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Improving preadolescence nutritional knowledge to improve healthy life: A quality improvement project.

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Improving preadolescence nutritional knowledge to improve healthy life: A quality improvement project.

**A Scholarly Project Presented to the Faculty of the
Nicole Wertheim College of Nursing and Health Sciences**

Florida International University

**In partial fulfillment of the requirement
For the Degree of Doctor of Nursing Practice**

By

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Date 11/13/2022

Abstract

Being overweight or obese increases rates of cardiovascular, musculoskeletal, psychological, or social disorders (Centers for Disease Control and Prevention, 2022). Primary care clinics have various techniques to teach nutritional and physical recommendations, but the rate of children with a body mass index ≥ 85 remains about 41% (United States Department of Agriculture, 2020). To improve a person's health behavior, one must consider the effectiveness of the tools used to promote a healthy lifestyle. This quality improvement study aims to improve the nutritious food selection of pediatric patients using a nutritional intervention program that encourages changes to their dietary and physical behaviors. **Method:** The theoretical framework used is the Social Cognitive Theory. The study collected quantitative and qualitative data to assess preadolescents' nutritional and physical status and nutritional knowledge. Participants were given a 20-min educational intervention on the 5-2-1-0 Let's Go program. **Results:** 7 participants, aged 9 to 13, with a body mass index ≥ 85 , participated in the quality improvement project. All participants completed the pre-, post, and two-week follow-up questionnaires. The questions assessed current nutritional and physical status using a Modified CDC 2021 Youth Risk Behaviors and Surveillance System survey and the Preadolescent Nutritional Knowledge and Behavioral Questionnaire. Overall, there was a 24% increase between the pre-test and the two-week follow-up. A paired sample t-test assessed the effectiveness of the educational program. There was significance noted between the overall score of the pre-test and two-week follow-up, $t(6) = -2.90$, $p = .027$ ($p < 0.05$). The study revealed that preadolescents could change their dietary behavior with appropriate support and educational tools. Also, when educating pediatric patients, providers must consider the family unit and community to support them.

Keywords: overweight, obese, education, intervention, preadolescents

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Introduction

The USDA (2020) reported that childhood obesity or overweight is about 41% of children and adolescents in the United States, with a higher rate among minorities. In addition, the AAP (n.d.) reported an increased likelihood of being obese as an adult. There is an increased risk of "chronic health conditions such diabetes, hypertension, cardiovascular disease, and many other chronic conditions" (AAP, n.d.; USDA, 2020). Another effect of being overweight or obese is a poor quality of life and increased healthcare costs (AAP, n.d.). Obesity or being overweight increases adolescent risk for psychosocial issues, such as "depression, bullying, and poor self-esteem" (Harrison & Greenhouse, 2018; USDA, 2020).

Problem Statement

Proper nutrition is essential for growth and development. During the preadolescent phase, nutritional intake will vary based on developmental and growth changes (Parks et al., 2020). About 20% of their height and 60% of their muscle mass is achieved through adequate nutrients, vitamins, and proteins needed to produce energy (Benedict et al., 2018). Since peer's influence preadolescents, and they tend to skip meals or eat foods with a high concentration of fats and sugars, an early introduction to nutritional literacy can prevent adverse health outcomes as adults (Benedict et al., 2018; Harrison & Greenhouse, 2018; Parks et al., 2020).

In pediatric primary care, discussing the nutritional status and promoting a healthier lifestyle for patients and their families is recommended. However, many providers report minimal effort made during the patient visit. Harrison and Greenhouse (2018) state that about 96% of children in the United States have pediatricians. Providers should take the initiative to assess and raise awareness about the risk associated with poor nutrition. In 2007, a committee of experts composed of the American Medical Association (AMA), the Health Resources and

Services Administration (HRSA), and the Center for Disease and Prevention (CDC) established recommendations for primary care providers to prevent obesity by assessing and treating children that are at risk. One of the recommendations is an annual screening of all children's body mass index (BMI) over two years old while considering risk factors such as genetics and body composition since normal-weight children can become obese adults. The provider must assess eating habits, activity level, and patient screen time.

