from the data. Tables 1 and 2 show the codes and themes that emerged, respectively.

Table 1

Code Analytics

Code	*f*	No. of transcripts
Implementing healthy plate	12	3
Healthy behavior and lifestyle	18	6
Following positive intervention	9	4
Knowledge of dietary intake	12	4
Treats and rewards for following through	7	2
Rewards of extra treats for SMART goals	6	1
Positive attitude	7	5
Access to community Resources	11	6
Positive feeling when working on goals	5	4
Macro Nutrients	6	1
Eating fresher fruits	5	1
Making healthier swaps	4	6
Implementing healthy eating goal	5	3
Benefits of observational learning	4	3
Tracking of portion control	4	2
Limited information for unprocessed sugar	2	3
Un-healthy meals and snack	5	2
Lack of accountability for food in-security	4	2
Unhealthy habits from loved ones	10	3
Limited Time for SMART goals	12	4
Eating unprocessed food	14	3
Negative effects of time constraints	8	3
Enforcing parental education	14	4
Fostering SMART goals	9	2
Pediatric obesity education	13	4
Using multidisciplinary team	9	3
Dietician as an educator	12	4
Portion control	25	8
Limited comprehensive services	40	8
Disconnect in multidisciplinary training	6	3
Clinicians using multiple approaches	8	2
Parental education	6	2
Fresh fruits	9	2
Educating family members	5	3
Food pantry and community resources	9	4
Cooking video and healthy lifestyle	12	3

Note. SMART = specific, measurable, attainable, relevant, and time-bound.

Table 2

Cluster Themes

Research question	Social cognitive construct
1. What are the dieticians' perceptions of the internal and external reinforcements that positively and negatively affect the pediatric patients' behavior change? How do dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change? (reinforcements)	Positive behavior regarding observation learning regarding SMART goal Dietician offering rewards to patients when they follow-through with motivational counseling Effectiveness of using multidisciplinary team for obesity health services Promoting healthy eating and snacking Dietician expectation of pediatric patients not following through with dietician instilling confidence in patient regarding follow-up sessions Pediatric patients believed that positive words and rewards can enhance positive behavior.
2. What are the main gaps or barriers identified by dieticians in the treatment of pediatric patients who are obese? What improvements do they recommend in the treatment of pediatric patients who are obese?	Pediatric patient lack confidence to follow through with healthy eating. Patient negative belief of a healthy lifestyle Lack of accessibility regarding community resources Dietician education regarding accessibility of healthy eating Using multidisciplinary team for continuity of health services Individualizing SMART goals and the use of appropriate language

Note. SMART = specific, measurable, attainable, relevant, and time-bound.

Themes for Research Question 1

RQ1 was, what are the dieticians' perceptions of the internal and external reinforcements that positively and negatively affect the pediatric patients' behavior change? How do dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change? (reinforcements)

Dietician Nutritional Intervention Regarding Healthy Eating

Table 3 shows the codes, associated participants, and categories codes for the theme of dietician nutritional intervention regarding healthy eating.

Table 3

Codes and Categories for Theme of Dietician Nutritional Intervention Regarding Healthy Eating

Code	Participant	Category	Theme
Healthy plate	D2, D3, D7, D6, D8	Healthy eating and positive/healthy lifestyle change	Dietician nutritional intervention regarding healthy eating
Meals and snack	D3, D5		
Food groups	D3, D4, D5, D7		
Grocery shopping	D3, D4		
Eating fresher fruits/vegetables	D3, D5		
Macro Nutrients	D1		
Specific eating habits	D4, D7		
Portion control and healthy food	D1, D4		
Prioritizing healthy eating	D3, D4, D5, D6, D8		

D1, D3, D4, and D5 stated that implementing healthy eating and MyPlate is challenging for families who are under-resourced or living in low-income communities. D6 emphasized, "Healthy plate and portion control are important when it comes to educating obese pediatric patients." Furthermore, D2 mentioned, "You can start by making healthier swaps, like switching from whole milk to non-fat milk, or similar small changes."

This approach involves including various green and healthy foods on one's plate. Half of the participants, D1 to D4, noted that while healthy eating is difficult within low-income communities, it is achievable through community resources, education, and health literacy. D3 added, "We discussed the food groups by explaining the different types of food that should be included in meals and snacks, which are essential when educating patients and their family members." We also consider meals and snacks that the family enjoys, along with their flavor and dietary preferences.

D6 indicated that most sessions begin with a discussion on how to create a healthy plate. This concept represents the principles of healthy eating, which are vital for addressing pediatric obesity. D6 further noted that discussions include making healthy swaps on the plate, such as incorporating more vegetables and transitioning from high-fat foods to non-fat options, while also emphasizing portion control.

D8 mentioned that many kids do not fully understand what healthy eating looks like. D8 further discussed the use of observational learning by showing pediatric patients' videos of "healthy plates" and cooking shows, as well as distributing MyPlate pamphlets that illustrate the different food groups.

When asked about external reinforcements in the treatment of pediatric patients, D2 and D7 noted that "sometimes it's about eating more fresh food and trying to eat less processed food. Sometimes it includes learning about 'My Plate,' trying to learn to cook, or improving one's cooking skills. Sometimes it's about increasing fruit and vegetable intake on your plate or trying new foods. It also really depends on the age.”

D5 discussed the importance of eating in a balanced way, emphasizing that pediatric patients can obtain all the energy they need from healthy eating. Additionally, D5 highlighted the benefits of family meals and sharing food in a positive environment, which includes enjoying meals together with engaging conversation and mindful eating, free from distractions, loneliness, or feelings of insecurity.

D3 emphasized the significance of portion control when discussing healthy eating and living a healthy life. D3 noted that pediatric patients don’t need a lot of money to access organic fruits and vegetables, mentioning that some canned foods without added sugar can serve as nutritious alternatives to sugary snacks and whole fruits found in various stores. Additionally, pediatric patients should be mindful of portion sizes on their plates during meals, opting for smaller portions.

D5 explained that, in terms of internal and external reinforcement, “we try to make sure that the goals we're setting are very practical and sustainable. We have to make sure that we're motivating the patient to make changes using whatever they're interested in or whatever goal(s) they want to work on, not just the goals we want for them, like weight loss, healthy eating, or weight stability.”

D3, D5, D6, and D8 shared these sentiments. Regarding the impact on fostering positive behavior change in pediatric patients, D5 further stated that healthy eating and behavioral change are particularly effective when the issue is approached by multiple clinicians. Furthermore, involving multiple clinicians may help treat pediatric patients as whole individuals, which can lead to more efficient and cohesive coordination of care.

D1, D4, D7, and D8 mentioned that dietitian perceptions regarding pediatric obesity education require "prioritizing healthy eating," "a multidisciplinary approach," "appropriate language," and "family and parental education." To elaborate, D4 emphasized how healthy eating education plays a significant role in their treatment plans for pediatric obesity.

D5, D6, and D8 all expressed the sentiment that a multidisciplinary setting is highly effective in fostering positive behavior changes in pediatric patients. Such an environment reinforces the significance of healthy behaviors, creating a more substantial impact. Additionally, the involvement of multiple clinicians in obesity treatment makes the education more memorable and may enhance pediatric patient behavior.

D7 noted that during most sessions focused on setting smart goals with pediatric patients, there is a strong emphasis on portion control and the "My Plate" model. D5 also mentioned that discussions around healthy eating and portion control frequently arise during these sessions. However, at times, there is insufficient time to inquire about details or to follow up on the progress of smart goals from previous sessions.

All participants concluded that topics such as healthy eating, portion control, and "My Plate" should receive more attention in pediatric obesity education. D2, D6, D5, and D8 all agreed that enhancing dietitian education on healthy lifestyles, providing nutritional consultations, and improving access to community resources for healthy grocery shopping could significantly impact the inpatient pediatric obesity education program.

Motivational Counseling as a Means to Help Improve Negative Reinforcement for Unhealthy Eating

Table 4 shows the codes, associated participants, and categories for the theme of motivational counseling as a means to help improve negative reinforcement for unhealthy eating.

Table 4

Codes and Categories for Theme of Motivational Counseling as a Means to Help Improve Negative Reinforcement for Unhealthy Eating

Code	Participant	Category	Theme
Lack of access to food pantry	D2, D3, D7, D6, D8	Food shortage and inaccessibility to healthy life changes	Motivational counseling as a means to help improve negative reinforcement for unhealthy eating
Weight stigma	D2, D3, D7	Food shortage and inaccessibility to healthy life changes	
Lack of understanding of hidden sugars	D1	Inaccessibility to healthy life style changes	
Longer wait time wait time after referral	D3, D4, D6	Inaccessibility to healthy life style changes	
Less processed food	D5, D6, D8	Inaccessibility to healthy life style changes	
Limited options for food choices/food insecurity	D1, D3, D5	Inaccessibility to healthy life style changes	
Difficulty managing appetite	D2, D4, D7	Inaccessibility to healthy life style changes	
Less nutritious foods	D3, D4	Food shortage and inaccessibility to healthy life changes	
Lack of understanding of hidden sugars	D1	Inaccessibility to healthy life style changes	
Not following up for obesity education	D1, D3, D4, D8	Inaccessibility to healthy life changes	

D1, D3, D4, and D5 all emphasized that “healthy eating and MyPlate are difficult to implement when dealing with families who are under-resourced or living in a low-income community.” D1 discussed the negative effects of a lack of understanding regarding hidden sugars on pediatric patients and their parents. “Hidden sugar continues to go unnoticed because patients and family members have limited or no information about unprocessed sugars and how to recognize sugary and unhealthy meals and snacks.”

D6 stated;

> Healthy plates and portion control are important when it comes to educating obese pediatric patients.” D6 also mentioned, “You can start by making healthier swaps, like switching from whole milk to non-fat milk or including various options of green and healthy foods on your plate.” Half of my participants, D1 to D4, acknowledged that healthy eating in low-income communities is challenging, but they believe that with community resources, education, and health literacy, healthy eating is achievable.

D3 pointed out that “a very large percentage, 66%, of our patients in our clinic are suffering from food insecurity. Therefore, food insecurity plays a significant role in what we do and what we recommend to pediatric patients during our sessions.” D7 and D8 agreed, adding that food deserts contribute to this insecurity. When pediatric patients and their family members lack access to healthy food and community resources, they must rely on those available.

D1 noted that most low-income families lack the disposable income necessary to purchase the type of food they need. By using the right approach, which combines education and motivation, dietitians could encourage pediatric patients to utilize community resources, such as food pantries and distribution centers at local churches and community centers.

D5 noted concerns regarding the child's level of understanding during sessions. This issue arose because they sometimes only had one session with a patient and did not see them again. D6 indicated that at the inpatient hospital, most of their work involves referrals to outpatient clinics for obesity management. They allocate minimal or no time to their pediatric patients. D6 further mentioned that the wait time at the weight management clinic is lengthy, which discourages many pediatric patients and their family members.

D4 emphasized the importance of examining patients' lifestyles, including understanding their meal and snack patterns, their environment, and their access to resources that facilitate positive and healthier changes over time. D3 highlighted the perceived challenge to obesity education due to the lack of follow-up with primary care providers (PCPs) and other clinicians. D3 further noted that inpatient services are not the same as outpatient services. Inpatient dieticians often spend limited time with pediatric patients.