Significance

The term obesity refers to having a BMI greater than the 95th percentile for age and sex according to the standard growth chart developed by the World Health Organization (WHO) and the CDC/ National Center for Health Statistics (Kumar & Kelly, 2017). Currently, in the United States, about 18% of preadolescents are obese, and 35% are overweight (BMI greater than the 85th percentile but less than 95th), which places them at risk of becoming obese (Kumar & Kelly, 2017). The latest National Health and Nutrition Examination Survey reported preadolescent boys to have a 20% prevalence of obesity compared to preschoolers (Sanyaolu et al., 2019). Overall, obesity affects boys at a higher rate than girls (Sanyaolu et al., 2019). Kumar and Kelly (2017) state that heredity, nationality, and socioeconomic are risk factors for obesity. Those living in low-income areas, minorities (African Americans, American Indians, and Mexican Americans), or those with one obese parent have at least double the risk. Lastly, the lack of appropriate diet and exercise and non-modifiable risk factors contribute to obesity (Sanyaolu et al., (2019).

The CDC's Division of Nutrition, Physical Activity, and Obesity (DNPAO) (2021) states that one out of 10 children in the United States eat less than the recommended number of fruits and vegetables. The DNPAO conducts the Youth Risk Behaviors and Surveillance System

(YRBSS) in the United States; the data collected identifies risk factors, implements change, and improves outcomes (CDC, 2021). In Florida, the 2019 YRBSS reported on over 5400 students (grades 9-12). The report concluded that about 46% of those students consumed <1 daily serving of vegetables and fruits. Only 23% of those students achieved more than one hour of moderate to vigorous physical activity, 21% participated in physical education, 16.8% reported drinking soda daily, and 22% reported watching three or more hours of television daily (CDC, 2019). The USDA Dietary Guideline for Americans 2020 – 2025 recommends an average of 2000 calories per day based on activity level (U.S. Departments of Agriculture [USDA], 2020). Based on these guidelines' preadolescents should consume an average of 3 cups per day of vegetables, 2 to 3 cups per day of fruits, 3 cups per day of low-fat dairy, 6 ounces per day of grains, and about 6 ounces of protein per day. The American Academy of Pediatrics (AAP) (n.d.) recommends 60 minutes of moderate to vigorous activity daily and less than 2 hours of television daily.

The "Known" about Preadolescents and Health

Obesity is a significant health issue in the United States among the preadolescent population. Eighteen percent of those children are obese, and about 35% are overweight (Sanyaolu et al., 2019). Minority children are more than likely to be affected due to socioeconomic conditions. Much research is currently being conducted to solve the overweight and obese crisis. Proper nutritional education, physical activity, and support have proven to implement change (Meiklejohn et al., 2016).

Literature Review

An extensive literature review was performed utilizing the Florida International University Library database consisting of the: EBSCOHOST, Cumulated Index to Nursing and Allied Health Literature (CINAHL), the United States National Library of Medicine (PubMed),

OVID was primarily used to locate primary research, systemic reviews, meta-analysis, quantitative or qualitative studies for the year range of 2016-2021. Searched terms to perform the literature review included children, school age, adolescents, preadolescents, nutritional education, nutritional knowledge, health games, nutritional education intervention, obesity, physical activity, and health behavior. The author found many articles focused on improving nutritional knowledge utilizing the Boolean operator AND and OR combination. Over 150 articles on adolescents' school age, nutritional knowledge, and interventions were generated. The author reviewed 20 articles but chose five articles that met the inclusion criteria of assessing nutritional knowledge and behavioral habits and performing a nutritional education intervention that addressed the PICOT clinical question. Article selections were based on the project title, the study design, the theoretical framework utilized, affiliations, the performed intervention, the targeted population, the relevant outcome, sample size, strengths and limitations noted, and future recommendations. The articles were also evaluated utilizing the John Hopkins Nursing Research Evidence Appraisal tool (table 1) (Dang & Dearholt, 2022).