D7 agreed that dietitians in the inpatient setting provide limited services compared to their colleagues in the outpatient setting. D8 further stated that dietitians from the inpatient clinic could significantly contribute to obesity treatment, but they have limited access to pediatric patients. Additionally, D8 mentioned that they sometimes see patients for their first consultation and then must refer them to the outpatient clinic for further follow-up treatment.

D8 also discussed time constraints, stating that they pose a challenge, especially when there is insufficient time to adequately educate pediatric patients and their family members during sessions on healthy eating, proper food measurement, and effective portion control. Several participants mentioned that the lack of follow-up for additional sessions is a significant challenge regarding obesity treatment. D3 pointed out that long wait times occur because most insurance providers do not view obesity as a critical health issue, which leads to patients not consistently following up for more sessions. D3 elaborated: If someone requires insurance coverage for their services, which applies to many of these families, they might be on a waiting list for 6 months and are not seen frequently. Often, the patient does not follow up due to insurance issues. Initially entering these programs and maintaining consistent follow-up represent substantial barriers when working with pediatric patients, particularly those without insurance.

Themes Research Question 1A

RQ1A was, how do the dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change? (reinforcements)

Dietary Education in Regard to Behavioral Modification

Table 5 shows the codes, associated participants, and categories codes for the theme of dietary education in regard to behavioral modification.

Table 5

Codes and Categories for Theme of Dietary Education in Regard to Behavioral Modification

Code	Participant	Category	Theme
Monitoring portion sizes and snacks options	D1, D3, D4, D7	Continuity in regard to education on healthy lifestyle changes	Dietary education in regard to behavioral modification
Advance education and intervention for weight management with patient	D1, D5, D8		
Observational video regarding healthy cooking and lifestyle modification	D2, D5, D8		
Motivational counseling regarding SMART goals	D1, D4, D7		
Education to patients on maintaining a healthier diet	D1, D3, D5, D8		
Family education regarding avoiding emotional overeating	D2		

Note. SMART = specific, measurable, attainable, relevant, and time-bound.

D1, D3, D4 and D7 mentioned that behavioral intervention and education is equally important when it comes to pediatric obesity treatment and healthy living. D1 stated that:

> the importance of providing guidance for children's food portions, particularly through the MyPlate method, which emphasizes balanced food groups and wholesome foods and beverages. This approach serves as a foundational element of our educational principles in respective to behavioral modification. Also, by educating patient and the family member on behavioral intervention dietician may address pediatric patient various concerns related to nutrition.

D3 stated that, for motivational counselling,

> I definitely think that these patients need to be followed regularly to make sure that we are building on the achievable goals and adjusting them as needed. So typically, I often recommend meeting, like every 2 to 4 weeks with a dietitian to kind of check in and see how things are going and adjust from there, but it might take months or years before we feel like we have implemented enough interventions that a dietitian might not be needed anymore.

D4 mentioned that

> Nutrition impacts many aspects of the patient's lives, which may include challenges in accessing food, family histories of diet-related diseases, and issues related to health eating, such as limited access to opportunities for fresh food. It is

> important to educate the family member as well as the patient regarding best practice to help treat pediatric obesity.

Most of the participants concurred that advance education towards healthy lifestyles especially focusing on the making of easy goals and follow-up intervention for food sizes and snacks options.

D7 stated:

> I prioritize the patient's goals. We focus on what they want to change. Sometimes, this means eating more fresh foods and reducing processed food intake. Other times, it involves learning cooking skills. We might also focus on increasing fruit and vegetable consumption or trying new foods. Additionally, the approach varies significantly based on age, as the pediatric age range is diverse. The strategy can change considerably depending on whether I'm working with a teenager, a toddler, or a 9-year-old.

All of the participants mentioned education regarding lifestyle motivation or behavioral motivation on one or all of the motivational session with pediatric patient. More emphasis has been placed on healthy eating which comprises of “My Plate,” portion control and assess to community resources as the aforementioned deals with both internal and external behavioral modification intervention during dietary education interventions.

Dieticians' Encouragement of Achievable Goals to Build Patients' Confidence

Table 6 shows the codes, associated participants, and categories codes for the theme of dieticians' encouragement of achievable goals to build patients' confidence.

Table 6

Codes and Categories for Theme of Dieticians' Encouragement of Achievable Goals to Build Patients' Confidence

Code	Participant	Category	Theme
Making compromise and bargaining with patients regarding SMART goals	D2, D5	Encouraging patients to follow up with pediatric obesity intervention	Dieticians' encouragement of achievable goals to build patients' confidence
Prioritizing pediatric patient goal and eating habit especially regarding "My Plate"	D1, D7, D8		
Family education regarding avoiding emotional overeating	D2		
Family education regarding avoiding Unhealthy eating	D2		
Motivational techniques used during creation of smart goals	D1, D7, D8		
Cooking videos encouraged patients to follow through with their health eating goal	D6, D7, D8		
Patients excited about community pantry and organic market	D1	Continuity in regard to education on healthy lifestyle changes	Dietary education in regard to behavioral modification

Note. SMART = specific, measurable, attainable, relevant, and time-bound.

D1 mentioned that:

> During the educational sessions, I asked the patient to set achievable goals and encouraged them to modify our discussion. I inquired whether they liked any of the options presented and if there were any they wished to pursue. Additionally, I asked what ideas they had for personal changes. If they expressed wishes such as "I want to walk" or "I want to try to drink more water," I prompted them to be more specific. For instance, I might say, "This is how much water you usually drink. Now, how much more do you think you could realistically consume?" This exercise helps establish a daily goal. The emphasis is more on prompting rather than directing; it’s a collaborative effort.

D6, D5, and D8 all concurred that when dealing with pediatric patients, it is good to gain their trust in order to encourage the patient to following through with achieving their goals. D6 stated that during the educational session, it is important to focus on the family member because they play a very big role. A lot of the food environment is not created by the child. It's created by the family. The home environment, the food pattern, is decided by the parents. The boundaries are either held or not held by the parents. And so it has a big impact, especially given the age of the patients.

D6 further stated that;

> Achieving smart goals and living a healthy life is not possible without the support of the pediatric patient's family member. D8 concurred, emphasizing the importance of a support system that involves the entire family, as well as a

multidisciplinary team of various providers, to help set the child up for success. Since food choices often do not originate from the child, we should begin offering age-appropriate nutrition education at an early stage. Initially, the child's diet will largely depend on what the parents provide and the environment they create around mealtime. As children grow more independent, particularly during their teenage years and into college, we can start encouraging them to take greater responsibility for making healthy choices.

Dieticians play a crucial role in weight management and helping patients lead a healthy lifestyle. They assist patients in setting and achieving SMART goals tailored to their individual needs. Many participants noted that the most common SMART and achievable goal discussed during motivational interventions is healthy eating. D4 mentioned that we can begin with simple steps such as incorporating more greens and vegetables, eating smaller portions, and avoiding processed foods as well as excessive soda consumption. With the right motivation and support from the entire care team, eating healthily and modifying behaviors and lifestyles can be achieved.

Patient Incentives and Rewards

Table 7 shows the codes, associated participants, and categories codes for patient incentive and rewards for healthy alternative lifestyle (RQ1A).

Table 7

Codes and Categories for Theme of Patient Incentive and Rewards for Healthy Alternative Lifestyle

Code	Participant	Category	Theme
Offering of snacks and treats	(1) (7)(8)	Positive engagement and rewards	Patient incentive and rewards for healthy alternative lifestyle
Positive redirection and words of encouragement	(2)(4) (6)		
Giving patient and family members vouchers for healthy food and snacks	(1) (2) (8)		
Offering praise for eating of broccoli	(3) (6) (8)		
Engaging and enhancing goal directive incentive with patients	(1) (2) (8)		
More educational obesity session	(1) (7)		

D1, D7, and D8 all concurred that pediatric patients are more willing to open up in sessions when they believe they will get something in return. The patient prefers rewards and incentives to being told what to do. D1 mentioned that he frequently utilizes positive reinforcement during sessions, which proves effective when discussing healthy eating or establishing SMART goals to meet our objectives. I also share information about the nearest food bank, where individuals can access fresh food."

D7 also stated:

> I encourage parents to apply for government assistance programs that can aid them in obtaining food and to leverage community resources, such as local churches that distribute nourishment, groceries, and fruits. This approach guides them toward various resources available within our community.

D8 stated that we educate pediatric patients and family members who are unable to afford healthy food by informing them of available resources in the community. Furthermore, during the session, it is important to educate patients regarding food stamps and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

D8 further stated that;

> We always try to discuss WIC eligibility with patients. However, if their insurance does not cover fresh food and snacks, I provide any coupons I have available. While I recognize that this is only a temporary solution, it is unfortunately all I can offer at that moment to support the patient and their family members. Occasionally, I also suggest that the patient and their family create homemade recipes to help avoid purchasing items they cannot afford.

Most participants mentioned various forms of incentives and rewards used during their sessions. A few participants brought up group sessions, the distribution of obesity information and “My Plate” pamphlets, as well as community health gatherings focused on obesity education and health and wellness.

Theme: Fostering of Healthy Literacy Program Among Multidisciplinary Clinicians

Table 8 shows the codes and categories for the theme of fostering of healthy literacy program among multidisciplinary clinicians.

Table 8

Codes and Categories for Theme of Fostering Healthy Literacy Program

Code	Participant	Category	Theme
Individualizing smart goals	(3)(4) (7) (8)	Coordination of continuity of comprehensive of care	Fostering of healthy literacy program among multidisciplinary clinicians
Prioritizing referrals to weight management clinics	(2)(4) (8)		
Enforcing parental education	(1)(6) (7) (8)		
Encouraging patients to eat more fresh fruits	(3)(5) (6) (8)		
Motivational counseling	(1)) (8)		
Working with multidisciplinary team	(2)(5) (6) (8)		

D3 stated that:

> Educating patients about SMART goals fosters positive reinforcement, which is highly effective when discussing healthy eating or establishing SMART goals for a healthier lifestyle. While we work with patients and their family members to create these goals, we also provide information about the nearest food banks to

> ensure they have access to fresh food. Additionally, we encourage parents to apply for government assistance programs that can help them acquire food, and we educate them on how to take advantage of community resources.

D5 stated that:

It is essential to work with each patient individually to establish personalized SMART goals based on their comfort levels. Additionally, SMART goals are particularly important when patients recognize their significance and collaborate with dietitians. However, patients sometimes struggle to adhere to these goals. Dietitians, therefore, need to spend more time with their patients.

D7 and D8 emphasized the importance of pediatric patients understanding the purpose of SMART goals in order to motivate them to follow through with the goals. Smart goals can be used to promote positive behavior.

D7 said that SMART goals should be specific, measurable, attainable, and realistic, particularly when working with pediatric patients. The dietitian assessed the patient's lifestyle by evaluating their meal and snack patterns, as well as their eating environment, and made minor adjustments. D2 indicated that referrals are the most effective approach, considering their limited time with patients due to various barriers. Additionally, we can facilitate internal referrals to other clinicians within the hospital or external referrals to weight management clinics.

D8 stated that:

> Dieticians primarily use referrals and obesity education to address pediatric obesity. Additionally, since the facility where I work is inpatient, it is quite challenging for us to manage obesity issues independently. We often refer patients to the outpatient clinic because of the limited time we have with them. The dietician at the outpatient clinic dedicates more time to the patients and emphasizes healthy food choices as well as portion control.

Few participants discussed the importance of parental and family education, highlighting the vital role that parents play in educating about obesity. D6 noted, "Some children are always going to be children; sometimes their ability to understand certain things is a bit limited compared to adults."

D1, D 7, and D8 all agreed that:

> Most kids don't understand as much as their parents or most adults do. Some lack sufficient education, so they struggle to follow meal plans. As we know, healthy eating is crucial in addressing pediatric obesity, making education particularly important for them. Some participants noted that children view their parents as their first role models. Many parents indicated that they encourage their children to eat healthy foods and fruits. Motivational counseling sessions promote the consumption of healthy fruits and snacks.

Both D1 and D8 mentioned that:

> Motivational counseling, combined with the development of individualized SMART goals that engage both parents and patients, improves the obesity

> counseling process for everyone involved. This method fosters collaboration between pediatric patients and their dietitians, allowing patients to work toward their goals even in their home settings.

When children perceive the goal of healthy living or eating as their own idea and choice, they are more likely to adhere to the recommendations for maintaining a healthy lifestyle. It is crucial to engage them in the process, ensuring that everyone is actively involved in establishing SMART goals.

D8 mentioned that:

> Kids enjoy participating in exciting activities. When dietitians add fun elements to their educational sessions, children are more likely to remain focused on their goals. Making these goals enjoyable captures their attention and promotes greater engagement in motivational counseling, especially when multiple team members are involved.

Theme: Using Appropriate Languages and Enhancing Health Literacy

Table 9 shows the codes and categories for the theme of using appropriate languages and enhancing health literacy.

Table 9

Code and Categories for Theme of Appropriate Languages and Health Literacy

Code	Participant	Category	Theme
Using in-person Interpreters	(3)(4) (7) (8)	Communication and knowledge	Using appropriate languages and enhancing health literacy
People first language	(3)(4) (8)		

The appropriate use of words when dealing with pediatric patient	(2)(6)
Common language and virtual interpreter	(4) (7) (8)
Intensive and comprehensive counseling	(3) (8)

D3, D4, and D8 observed that pediatric patients are more likely to share their feelings during sessions when they comprehend what their dieticians are communicating regarding their obesity care, particularly for patients under the age of 6. D5 highlighted the necessity of utilizing interpreters when delivering obesity care education to obese pediatric patients to enhance care coordination. Additionally, D5 mentioned that when multidisciplinary teams—including a social worker, psychologist, nutritionist, and primary doctor—are involved in providing health services, an interpreter, whether virtual or in-person, should be present, especially if English is not the patient's first language. D3 and D8 concurred that:

> The multidisciplinary team plays a crucial role, especially when interconnected issues arise. Effective communication is essential for the continuation of care. For instance, in a scenario where a nutritionist wants to recommend labs for a Spanish-speaking patient, an interpreter is necessary to explain to the patient why the lab tests are needed. This is important for ensuring that a family member can provide informed consent. In this setting, the nutritionist and the doctor who will

> order the labs must also use clear and appropriate language to ensure the patient understands, making the overall approach very effective.

D6 also stated that:

> Understanding the preferred language and assessing health literacy concerns is important. It's also useful to know if the family has a medical background or is highly educated. I prefer to refer to the chart indicating language preferences; however, that information can sometimes be inaccurate. Therefore, I always discuss with the team and aim to write materials at a fifth-grade reading level. This approach makes it easier to translate documents or handouts. It's essential to use appropriate language. I also try to arrange for an in-person interpreter when possible; however, if that's not an option, we may need to rely on virtual video interpreters, which are better than nothing but still not ideal.

There are many challenges associated with health literacy and the use of appropriate words. Dietitians are well-prepared to offer effective health services for treating pediatric obesity by promoting health literacy and using people-first language. It is crucial for patients and their families to grasp best practices and recognize the necessity for intensive and comprehensive interventions in obesity treatment. A lack of understanding about pediatric obesity may result in patients and their families not engaging with treatment services.

Themes for Research Question 2

RQ2:1 What are the main gaps or barriers identified by the dieticians in the treatment of pediatric patients who are obese? 2 What improvements do they recommend in the treatment of pediatric patients who are obese?

Theme: Weight Stigmatization Challenges Regarding Pediatric Obesity Treatment

Table 10 shows the codes and categories for the theme of weight stigmatization challenges.

Table 10

Code and Categories for Theme of Weight Stigmatization Challenges

Code	Participant	Category	Theme
Limited comprehensive support service	(2) (4)	Coordination of continuity of intensive and comprehensive care	Dietician challenges regarding weight stigmatization
Lack of Individualized weight obesity program model	4) (5) (7) (8)		
Little or no multi-disciplinary weight training sessions	(5)(7) (8)		
Limited time for comprehensive patient education	(3)(4) (7) (8)		
Limited in-patient evidence-based follow-up obesity education	(1)(2) (5) (6) (8)		
Age-appropriate language challenges	(2) (4) (6) (7)		

D2 stated that:

> The need for comprehensive services is crucial when providing support for pediatric patients and their parents regarding overweight and obesity. It is important for children to understand the various connections to obesity. However, treatment is not solely focused on this issue, as some clinicians may perceive patients differently, whether they are among the slimmest or larger individuals we have encountered.

D4 mentioned that:

> Gaps were observed when educating family members about healthy lifestyle treatment, as there were limited services available for both the patient and family, particularly with regard to observational learning." D4 also stated, "I offer cooking classes for a small number of participants to help build cooking confidence among those lacking cooking skills, as this represents a significant barrier.

Additionally, D4 noted, "I sometimes use motivational interviewing, and I consider it to be very effective most of the time." Most participants noted that the limited time spent with pediatric patients makes it challenging to implement individualized obesity educational treatment plans. D4, D5, and D7 expressed similar difficulties in tailoring SMART goals for patients due to restricted or nonexistent session times.

Consequently, individualizing a treatment plan becomes difficult when focusing on what patients feel they can change. Limited sessions often involve decreasing the consumption of fresh foods while reducing processed food intake. Other focus areas may include learning to cook and enhancing cooking skills, increasing fruit and vegetable intake, or trying new foods. The approach can vary significantly based on age, as the pediatric age range presents different obstacles, particularly when addressing the needs of teenagers compared to toddlers; even children aged 9 and older pose distinct difficulties.

D5 remarked on the disconnect in multidisciplinary training and education, noting the absence of a cohesive team or continuity of care. Additionally, dietitians may not see pediatric patients unless a primary care physician provides a referral. D5 further indicated that they often only meet the patient during the initial assessment, which is insufficient. Pediatric obesity treatment should be efficient and effective, requiring as few sessions as possible.

D5 stated that:

> There is a disconnect in multidisciplinary training and education due to the absence of a cohesive multidisciplinary team and a lack of continuity of care. Additionally, the primary doctor typically refers pediatric patients to dietitians for interaction. D5 noted that we usually meet the patient only during the initial assessment, which is inadequate. Effective treatment for pediatric obesity necessitates a more streamlined approach with as many sessions as possible.

Themes for Research Question 2A

RQ 2A: What improvements do they recommend in the treatment of pediatric patients who are obese?)

Theme: Dieticians Perceived as Obesity Educators

Table 11 shows the codes and categories for the theme of dieticians perceived as obesity educators.

Table 11

Codes and Categories for Theme of Obesity Educators

Code	Participant	Category	Theme
Multidisciplinary clinicians' approach	(3) (4) (5) (6) (7)	Appropriate education and cultural linguistic	Dieticians perceived as obesity educators
Observational learning	(3) (4)		
Modified intake	(1) (4)		
Using MY/Healthy Plate educational session	(2) (3) (4)(7)		
Prioritizing SMART goals	(5) (6) (7)		
Parental education	(1)(2) (3) (4) (5)(6)		
Utilizing multidisciplinary team	(2) (3) (4) (5)(6)(8)		

Note. SMART = specific, measurable, attainable, relevant, and time-bound.

D2 emphasized that health literacy is crucial for facilitating change when implementing multidisciplinary services using appropriate and culturally relevant language. However, D2 noted that the lack of pediatric obesity education and insufficient health literacy complicate communication during sessions with pediatric patients. D2, D3, D5, and D8 expressed a similar viewpoint: when culturally appropriate language is used, pediatric patients can better understand and engage with educational materials on pediatric obesity, such as MyPlate.

D8 remarked, “It is important to determine the patients’ and family members’ level of understanding”. If the child is under seven, I don’t involve them as much. I focus more on the parent and may only include the pediatric patient minimally. Furthermore, D8 mentioned, “If the patient is a teenager or someone who is more engaged, I communicate more directly with them. This approach requires understanding whether the patient can retain the information or if family members should be part of the discussion.”

Additionally, it involves knowing the preferred language, identifying health literacy concerns, and assessing the educational background of the families.” Along similar lines, D3, D5, and D8 discussed the necessity of having appropriate and culturally relevant pediatric education materials. Especially when interacting with family members whose first language is not English, we sometimes employ interpreters. While most children’s hospitals provide interpretation services, these are often unavailable.

D8 indicated that, “Sometimes we need to rely on virtual video interpreters, which is better than nothing, but at times, it is hard to get a video interpreter immediately.”

D3, D5, and D8 stressed the importance of providing appropriate and culturally relevant pediatric education materials. Occasionally, family members who speak a language other than English utilize interpreters. However, while most children's hospitals offer interpretation services, these services are often unavailable.

D8 noted that:

> Sometimes we need to use virtual video interpreters, which is better than nothing, but they are not very reliable. Depending on the language, connecting with a Spanish interpreter can take up to 10 seconds. For less common languages, it may take as long as 20 min. At times, they inform us, 'We'll call you back when we find someone.

D5 stated that:

> With the right educational language, teaching pediatric patients and their families about the importance of 'My Plate' and observational learning becomes straightforward and effective. Additionally, culturally appropriate language sets the standard during sessions and aids in establishing SMART goals.

D1, D3, D4, D6, and D8 share similar perspectives on the importance of observational learning and parental education in achieving SMART goals. D8 noted, "Parents are influential. I believe that parental education is crucial because it establishes the foundation for children's development."

D8 emphasized that when parents serve as role models by making healthy life choices, children are more likely to adopt these habits.

D6 highlighted that "cultural literacy and healthy eating in pediatric obesity education are not consistent across children's hospitals." D4 echoed concerns regarding insufficient time and limited sessions with pediatric patients, which create challenges for health literacy and cultural understanding.

D8 elaborated:

> Dieticians should be present at every appointment and should participate in the initial assessment. However, the system only calls us when there's an alert for severely overweight or underweight patients. In the inpatient setting, there seems to be a prevalence of negative biases regarding pediatric obesity because everything moves much faster, leading to quick changes and assumptions due to the limited time we have with the patient.