Nutritional Education Intervention

Powell (2019) conducted a quasi-experimental quality improvement study that focused on improving school-age students' knowledge of healthy food options and executing changes in their behavior. The author planned to assess athletic school-aged children's pre- and post-nutritional knowledge and behavior after watching a nutritional video while waiting for their physical examination. Located at two school-based health clinics in Reedley, California: the study consisted of 600 randomly selected participants from two local high schools evaluating their nutritional knowledge. The clinics adhere to the preventative recommendation from influential organizations such as Bright Futures, the United States Task Force (USPSTF), and the

American Academy of Pediatrics (AAP). The study was open to all students from the school district registered for a sports physical. The study criteria are completing the pre-test questionnaires and watching the "9-minute Nutrition Basics for Healthy Athletes FP" video based on the United States Department of Agriculture (USDA) - My Plate and education on hydration from the American Chemical Society video and completing the post-test questionnaires. The initial pre- and post-questionnaires were performed in 2018. In 2019, a second small random study was conducted; it consisted of 70 students after eliminating incomplete surveys. Both studies yield a positive correlation between educational interventions and increased nutritional knowledge. The students believed the video helped them make better food choices.

Cho et al. (2017) conducted a quasi-experimental survey (n=1792) assessing the association between the 5-2-1-0 Let's Go goals and the completion of Progressive Cardiovascular Endurance Run (PACER) laps. The Survey of Physical Activity and Nutrition (SPAN), influenced by the 5-2-1-0 Let's Go! The campaign was developed to assess nutrition and activity. The 5-2-1-0 daily nutritional recommendations are at least 5 servings of vegetables and fruits, less than 2 hours of screen time, 1 hour of physical activity, and avoiding sugary drinks. PACER is a fitness test commonly used at schools to measure endurance. The study took place over two years at two middle schools, grades 6th to 8th, and the age range was 10-to-16-year-old. The participants were randomly selected utilizing the school district database and were instructed to complete the survey and the PACER laps. Data for the study were collected at nine random intervals within two years. The study's goal was to determine if adherence to the 5-2-1-0 goals would influence the completion of the PACER laps. The goals were given 1 point each, which 4 being the maximum point per survey. Overall, the results indicated that 49% (N=883) of

participants had their highest adherence to the fruits and vegetable goals, and 47% (N= 847) adhered to the physical activity goal.

In contrast, only about 1% met all four goals of the 5-2-1-0 goals. Also, the results indicated that participants who met more goals reported higher PACER laps. Lastly, one goal reported a higher amount of PACER laps than a person who did not achieve any goals.

Meiklejohn et al. (2016) performed a systemic review of RCTs with a meta-analysis focused on nutritional education intervention in adolescent populations. The literature search was conducted through several databases, such as Cumulated Index to Nursing and Allied Health Literature (CINAHL), OVID Medline, and PsycINFO; limited to human participants and published in English. The literature search yielded over 7,000 articles, and only 11 studies met the inclusions with about 190 to 3,500 participants. The criterion for the literature search was: RCT focused on nutritional education interventions published from 2000 to 2004, the adolescent population in a developed economy, and studies on health, nutrition, or "behavioral measures". The term adolescent was defined as age 10-19, resulting in changes within the body, labs levels, or nutritional consumption. Most of the 11 studies were performed in Europe, and only four were from North America. The interventions were composed of nutritional facts delivered by teachers, and students, technology such as text messages, interactive web-based programs, and physical programs. Two studies delivered through "physical education programs and activities" report changes in BMI. Significant dietary change was noted when parental involvement, direction from their teacher, or environmental changes were made for better food options.

Game-Based Intervention

Hermans et al. (2018) completed a between-subjects experimental study (N=108) to assess the effectiveness of a health web-based game on nutritional knowledge and the chosen

food options of school-aged children. The 118 volunteers were in primary school, in the fifth and sixth grades, ages 10 to 13, and randomly placed in one of the groups. During school, the study participants were instructed to play the videogame two times a day, for 30 minutes, for two consecutive days. The experimental group (N=50) played the Alien Health Game, designed to teach players about common macronutrients. They must make food choices to maintain the alien pilot's health to fly his ship. The control group (N=58) played Super Shopper, a game designed to select grocery items such as fruits and vegetables in which they were taught the level of nutrients contained in the item. The participant's nutritional knowledge was assessed pre-test, post-test (collected immediately after the second session), and 2-week follow-up. Dietary intake was assessed immediately after the game and at a 2-week follow-up through a "food-taste test". The food-taste test was utilized to examine their food choices. The study results indicated that the participants who played the Alien Health Game had better knowledge post-game but not during the 2-week follow-up. The dietary intake results reported that both groups could select healthier options.