Additionally, D3 stated that:

> In the hospital setting, many different languages are spoken, and we don't have adequate access to in-person interpreters. Finding interpreters is very challenging. Depending on the language, it can be difficult to access or connect with virtual interpreters. Families often struggle to build rapport for effective communication. Moreover, it is vital to consider appropriate language and cultural and social differences when working with pediatric patients. Despite my best efforts, pediatric patients frequently require interpreters during sessions, which typically leaves us with less time to educate their family members.

Likewise D4 shared that:

> Pediatric obesity education is highly individualized, except for the initial visit. During the first visit, we typically focus on basic nutrition education, emphasizing food groups regardless of the family's education level or language. We also utilize interpreters for various languages. Most frequently, we encounter Spanish-speaking families, but we also work with Amharic-speaking or Ethiopian families.

D1 highlighted that:

> One of the significant challenges dietitians' faces is effectively communicating and interpreting other languages. We must be intentional and purposeful in our communication. Additionally, we need to recognize that some individuals we treat struggle with emotional eating due to stress, anxiety, or even boredom. The choice of words and the way we communicate are crucial.

D1 further explained that during sessions, we often need to communicate in a manner that children can understand. Occasionally, we need interpreters to elucidate the message. D1 also mentioned that many children are home alone while their parents work, which often places the responsibility of meal preparation on them. These circumstances can put them at risk, as children tend to be impatient when waiting for their meals.

D6 and D8 expressed similar views on the importance of using appropriate language and communication techniques during sessions, especially with children over the age of 8. One participant noted that we have visited patients' homes to observe how they implement treatment recommendations, such as prioritizing a healthy lifestyle.

Also, many kids try to care for themselves when their parents are busy. Many parents and family members frequently work two or three jobs, which makes them rarely available to supervise their children's care; this situation leads to unhealthy eating habits and frequent snacking. It is essential that we educate the children about healthy eating in the absence of their parents.

Evidence of Trustworthiness

The researcher established the trustworthiness of this study by reviewing the data and conducting consistent and comprehensive checks regarding the data analysis process. To establish credibility for this study, I interviewed eight participants who worked with pediatric patients in children's hospitals. For further credibility and enhanced trustworthiness, the interview transcripts were forwarded to the participants for verification of transparency and accuracy. The researcher also explained in detail the data collection process and coding method throughout the interview process. Lastly, the researcher addressed trustworthiness, credibility, transferability, dependability, and confirmability.

Credibility

The researcher ensured the credibility of this study through several methods. First, the researcher triangulated data from the questionnaire, transcript, and reflex journal used during the interview process. The researcher reached out to participants to clarify any discrepancies in their responses. Second, the researcher emailed each participant a transcript of their interview for fact-checking to enhance trustworthiness. Additionally, the researcher used direct quotes from each participant's transcript to represent their voices, avoiding replacing the participant's own words or interpretations. The researcher sought to establish credibility through extensive involvement, persistent observation, and triangulation.

Transferability

Transferability is how well a study's results can be generalized to other contexts, respondents, or settings. It also involves the researcher providing sufficient information for others to assess the relevance of the study in relation to other’s research (Lincoln & Guba, 1986). In this study, the researcher interviewed eight participants, which was adequate for achieving data saturation. Transferability was enhanced through detailed explanations provided to participants throughout the research process. The researcher clarified how the study was structured, along with information about the population and setting involved.

Dieticians assist in managing, diagnosing, and educating pediatric patients about healthy lifestyles. To encourage these patients to adopt healthy eating habits, it is essential for dieticians to use appropriate language. D1 emphasized that “when providing educational counseling to pediatric patients, the right words are important.” D1 further explained that during sessions, “they have to communicate in a way that kids can understand, and at times interpreters are needed to simplify what is being said.”

D5 noted that “with the right educational language and the use of observational learning, especially with My Plate, kids tend to be attentive and forthcoming during motivational counseling sessions.” Additionally, using culturally appropriate language can help enhance awareness during sessions and assist patients in setting achievable goals.

The participants in this study had between 4 and 15 years of experience, and they possessed diverse experiences across various settings. Some participants operated their own private clinics while also working in children's hospitals. Additionally, the researcher detailed the interview process, noting that it was conducted via audio recording only, without video. The researcher also elucidated the process of deriving codes, categories, and themes from the participants' responses. Information about each participant's experiences was included in the study. By interviewing a range of participants, the researcher gathered different perspectives that were used to strengthen the study's findings.

Dependability

The researcher achieved the study's dependability by thoroughly checking and rechecking all the data collected during the interviews. The researcher employed reflexivity to ensure that the RQs were aligned with the study's purpose, confirming that both the interview questions and the participants' responses were accurate. The research incorporated peer reviews and rechecking methods to validate the content and information obtained. This process confirmed the information's consistency over time. The researcher also involved the participants in evaluating the findings and interpreting the study to confirm that their information was supported by the data they provided during the interviews. Additionally, the researcher coded some of the data twice, allowing a gap of 4 days to a week between each coding to verify whether the results remained consistent.

Confirmability

Confirmability refers to the capacity of other researchers to verify the results of a study. It emphasizes the value of clearly derived data from interviews, not just interpretations of participants' statements. The researcher addressed confirmability by ensuring that the study's findings were based on participants' responses during the interview process. To confirm these responses, the researcher engaged in fact-checking and revisited the data. In instances of uncertainty, the researcher reached out to participants for clarification rather than interpreting their responses in her words.

The researcher ensured that the responses accurately represented the participants' views and did not modify or diminish their thoughts or perceptions. To strengthen the trustworthiness of the study, the researcher used transferability to reduce any personal bias, applying a careful method and clear descriptions to keep the research findings reliable. Additionally, the researcher incorporated diagrams and maintained audit trails throughout the research study.

Results

Themes emerged from the analysis of the collected data and following each of the RQs, which were as follows:

RQ1: What are the dieticians' perceptions of the internal and external reinforcements that positively and negatively affect the pediatric patients' behavior change? How do the dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change (reinforcements)?

RQ2: What are the main gaps or barriers identified by the dieticians in the treatment of pediatric patients who are obese? 2 What improvements do they recommend in the treatment of pediatric patients who are obese?

The three themes that emerged to answer the first RQ using the SLT for internal reinforcement were (a) dietician nutritional intervention regarding healthy eating, (b) motivational counseling regarding the challenge of living unhealthily and (c) dietary education in regards to behavioral modification. The themes that emerged using the SLT for external reinforcement were (a) dieticians' encouragement of achievable goals to build patients confidence and (b) patient incentive and rewards for healthy alternative lifestyle. For improvement recommendation in treating pediatric patient using the SLT, two themes emerged: (a) fostering health literacy programs among multidisciplinary clinicians and (b) using appropriate languages and enhancing health literacy. Two themes emerged also from the second RQ: (a) weight stigmatization challenge regarding pediatric obesity treatment and (b) dietician as an educator.

Dietician Nutritional Intervention Regarding Healthy Eating

Participants in this research study identified themselves as dieticians working in children's hospitals, as well as in both inpatient and outpatient clinics. According to participant 6, "Most sessions begin with discussing the creation of a healthy plate." A healthy plate consists of nutritious foods that are essential for effective pediatric obesity education and treatment. Participant 6 further noted that discussions included making healthy swaps on plates, such as substituting vegetables and selecting non-fat foods instead of fatty options, while also emphasizing portion control.

Healthy eating is introduced during the initial assessment, and if sessions continue, the focus shifts to individualizing healthy eating goals based on the expressed preferences of pediatric patients and their families. Since healthy eating is crucial in pediatric obesity education, most dietitians incorporate strategies such as portion control, constructing healthy plates, addressing dietary restrictions, promoting the consumption of fresh fruits, and employing various methods to encourage pediatric patients to adopt a healthier lifestyle. The other participants concurred that healthy eating is the most vital aspect of their sessions when counseling pediatric patients, particularly in inpatient clinics within children's hospitals.

Motivational Counseling Regarding the Challenge of Living Unhealthily

Participants expressed a strong desire for pediatric patients to adopt healthy lifestyles, particularly in attending follow-up sessions, making healthy lifestyle choices, and using appropriate language when discussing unhealthy behaviors. Dieticians reported that pediatric patients often do not follow through with recommendations for healthy snacking, utilizing “My Plate,” eating appropriate portion sizes, or even shopping for healthy foods. A primary reason for such neglect is the lack of access to healthy food.

According to D5, dieticians identify unhealthy eating as a common issue faced by patients. To encourage healthier eating among pediatric patients, dieticians implemented several strategies, such as advocating for more time to follow up on patients' progress and ensuring they use appropriate language during sessions. Unhealthy eating leads to many other obesity related issues.

Dietary Education in Regard to Behavioral Modification

Most participants emphasized that education on behavioral modification is crucial, particularly when parents of patients are involved. D3 highlighted the importance of encouraging patients to make their own decisions about eating and maintaining a healthy lifestyle. D2 noted that various healthier food options are available, and some community grocery stores are actively working to provide consistent access to healthy foods and snacks.

D4 agreed that making healthy life choices is vital in treating pediatric obesity. However, without access to affordable and nutritious options, improvements in health services are unlikely. D6 pointed out the significance of incorporating healthy snacks and fresh fruits into daily meals. Additionally, collaboratively planning healthy meals with patients and their families during sessions may motivate patients to adopt healthier eating habits. D8 mentioned that addressing healthy lifestyle issues fosters positive behavior.

Furthermore, D8 indicated that external reinforcement related to food consumption and portion control can enhance the lifestyles of pediatric patients. D4, D5, and D7 also placed emphasis on the external reinforcement relating to behavioral change during their sessions, especially coming up with small and achievable SMART goals. D4 stated, It is more rewarding involving pediatric patients in the creation of SMART goals. Furthermore, when the patient is involved in the creation of the goal, they may actually follow through and the goal can be modified based on their progress without any setback or issue. D7 stated that working along with the patient on behavioral intervention regarding healthy living does make the relationship between the dietician and patient smoothly while maintain patient engagement.

Dieticians' Encouragement of Achievable Goals to Build Patients Confidence

D2, D5, and D6 illustrated the importance of establishing achievable goals for both patients and their family members. D5 pointed out that a SMART goal, such as engaging in healthy cooking, is realistic and attainable. Furthermore, the SCT utilized in this study is one of the most widely recognized frameworks concerning healthy eating and positive lifestyle behaviors. D2 noted that many patients tend to consume unprocessed foods when they are home alone due to a lack of skills in preparing healthy meals.

Many parents or family members of pediatric patients hold two or three jobs, which often limits their ability to provide sufficient guidance as they focus on fulfilling financial responsibilities. Given the restricted time that most parents can allocate to their pediatric patients, it is essential to set simple, achievable goals that the patient can pursue while at home alone. D6 mentioned that establishing attainable goals fosters hope and builds confidence, thereby motivating pediatric patients to adhere to them. Moreover, when patients feel sufficiently confident to make behavioral changes, they are more inclined to pursue those changes. D6 further explained that self-efficacy, a vital aspect of the SCT, involves patients taking on a healthy lifestyle and making behavioral adjustments to meet specific lifestyle objectives.

Patient Incentive and Rewards for Healthy Alternative Lifestyle

D5 emphasized that rewards and treats play a significant role in working with pediatric patients. D6 noted that children will always act like children, and to encourage patients to collaborate with the dietitian and engage in motivational sessions, rewards are sometimes provided. D5 also highlighted that they often offer positive praise and words of encouragement.

D6 explained that during the session, some children agreed to eat more vegetables daily if they could enjoy a scoop of ice cream for dessert afterward. Additionally, D6 indicated that when working with pediatric patients, it is essential to make them feel as though they are in control and that the dietitian believes in and trusts them. D7 concurred, stating that children desire control and that family members should also contribute positively.

D6, D7, and D8 all agreed that children tend to mirror their parents or role models, often replicating the behaviors they observe in family members. D7 remarked that several family members noted their children are more likely to eat vegetables and fruit when they are at home. One participant mentioned that when a patient eats broccoli, they are rewarded with a strawberry milkshake. Rewards and incentives are crucial when working with patients, especially those 6years old or younger. Both external and internal reinforcement can be effectively utilized as incentives and rewards.

Fostering of Health Literacy Programs Among Multidisciplinary Clinicians

Several participants emphasized that health literacy can significantly enhance the lives of pediatric patients and their families. Five participants highlighted the importance of patients understanding and retaining the information discussed during sessions focused on pediatric obesity education. Health literacy is vital because some patients face challenges in comprehending the information due to educational and cultural differences. D8 stated, “Most kids do not understand what a healthy lifestyle looks like because of the ability to comprehend fully.” D2 concurred, adding:

The level of health literacy and the use of culturally appropriate language are crucial. Dietitians need to collaborate more effectively to provide multidisciplinary services that incorporate suitable cultural linguistics. However, the absence of pediatric obesity education or health literacy complicates communication during sessions with pediatric patients. All participants indicated that with adequate cultural language support, pediatric patients would be better equipped to understand and engage with educational materials on pediatric obesity, including MyPlate, portion control, access to community resources, and other healthy lifestyle choices related to pediatric obesity.

Use of Appropriate Languages and Enhancing Health Literacy

The participant at one point of the other referred to the uses of people first language or appropriate choice of words when dealing with others. D2 stated that

> I strive to use people-first language when describing situations. However, since I also communicate with parents, my approach depends on my audience. When speaking directly to a child, I make an effort to use vocabulary that suits their level. Even in conversations with parents, I try to avoid overly technical terms; still, there are instances where I unintentionally slip into such language. It requires practice and effort to develop this skill.

D8 also mentioned that;

"When it comes to using appropriate words, I believe it's crucial to assess the patient's level of understanding and to determine whether the patient and their family member have low or high health literacy regarding pediatric obesity. If the patient is a child under seven, I typically focus my communication on the parent but may involve the child to some degree, depending on their level of engagement. For teenagers or more engaged children, I communicate directly with them. It is essential to identify who will be primarily responsible for acting on the information I wish to share—whether that responsibility lies with the patient, both the patient and the parent, or just the parent.

Furthermore, understanding the family's preferred language and any health literacy concerns is vital. I consider whether the family has a high level of education or a medical background, as these factors can influence communication. I always review the chart for language preferences and relevant details, but I recognize that this information can sometimes be inaccurate. Therefore, I prioritize discussing these matters directly with the patient and family member. It is crucial for the care team and the patient to communicate effectively so that the dietitians can provide high-quality obesity services for obese children in children's hospitals in Northeast Maryland. The more knowledge and understanding the patient has regarding pediatric obesity, the more the obese patient can work toward behavioral changes and a healthier lifestyle.

RQ2: What are the main gaps or barriers identified by the dieticians in the treatment of pediatric patients who are obese? 2 What improvements do they recommend in the treatment of pediatric patients who are obese? For the second RQ, the themes that emerged to answer the questions were (a) weight stigmatization challenges regarding pediatric obesity treatment and (b) dieticians as obesity educators.

Weight Stigmatization Challenges Regarding Pediatric Obesity Treatment

The research study's participants reported encountering various challenges that differed depending on their setting, yet many were consistent across the board. These challenges included limited time with patients, insufficient follow-up for continuity of care, a shortage of in-person interpreters, long wait times for virtual interpreters, issues related to insurance, and varying levels of health literacy among patients. Most participants noted that the restricted time spent with pediatric patients made it difficult to implement individualized educational treatment plans for pediatric obesity, presenting a significant obstacle to effective obesity education. A few participants highlighted that language barriers created a communication gap between dieticians, other health care providers, and patients. D8 stated that:

> I think it's important to assess the patients' and families' understanding of what's being said. The absence of multidisciplinary team involvement in pediatric treatment within children's hospitals complicates collaboration between dieticians and patients, particularly when access to in-person sessions is often limited.

Two participants noted gaps in educating family members about healthy lifestyles due to the restricted time allocated for patient sessions, especially when observational learning is involved. Another participant emphasized that financial constraints and lack of insurance are significant challenges faced by patients in accessing follow-up care for obesity treatment. D6 stated, “Some patients lacked the financial means to return for additional sessions or to follow up on recommendations. Often, they could not afford to purchase healthy food, which is crucial for addressing pediatric obesity through treatment and education.”

Dietician as an Obesity Educator

Few participants shared that dieticians are the best educators for pediatric obesity. D4 stated that:

> We assist in managing, diagnosing, and educating pediatric patients about healthy lifestyles. To encourage these patients to adopt healthy eating habits, it is essential for dieticians to use appropriate language. D1 emphasized that “when providing educational counseling to pediatric patients, the right words are important.” D1 further explained that during sessions, “they have to communicate in a way that

> kids can understand, and at times interpreters are needed to simplify what is being said."

D5 noted that:

> With the right educational language and the use of observational learning, especially with My Plate, kids tend to be attentive and forthcoming during motivational counseling sessions." Additionally, using culturally appropriate language can help enhance awareness during sessions and assist patients in setting achievable goals.

D2 stated that:

Dieticians' perspectives and ongoing education regarding obesity treatment are essential, particularly as more options become available for individuals looking to make nutritional changes but unsure of where to start. For example, various healthier food choices are now accessible, and some grocery chains are improving the availability of these options. However, many pediatric patients remain unaware of these healthier changes and require continuous nutritional counseling.

D2 observed that:

> There are significant shifts, both internally and externally, in how patients perceive healthy living. This transformation has made it challenging to provide external positive reinforcement. Pediatric patients frequently turn to social media, television, and other sources for information, much of which can be misleading. This is where dieticians, as educators, play a crucial role.

Summary

Chapter 4 focused on the research and interview questions. This study examined two RQs: one focused on dieticians' perceptions of reinforcements that positively and negatively influence pediatric patient behavior, and the other addressed the challenges faced in treating these patients. This chapter supports the conceptual framework of reciprocal determinism, which was rooted in SCT as proposed by Bandura (1986). The framework emphasized the interplay between personal beliefs, behaviors, and environmental factors.

The perceptions and experiences of dieticians with their patients, as discussed in the interviews, aligned with the SCT framework, particularly regarding how dieticians educate and treat pediatric patients in children's hospitals. Most participants emphasized the value of educating both patients and their families about healthy eating. The SCT framework indicates that individuals can act as agents of change and respond to environmental shifts. Data collected from participants confirmed that individuals can indeed serve as agents of change.

Most participants observed that their patients were motivated to improve their health. They set SMART goals and engaged in motivational counseling and observational learning to enhance their understanding of healthy eating, which are all forms of internal and external behavioral modification intervention form the SCT. However, participants also acknowledged various challenges, including issues related to insurance, transportation, food deserts, and language barriers. Despite these obstacles, participants felt confident that they could significantly impact the effective treatment of pediatric obesity.

A few participants highlighted that perception plays a vital role for patients. If patients and their families believe they can make a difference and adopt a healthy lifestyle, they are more likely to implement positive changes that could enhance their lives. For RQ1, three themes emerged: healthy eating as positive reinforcement, unhealthy eating as negative reinforcement, and fostering health literacy. For RQ2, two themes were identified: dietician challenges in obesity treatment and dieticians as educators in obesity management. Chapter 5 will provide a detailed summary of the recommendations and conclusions drawn from this research study.

Chapter 5: Discussion, Conclusion and Recommendations

Introduction

The purpose of this qualitative study was to explore dieticians' perceptions of the health services they provide for obese pediatric patients in children's hospitals located in Northeast Maryland. Many existing studies on pediatric obesity reveal limited evidence regarding the consistency of dietitians' methodologies and the outcomes of their treatment approaches, particularly within health services programs in these hospitals. Utilizing the conceptual framework of reciprocal determinism, derived from Bandura's (1986) SCT, I examined dieticians' perceptions, experiences, educational backgrounds, understanding, and treatment methods related to pediatric obesity in children's hospitals in Northeast Maryland.

Participants in this research study were asked about the internal and external reinforcements that negatively or positively affect patients, as well as the challenges associated with obesity treatment. The literature review for this research focused broadly on pediatric obesity, dieticians' perceptions, and educational interventions regarding sustainable obesity treatment in children's hospitals in Northeast Maryland. This study can promote social change by helping dieticians produce sustainable pediatric obesity treatment that may improve the lives of pediatrics, especially in low-income communities. The findings from this study could help with revision of obesity policy, especially regarding access to treatment in children's hospitals within low-income communities within all low-income communities, not just Northeast, Maryland.

Key Findings

From the data analysis for this study, I identified themes that address the study's two RQs:

RQ1: What are the dieticians' perceptions of the internal and external reinforcements that positively and negatively affect pediatric patients' behavior change? How do dieticians account for and address these reinforcements in the treatment of pediatric patients to promote positive behavior change? How do dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change? (reinforcements)

RQ2: What are the main gaps or barriers identified by dieticians in the treatment of pediatric patients who are obese? What improvements do they recommend in the treatment of pediatric patients who are obese?

The themes that emerged to answer the first RQ using the SLT for internal reinforcement were (a) dietician nutritional intervention regarding healthy eating, (b) motivational counseling regarding the challenge of living unhealthily, and (c) dietary education in regards to behavioral modification. Also, the themes that emerged using the SLT for external reinforcement were (a) dieticians encourage achievable goals to build patients' confidence and (b) patient incentive and rewards for healthy alternative lifestyle. For improvement recommendations in treating pediatric patients using the SLT, two themes emerged: (a) fostering health literacy programs among multidisciplinary clinicians and (b) using appropriate languages and enhancing health literacy. The two themes that emerged from the second RQ are (a) weight stigmatization challenge regarding pediatric obesity treatment and (b) dietician as an educator. Table 12 includes a summary of the findings.

Table 12

Summary of Findings

Research question	Theme
1. What are the dieticians' perceptions of the internal and external reinforcements that positively and negatively affect the pediatric patients' behavior change? How do dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change? (reinforcements)	Dietician nutritional intervention regarding healthy eating Motivational counseling regarding the challenge of living unhealthily Dieticians encourage achievable goals to build patients confidence Patient incentive and rewards for healthy alternative lifestyle Fostering health literacy programs among multidisciplinary clinicians Using appropriate languages and enhancing health literacy
2. What are the main gaps or barriers identified by dieticians in the treatment of pediatric patients who are obese? What improvements do they recommend in the treatment of pediatric patients who are obese?	Weight stigmatization challenges regarding pediatric obesity treatment Dietician as an obesity educator

Interpretation of the Findings

The research study highlighted dieticians' perceptions of the importance of collaborating with a multidisciplinary team to educate, counsel, and provide treatment for pediatric obesity, particularly in the context of promoting healthy eating (Franceschi et al., 2021). However, dieticians identified several constraints and gaps that could hinder healthy eating practices, the effectiveness of multidisciplinary teams, and health literacy, all of which may adversely affect the behaviors of obese pediatric patients in children's hospitals in Northeast Maryland.

Some of these constraints included long wait times, lack of insurance, transportation issues, health literacy deficits, challenges in using age-appropriate language, and insufficient comprehensive support services. Despite these challenges, dieticians acknowledged their critical role in delivering motivational counseling and implementing comprehensive intervention programs aimed at addressing pediatric obesity (Ockene et al., 2021).

Due to limited access to obesity care, cultural and language barriers, and the presence of dieticians in children's hospitals, dieticians continued to encounter difficulties in providing effective services to pediatric patients, which can significantly influence the outcomes of pediatric obesity treatment (Pope et al., 2023). As per information gathered from the participants, most of the pediatric patients and their families have several challenges regarding accessing comprehensive obesity treatment. We need to raise awareness about pediatric obesity treatment, particularly in low-income communities.

This study emphasizes dieticians' perceptions of health services provided by dieticians for obese pediatric patients within children's hospitals in Northeast Maryland. The goal of this study was to fill the gap(s) identified in the literature review. Low-income communities perceive pediatric obesity treatment as inaccessible due to lack of resources, transportation, insurance, follow-ups, and long wait times. Children's hospitals in Northeast Maryland must address all the aforementioned issues through educational interventions to develop treatment strategies that are sustainable.

In this research study, most of the participants mentioned that the lack of accessibility to compressive treatment, linguists, or appropriate language/interpreters; the lack of access to food pantries; unhealthy eating; and long waits contributed to the rise in the pediatric obesity trend. Also, the mentioned challenges may affect obesity treatment for pediatric patients. Dieticians perceived that unhealthy eating contributed immensely to pediatric obesity (Browne & Cuda., 2022).

Without the appropriate language, use of a multidisciplinary team, and access to affordable obesity treatment, dieticians have a difficult time providing services to pediatric patients in children's hospitals. Based on the trend of pediatric obesity, most of the study participants mentioned that healthy living, health literacy, and the use of a multidisciplinary team are essential for obesity treatment (Kirk et al., 2022).

Dietician Nutritional Intervention Regarding Healthy Eating

The job of a dietician is both rewarding and demanding. Dieticians diagnose, treat, and educate pediatric patients about reinforcements that affect their behavior positively and negatively (Finlayson et al., 2021). Healthy eating was the most positive word used by all participants in this study. Healthy eating entails "My Plate," portion control, fresh fruits and snacks, processed foods, and drinking adequate water. Dieticians typically discuss these topics during comprehensive and intensive interventions. Dieticians perceived that, by eating healthy, pediatric patients may live healthy lives. To maintain a healthy life, pediatric patients have to follow through with recommendations from their motivational counseling and SMART goals created with the dieticians (Darling et al., 2023).

With the right resources and accessibility, healthy eating may be possible for patients, especially in low-income communities. Lack of community resources, transportation, and access to food banks can make healthy eating difficult for low-income families and may have a significant impact on pediatric patients' treatment in children's hospitals. Statistically, lack of access to healthy eating has a major impact on pediatric obesity (Wong et al., 2023).

As a few of the participants mentioned, a pediatric patient doesn't need a lot of money to get organic fruits and vegetables. Canned foods without added sugar can also serve as alternatives to sugary foods. Healthy eating and behavioral changes prove to be highly effective, particularly when multiple clinicians collaborate to address the issue. It is important to note that three participants (D1, D4, and D7) mentioned that dietician perception regarding pediatric obesity education requires "prioritizing healthy eating," a "multidisciplinary approach," "prioritizing languages," and "family and parental education."

Healthy eating education plays a significant role in the treatment plan for pediatric obesity. Based on data analysis following the interviews, the researcher found that consistently implementing healthy eating interventions and providing comprehensive education for pediatric patients could enhance obesity treatment outcomes in Northeast

Maryland. Additionally, healthy eating interventions must be uniform across all settings and communities (Auckburally et al., 2021). The SLT utilized in this study is widely recognized for developing nutritional interventions, incorporating both in-person and observational learning. This concept was evident in the participants' descriptions of individual and group sessions, as well as observation and cooking sessions. Participants highlighted how they delivered health services through cooking sessions and motivational interviews aimed at promoting behavioral modifications.

Motivational Counseling Regarding the Challenge of Living Unhealthily

The lack of access to healthy living, especially healthy eating, poses a challenge for dieticians regarding providing obesity treatment to pediatric patients. Eating fatty food and unprocessed food is common with patients in low-income communities. One of the participants stated that most pediatric patients have little or no access to healthy food choices or adequate education regarding eating healthily due to limited time spent with a dietician (Wong et al., 2023).

Participants stated that health literacy and the lack of interpreters due to language barriers increased the chances of patients having unhealthy eating patterns. When a patient experiences emotional imbalances, they may eat whatever food is available or order takeout that is high in fat, either as a form of rebellion or because they need to feed themselves when their parents are unavailable. Based on information provided by the participants, some parents stated that they do not have the capacity to appropriately make healthy meals or access healthy food or snacks, making healthy eating difficult for their families.

The lack of access to community resources and food banks does contribute to unhealthy eating, especially in low-income communities. It is essential to educate patients on community resources and healthy food options, as pediatric obesity can lead to various health problems (diabetes, asthma, and heart disease) as well as social and emotional issues (Loos & Yeo, 2022). Dieticians in inpatient clinics encounter numerous challenges, particularly when delivering treatment that emphasizes healthy eating to patients. Some of the barriers include cultural and linguistic differences, long wait times, and issues with insurance (Kumari et al., 2023).

D7 mentioned that it is difficult to educate pediatric patients about healthy eating when means to communicating are compromised due to cultural differences. Furthermore, finding an interpreter when the dietician has about 30–60 min with a patient is unrealistic. When an in-person interpreter is unavailable, it can take over an hour to get one, which is a problem. Unhealthy eating needs to be discussed in obesity treatment to develop strategies to reduce incidences of poor food intake. All of the participants concurred that unhealthy eating is one of the essential causes of pediatric obesity and that dieticians are making great strides in treating pediatric patients by providing quality services in children’s hospitals in Northeast Maryland. Quality care fosters effective communication, builds trust, and allows patients to engage with their dieticians in a respectful and attentive environment (McMahan et al., 2021).

Dietary Education in Regard to Behavioral Modification

Dieticians provide behavioral modification as a crucial component of their pediatric obesity treatment, particularly when working with obese children. D6, D7, and D8 all agreed that behavioral modification improves patients' health, especially concerning healthy eating and portion control. The SLT supports behavioral modification by educating patients to believe in their ability to maintain a healthy lifestyle. The SLT model emphasizes the importance of self-belief and following through on what patients believe they can achieve. Most of the participants concurred that behavioral modification is primarily about dietary intervention and their ability to communicate effectively with patients and family members about eating habits (Warner and French, 2020).

Dieticians play an important role in behavioral modification by educating patients and providing comprehensive and intensive interventions, such as counseling sessions, cooking classes, education on “My Plate,” and other behavioral interventions. It is crucial that family members are also educated about the interventions for behavior modification, as they serve as role models and providers for the pediatric patients. The patients depend on and look up to their older family members for guidance. The SCT emphasizes that for effective behavioral modification, it is important to focus on the individual and their environment to provide adequate health services for pediatric obesity treatment (Bandura, 1986; 2001).

Dieticians Encourages Achievable Goals to Build Patients Confidence

D6 mentioned for the patient to follow through with their goals, they have to be confident that they can accomplish it. This relates to self-efficacy from the SCT theory, which is the confidence to achieve small goals based on what the patient can accomplish (Bandura, 1986, 2001; Bandura et al., 2003; Bussey & Bandura, 1999). D2 stated to help patients achieve their goals, they should follow actionable steps that enable them to celebrate their accomplishments along the way. As pediatric patients progress toward their goals, they build confidence and excitement, feeling more in control of their lives. It is crucial for these patients to set achievable goals to foster and enhance their confidence in living a healthy lifestyle. Participants noted that pediatric patients can reach their specific, measurable, attainable, relevant, and time-bound (SMART) goals if they possess confidence in their abilities. This perspective aligns with the concept of self-efficacy from SLT, which serves as a motivator for patients, as it reflects a patient's belief in their capability to accomplish specific goals (Bandura, 1986; 2001).

Patient Incentive and Rewards for Healthy Alternative Lifestyle

Pediatric patients require encouragement to achieve their goals related to the obesity services offered. Many participants observed patients struggle to maintain healthy lifestyles. To assist them in breaking unhealthy eating habits, snacking, portion sizes, and motivation are crucial (Hampl et al., 2023). Occasionally, a simple word of praise is sufficient; other times, it might involve a scoop of ice cream or participation in a group session with peers. One participant noted that he encourages children to expand their social networks during sessions, as the experience often inspires them to embrace healthier lifestyles.

Furthermore, most participants agreed that networking and socializing serve as external reinforcement interventions that effectively promote healthy living, particularly within the framework of SCT. Participants emphasized the importance of recognizing each patient's unique circumstances and motivations to drive change and facilitate behavioral modification. This approach ultimately enhances the health services available to patients and their families (Kelly, 2023). The SLT suggests that rewards and incentives play a crucial role in motivating patients to adopt a healthier lifestyle, which in turn leads to behavioral modifications that promote health and well-being (Bandura, 1986, 2001; Bandura et al., 2003; Bussey & Bandura, 1999).

Fostering Health Literacy Programs Among Multidisciplinary Clinicians

Dieticians must effectively educate patients on the treatment of pediatric obesity from the initial assessment (Darling et al., 2023). Several participants from the study mentioned that most pediatric patients do not have more than two visits with a dietician due to insurance. Most require a referral from the patient's primary doctors or other clinicians before conducting an obesity educational session with the patient. One participant stated there is an alert when a patient is severely underweight or overweight.

Without the alert, the dieticians do not see the patients. After completing the initial intake and verifying the patient's insurance and recommendation from their primary care provider (PCP), the dietician refers the patient to a weight management clinic.

The participants spoke of the difficulty in assisting the patient and family members in healthy eating behaviors when they have minimal information beyond the interactions with the dietician and struggle with health literacy. Low-income communities typically exhibit a lack of health literacy, which is often linked to individuals with limited educational backgrounds (Rathbone et al., 2023).

Additionally, the lack of health literacy may limit the patient's ability to engage in a healthy lifestyle as well as to adhere to recommendations for obesity treatment. Health literacy is important for the parent and family members as well (Anderson et al., 2023). The patient’s loved ones are typically responsible for providing care and support for the children. Children look up to the family members as role models. The observational learning component of SCT, which is a core element of the theory, emphasizes how pediatric patients look up to their parents as role models and imitate their everyday behaviors (Bandura, 1986, 2001; Bandura et al., 2003; Bussey & Bandura, 1999). When pediatric patients and their family members are knowledgeable about obesity treatment and healthy lifestyles, they are more likely to attend follow-up sessions, practice healthy eating, and control portion sizes. They also establish SMART goals, especially when a multidisciplinary team with experience in obesity treatment provides continuity of care (Schunk & DiBenedetto., 2020).

Use of Appropriate Languages and Enhancement of Health Literacy

Services provided by dieticians regarding pediatric obesity are crucial. To deliver effective obesity treatment, dieticians must collaborate closely with pediatric patients, fostering trust and cooperation (Peterson et al., 2021). It is essential that patients comprehend the information being conveyed. D6 noted that many patients have limited or no educational background. Additionally, pediatric patients often have a narrower understanding compared to older patients. D8 stressed that choosing the right words is crucial, as how something is said can motivate others to commit to the SMART goals set.

Understanding the educational or cultural background of family members is also important, as pediatric patients frequently look to them for guidance. This makes health literacy, which requires careful word choice, essential for family members as well. A lack of understanding of health information or discussions in motivational sessions can cause pediatric patients to adopt unhealthy lifestyles and make poor health choices. Such negative behaviors can contribute to pediatric obesity (Davis et al., 2024). Moreover, inadequate language skills may hinder the ability to understand food labels, accurately measure food portions, and grasp the concept of a healthy plate. Data from the study and participants' feedback confirmed that pediatric patients build trust and cooperation (Peterson et al., 2021) when they comprehend what their dietician is communicating. The choice of words is crucial in health services, particularly when treating pediatric patients, as children have a more limited understanding compared to older individuals.

Weight Stigmatization Challenges Regarding Pediatric Obesity Treatment

Many challenges exist in treating pediatric obesity, particularly in the inpatient settings of children's hospitals. Pediatric patients' level of understanding, the use of appropriate language, language barriers, health literacy, insurance, transportation, long wait times, and a lack of follow-up are all challenges faced, according to participants in this study. Communicating with patients at their level is crucial to engage them in the obesity treatment process. When there is a language barrier, there will be a lack of trust and misunderstanding (Caprio et al., 2020).

The lack of appropriate languages may cause significant challenges when encouraging patients to adhere to obesity treatment (Danquah et al., 2020). One participant emphasized the importance of being mindful of both the words used and the way dieticians refer to pediatric patients, as children can be sensitive. Dieticians' terms for kids can hinder their honesty and openness during assessments. If kids feel unsafe, they may not open up or be honest during the assessment or motivational counseling. Children may find it difficult to adhere to the obesity treatment plan if they feel threatened. Additionally, insurance can be a challenge for some pediatric patients (Kumari et al., 2023).

Most participants mentioned that insurance often does not cover obesity treatment, and the out-of-pocket costs are increasingly high. Family members, particularly those from low-income communities, often lack the necessary funds to cover the out-of-pocket expenses. Because of little or no money, most families will not go back for follow-up sessions or follow through with the obesity treatment plan and recommendation, causing a gap in the treatment process. Even if the patient can afford the treatment plan, the wait time for an appointment or referral can be stressful for both the patient and their family members, which contributes to more patients being obese (Fox et al., 2023; González-Álvarez et al., 2020). The rise in pediatric obesity has led to bias among a few dieticians, which affects health services being provided to pediatric patients (Kansra et al., 2021).

Dieticians as Obesity Educators

Dieticians play a pivotal role in the obesity treatment process. Research shows that counseling provided by dieticians is essential for managing pediatric obesity. Dieticians provide various nutritional counseling services, which focus on comprehensive and intensive interventions (Kim & Burton, 2024; Puma et al., 2023). Most registered dieticians have extensive knowledge regarding diet education, “My Plate,” portion control and sizes, food texture, healthy eating, and living healthily. Dieticians also do screenings, assess patients, provide medication support to pediatric patients, and educate as well as encourage patients to live a healthy lifestyle (Johnson et al., 2023).

Participants mentioned they could provide more quality obesity treatment if they had more access to patients. One of the participants noted that pediatric patients and their family members reported that dieticians discussed all aspects of healthy living with them during the initial assessment and recommended follow-up, as necessary. Participants perceived that, with the involvement of other clinicians, the educational session could be more detailed; however, they felt that healthy eating and lifestyle were not adequately explained due to time constraints and other limitations.

Registered dieticians are well equipped to educate and help manage pediatric obesity. Dieticians may provide tips and motivational counseling to both the patient and the family members about the portion of food based on the patient's size, fitness level, and gender (Kim & Burton., 2024). Another participant also stated that dieticians assist with interventions that could positively affect a patient's behavior by addressing other dietary conditions and collaborating with a multidisciplinary team for effective obesity treatment. The theme Dieticians as Educators has been validated through data collected from participants and a thorough literature review used in the study. Dieticians play a crucial role in addressing pediatric obesity. Their responsibilities in combating this issue include assessing, diagnosing, and implementing treatment interventions (Holescher et al., 2022).

Limitations

During the timeline for this study, the essential limitation was that all of the participants opted for audio interviews, with no video recording, which limited me from observing their body language and facial expressions. While the collected data was sufficient, the use of video interviews could have yielded additional benefits, such as the ability to recognize hidden words. Furthermore, the size of the study was 8-10 participants.

Even though saturation was reached with the six participants, the limited participant size may not be used for a bigger population. The aim for selecting 8–10 participants was to solicit different views but also to make sure that the researcher reached saturation with the 8–10 participants. The study's analysis techniques, participant demographics, and methods may also be a limitation.

Furthermore, I self-selected the participants from my social media platforms and LinkedIn. All participants in the study were from Northeast MD, which may be considered a limitation because dieticians working in children’s hospitals outside of this region were not included. Northeast Maryland was the demographic chosen for this study because one in five kids is obese, and it comprises low-income communities.

The study participants were self-selected and were not random. All the participants of the study were females who have more than 4 years of experience working with obese pediatric patients in different clinic settings. Because all participants were female, the study may be subject to gender bias. Male participants may have had different perceptions and experiences than their female colleagues.

Lastly, three of the participants are owners of their own private practice but still work in children’s hospitals; their experiences and qualifications could also have swayed the study results. At the same time, the researcher used a reflexive journal and peer review for the validity of the study and to keep any bias that may have formed under control. Outside forces did not impact on the study.

Recommendations

The conceptual framework of reciprocal determinism, which comes from Bandura's SCT from 1986, was used in this study to explore how dieticians provide care. The provision of care consists of education on individualized care plans, counseling sessions, tailored meal plans, and education on evidence-based food and dietary interventions as they pertain to health services provided by dieticians in children's hospitals.

This qualitative study establishes a strong foundation for future researchers to enhance pediatric obesity treatment in children's hospitals. The findings highlight some serious areas that may need to be improved to further enhance pediatric obesity care in children's hospitals in low-income communities, with comprehensive and intensive interventions that would positively affect pediatric patient behavior. Key areas for improvement are:

- More refined policy to ensure continuity of care and free access to obesity treatment
- Exploration of having dietitians as part of primary care visits for early intervention
- Lack of community resources
- Improved coordination of care and communication between all clinicians
- Unreliable interpreter services and long wait time
- Use of non-stigmatizing language and promotion of healthy choices

- Development of a resource directory to connect families with community-support
- Language and cultural barriers
- Collaboration with caseworkers to address transportation and resource barriers.
- Emphasis on education and modeling of healthy behaviors for parents
- Training on weight bias and stigma for all health care providers at the hospitals.
- Better communication for patients with limited English proficiency
- Multidisciplinary team training
- Long wait time for referral
- Use of appropriate language
- Improvements to health literacy

For future study, several recommendations could be considered. Conducting the study and selecting participants who are open to a video recording or in-person interview is not the only option. The face-to-face or video-recorded interview will allow the researcher to observe their participants' body cues and facial expressions. Participants could feel more comfortable and answer the interview questions at length, which can lead to several follow-up 'questions.

This qualitative research study can be repeated using mixed methods for enhanced and in-depth understanding of the dietician's perception regarding pediatric obesity treatment. Additionally, conducting this study in all children's hospitals across the United States would be beneficial. This study should consider the challenges faced by children's hospitals across various states, including health and policy issues that are currently affecting them.

Future research should encompass not only dieticians but also other clinicians who offer advice to enhance the continuity of care for obesity. Furthermore, dieticians all across the United States can work together to develop strategies to improve communication with pediatric patients who come from diverse linguistic backgrounds. Enhancing assessment tools to accurately gauge pediatric patients' understanding of obesity treatment recommendations is important. These strategies should target dieticians and also include other clinicians who contribute to improving the continuity of pediatric obesity treatment.

Moreover, there is a need to address a few of the gaps and challenges identified in the current obesity approach for pediatric patients. Future researchers need to tackle issues such as behavioral reinforcement mechanisms, determine the most efficient positive and negative reinforcement methods, and also pinpoint the internal and external elements that inspire children to sustain healthy lifestyle modifications.

At the same time, future research is needed to effectively develop and implement a continuous, holistic, patient-centered approach that addresses financial, educational, and health care access challenges across children's hospitals in the United States. Additionally, there is a gap in comprehensive policy that includes dietitians from the initial patient contact, and further research is needed to explore the necessity of government-funded obesity treatment programs. The aforementioned recommendation would improve obesity treatment across the United States and may help minimize the pediatric obesity trend.

Implications

Dieticians play a crucial role in the treatment of pediatric obesity. This study's goal is to assist dieticians in developing sustainable pediatric obesity treatments that could be used to enhance the lifestyles of pediatric patients (Resniscow et al., 2024), particularly in Northeast Maryland. Comprehensive and intensive treatment intervention used in children's hospitals by dieticians focuses on improving community member lifestyles. The aforementioned intervention encourages patients and their family members to eat healthy food and lead a healthy lifestyle.

Pediatric obesity treatment, which mainly focuses on lifestyle interventions, may help reduce stigma and discrimination against obese pediatric patients. When the patient is content and confident, they may engage more with the treatment recommendations. Educating pediatric patients and their family members will provide access to community resources (food banks and healthy fruits & vegetables) (Holescher et al., 2022). Moreover, this study may enlighten patients and the family members on how to assess obesity resources and improve communication between the patients and their dietician.

Based on a few of the participants' responses regarding intervention that negatively affect the patient's behavior, this study will enhance other dieticians' and pediatric patients’ knowledge on how to turn interventions that affect the patient negatively into interventions that can positively affect pediatric patients’ conduct. Furthermore, this study placed emphasis on the use of appropriate language and health literacy. Both of these factors can help improve the dietician's relationship with the patient and their family members while enhancing the patient's ability to make informed decisions regarding obesity treatment.

Also, most of the participants mentioned that obesity education helps with dietary patterns, which can minimize non-communicable health issues like hypertension and obesity. Furthermore, this study may help raise awareness about stigma and discrimination regarding obesity treatment and increase access to other obesity-related issues. Data from this study can help patients in low-income communities’ access affordable and available resources regarding obesity care. Most of the participants in this study mentioned that the patients and family members were educated on how to access food banks, local grocery pantries, and affordable healthy food options. This study focuses on healthy eating and a healthy lifestyle.

A healthy lifestyle helps improve emotional and physical well-being as well as brings improvement within the community (Obita et al., 2023). When the community members are healthy, they connect positively with one another and promote a healthy community. A healthy community brings opportunities and growth as well as empowers community members to live a more vibrant lifestyle. Children tend to be happier when engaged in healthy eating, physical activity, and other healthy life choices (Kansra et al., 2021).

This study may bring positive changes to patients and their family members by educating them on best practices relating to pediatric obesity. It highlights the importance of communication between the patient and multidisciplinary team. As was mentioned by a few participants in the study, continuity of care is essential, so having multiple clinicians involved with patient’s obesity treatment improves the patient's health and wellness.

Furthermore, this study can bring about positive social change by helping to shine the light on challenges faced by participants so that other dieticians can learn from and improve service to pediatric patients. Also, this qualitative study may help guide dieticians on more preventive interventions that could positively affect pediatric patients’ behavior. Dieticians can also recommend and advocate for more robust policies that can benefit pediatric patients.

This study may also help with policies regarding free obesity education and treatment for all pediatric patients, a continuous holistic patient-centered approach, and access to obesity care all over the United States. Given that dieticians are essential in pediatric obesity care, it is of utmost importance that dieticians working in children’s hospitals be present not only at the initial session but also at subsequent sessions to enhance treatment and coordination of care. The result of this study can provide better chances for pediatric patients and may help address the gap regarding access and availability of community resources for pediatric obesity treatment.

Conclusion

In this qualitative study, I examine dieticians' perceptions regarding the treatment of pediatric obesity in children's hospitals. Most participants perceived that a multidisciplinary team is essential for ensuring adequate continuity of care in pediatric obesity treatment (Anderson et al., 2023). There is a need for multidisciplinary clinicians to create comprehensive and intensive treatment plans that educate patients on holistic care. These teams are also vital for integrating and enhancing both the mental and physical aspects of the patient's life, as well as promoting continuity of care for patients and their family members.

Participants stressed the importance of using appropriate language in pediatric obesity treatment. One participant noted that it is crucial to communicate with pediatric patients using a calm voice and positive, encouraging words. We should apply this approach not only when speaking to children, but also when interacting with their parents. Engaging parents on their level is paramount, as it helps avoid judgmental tones and medical jargon that may confuse both the patient and their family.

For patients to adhere to recommendations and achieve their SMART goals, they must fully understand the information provided during motivational counseling. If English is not the patient's first language, having an interpreter available becomes essential. The literature review highlighted that wait times can be long, particularly when an interpreter is not readily available. Finding a suitable interpreter can take over an hour, which poses challenges in delivering effective pediatric obesity treatment.

Additionally, the literature review discussed unhealthy eating habits and lifestyles that negatively affect the behaviors of pediatric patients. This study emphasized the importance of following through with SMART goals and other recommendations. Additionally, the literature review indicates that dietitians in inpatient settings spend significantly less time with patients compared to outpatient dietitians.

The findings from this study can assist dietitians in developing new policies that mandate a specific amount of time spent with pediatric patients to enhance health services for pediatric obesity treatment. Furthermore, most participants in this study identified that longer wait times were a primary reason for pediatric patients' failure to adhere to recommendations or SMART goals.

The study's findings offer potential strategies to improve care coordination concerning the long waiting times, informed by dietitians' perceptions and experiences while providing comprehensive and intensive intervention care. The study also highlighted the issue of prolonged waiting times for interpreter services. A few participants expressed frustration over the lack of in-person interpreters and mentioned difficulties in finding one in a timely manner via phone.

Effective communication is essential for dietitians to educate pediatric patients and their families about interventions that could positively impact their behavior. The absence of efficient communication is recognized as a significant challenge in the treatment of obese pediatric patients (Kumari et al., 2023). This research study provides insights into dietitians' perceptions of pediatric obesity treatment, including their experiences, expectations, challenges, and recommendations regarding health services in children's hospitals in Northeast Maryland.

Additionally, the findings outline dietitian treatment plans, the motivational counseling they offer to encourage healthy lifestyles, and the obstacles they face in delivering obesity treatment. I also explored two RQs. Participants expressed disappointment when patients did not follow through with treatment recommendations and pride when they did. Some participants discussed the lack of resources, the importance of using appropriate terminology, collaborating with a multidisciplinary team, and the significance of health literacy in delivering health services.

Health literacy was particularly emphasized, given the focus on pediatric patients. It is crucial to educate patients and their family members at an understandable level to facilitate compliance with treatment plans and recommendations. A lack of knowledge about pediatric obesity can contribute to the development of unhealthy habits, highlighting the importance of health literacy in obesity care (Davis et al., 2024).

Nine themes emerged from the two RQs. The themes that emerged to answer the first RQ using the SLT for internal reinforcement were (a) dietician nutritional intervention regarding healthy eating, (b) motivational counseling regarding the challenge of living unhealthily and (c) dietary education in regards to behavioral modification. Also, the themes that emerged using the SLT for external reinforcement were (a) dieticians encourage achievable goals to build patients' confidence and (b) patient incentive & rewards for healthy alternative lifestyle. For improvement recommendation in treating pediatric patients using the SLT, two themes emerged: (a) fostering health literacy programs among multidisciplinary clinicians and (b) using appropriate languages and enhancing health literacy. The following themes were identified as answer to RQ2: The two themes that emerged from the second RQ are (a) weight stigmatization challenge regarding pediatric obesity treatment and (b) dietician as an educator. Therefore, the findings of the study showed when obese patients adhere to healthy eating recommendations, dietitians can be very helpful in assisting them in developing healthy eating habits.

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Appendix A: Interview Protocol

Warm-Up Questions

Thank you for filling out the invitation survey let us begin with these questions:

1. How long have you been working with pediatric patient and the family members?
2. Do you collaborate with other dieticians in other children hospital regarding sustainable obesity treatments?
3. Do you face any challenge when providing services to pediatric patient and the family members?

The RQs driving this research study are as follows:

RQ1: What are the dieticians' perceptions of the internal and external reinforcements that positively and negatively affect the pediatric patients' behavior change? How do the dieticians account for and address these reinforcements in the treatment of the pediatric patient to foster positive behavior change? (reinforcements)

RQ2: What are the main gaps or barriers identified by the dieticians in the treatment of pediatric patients who are obese? What improvements do they recommend in the treatment of pediatric patients who are obese?)

Interview Questions

1. Please tell me about the main component of the obesity treatment program you are using in your hospital to engage pediatric patients.

2. What are the primary internal reinforcements that positively affect obese pediatric patients' behavior?
3. What are the primary internal reinforcements that negatively affect obese pediatric patients' behavior?
    a. Do you have any concerns regarding the child's level of understanding and the ability to follow through on behavioral recommendation? Please tell me about them.
4. How do you address these internal reinforcements in the treatment of your pediatric patients who are obese?
    a. Do dieticians use observational learning as a modality when delivering services to pediatric patient and the family members? Explain. Do you perceive these as effective?
5. What time frame is realistic for accomplishing the goals and objectives of the obesity treatment program for pediatric patients who are obese? Do you meet with the patient and parent or guardian to establish the timeframe and set goals?
6. Tell me about the barriers faced by this hospital and other children hospital in low-income community in Northeast Maryland that deal with pediatric obesity?
7. How do you address the internal reinforcements regarding the treatment of your pediatric patients who are obese?
8. How do you address the external reinforcements regarding the treatment of pediatric patients who are obese?

9. What changes, if any, would you make to the treatment protocol for addressing internal reinforcements for pediatric patients who are obese?
10. What are the mains barriers that negatively affect the treatment of your pediatric patients who are obese?
11. How do you address these barriers that affect the treatment of your pediatric patients who are obese?
12. Tell me about the barriers faced by this hospital and other children hospital in low-income community in Northeast Maryland that deal with pediatric obesity?

Appendix B: Welcome Letter

Attention Participant:

Congratulations. You Are Invited to Take Part in a research Study Titled "Dieticians' Perception of Pediatric Obesity Education Intervention in Children's Hospitals in Northeast, MD." Are You a Dietician Working with Obese Children in Northeast Maryland?

I am requesting assistance in conducting an audio recorded interview (no video recording). Transcripts of the interview will be analyzed as part of the research study, and copies of the transcript will be sent to participants for verification and/or comments and be available upon request from the university. Participating in this study will not pose a risk to your safety or wellbeing. If desired, you may opt out of the study at a later date. Participation will average One 45-60mins audio recorded Teams interview.

Privacy

The researcher is required to protect your privacy within the limits of the law. The researcher is only allowed to share your identity or contact info as needed with Walden University supervisors (who are required to respect your privacy) or with authority if court-ordered (very rare). The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. If the researcher were to share this data set with another researcher in the future, the data set would contain no identifiers so this would not involve another round of obtaining informed consent. Data will be kept secure by using number in place of name, password protection in order to access devices and drives storing the study data, data encryption, and the data set will be stored on the researcher own device. Data will be kept for a period of at least 5 years, as required by the university

Contacts and Questions:

You can ask questions of the researcher by calling the cell # [redacted]8 or emailing constance.bartu@waldenu.edu. If you want to talk privately about your rights as a participant or any negative parts of the study, you can call Walden University's Research Participant Advocate at [redacted]. Walden University's approval number for this study is 03-18-25-0760142. It expires on March 17, 2026.

You might wish to retain this consent form for your records. You may ask the researcher or Walden University for a copy at any time using the contact info above.

Appendix C: Confidentiality Agreement

Name of Signer: Constance Bartu

During my activity in collecting data for this research, Dieticians Perceptions of Childhood Obesity in Children Hospital Located in the Northeast of Maryland, I will have access to information, which is confidential and will not be disclosed. I acknowledge that the information must remain confidential, and that improper disclosure of confidential information can be damaging to the participant.

By signing this Confidentiality Agreement, I acknowledge and agree that:

- I will not disclose or discuss any confidential information with others, including friends or family.
- I will not in any way divulge, copy, release, sell, loan, alter, or destroy any confidential information except as properly authorized.
- I will not discuss confidential information where others can overhear the conversation. I understand that it is not acceptable to discuss confidential information even if the participant's name is not used.
- I will not make any unauthorized transmissions, inquiries, modification, or purging of confidential information.
- I agree that my obligations under this agreement will continue after termination of the job that I will perform.
- I understand that violation of this agreement will have legal implications.

- I will only access or use systems or devices I am officially authorized to access, and I will not demonstrate the operation or function of systems or devices to unauthorized individuals.

By signing this document, I acknowledge that I have read the agreement, and I agree to comply with all the terms and conditions stated above.

Signature: Constance Bartu__ Date ________________