BMI Intervention

Brown et al. (2018) conducted a study to deduce the effects of a "10-week lifestyle intervention" on the participant's (N=770) BMI and social or behavioral factors. The participant's ages ranged from 6 to 12. The study was conducted in Lanarkshire, Scotland, and was part of the Child Healthy Weight Program. The study was a repeated measure design that placed the participants in a control group for three consecutive months and then in an intervention group for the following three months. The 10-week intervention consisted of healthy eating habits, active educational activities, participation of parents, and education on changing habits. The participants had their height and weight assessed, and a "psychosocial" questionnaire was during

the pre-and post-control group, pre-and post-intervention group, and at six months follow-up. The study results determined that the 10-week intervention decreased BMI from the pre-test to the post-test, but no change was noted at the six months follow-up. During the control period, there were no changes noted. The participant's thoughts regarding trying fruits or vegetables did not change during the intervention phase. The authors suggest that a continuous support system and education are recommended to implement change.

Quality Improvement Project

Purpose

Early intervention is essential. According to the USDA Dietary Guideline for Americans 2020 – 2025, the preadolescent and adolescent stages are essential due to growth and development, developing skills, and forming habits that they carry over to adulthood (USDA, 2020). Healthcare providers play an essential role in educating pediatric patients on dietary requirements. Currently, the pediatric practice assesses all patient's BMI to acknowledge those \geq 85th percentile. The providers discuss the risks associated with being overweight or obese and develop nutritional goals to encourage weight loss and promote healthy eating. Patients received handouts of nutritional food options, and the provider discussed the recommended physical activity requirements.

Although the pediatric clinic has educational materials for teaching nutritional and physical recommendations, it may overwhelm the patients. The focus of this project was to introduce a fun, age-appropriate program in a primary care setting to preadolescents patients 9 to 13 years old, with a BMI \geq 85th percentile, to increase awareness of the recommended nutritional and physical requirements. Once the program was introduced, the outcome was to

confirm retention of the nutritional program and for the patient to change their nutritional and physical habits actively.

PICO Clinical Questions

The quality improvement project aimed to answer the question, "Will an age-appropriate nutritional program increase the preadolescent population's awareness of healthy food options?"

- **Population:** Preadolescents aged 9 to 13
- **Intervention:** Age-appropriate nutritional program
- **Comparison:** None
- **Outcome:** Likely to result in increased nutritional awareness

Objectives

The quality improvement project goals was to improve preadolescents' nutritional knowledge, encourage the selection of good healthy, nutritious foods daily, and to encourage physical activity daily. The program focused on providing an easy age-appropriate message that providers can utilize to assess and educate their patients and family members to promote healthy living and to assist in decreasing their BMI. A pre-, post-, and follow-up assessment using the Preadolescent Nutritional Knowledge and Behavioral and a Modified CDC 2021 Youth Risk Behaviors and Surveillance System survey (YRBSS) assessed the participant's nutritional and physical status. The MaineHealth "5-2-1-0 Let's Go!" nutritional program was introduced following the pre-test utilizing handouts and educational materials. The documented change allows the pediatric clinic to implement these changes and promote the "5-2-1-0 Let's Go" to all patients, utilizing office materials and poster boards to communicate healthy living.

Definition of Terms

The following defined terms are to facilitate the readers understanding. These terms are used throughout the paper.

Preadolescents are defined as a person aged 9 to 13.

Nutrition is defined as an essential part of growth and development is building the immune system, decreasing the risk associated with "non-communicable diseases", and increasing the length of life (World Health Organization, 2022).

Physical Activity is defined as at least 60 minutes of aerobic, muscle, or weight-bearing activities (AAP, 2017).

Body mass index (BMI) is defined as a screening tool that measures the BMI by dividing weight by the square of height (kg/m²) is then interpreted on a growth plot graph-based BMI-for-age (AAP, 2017). The BMI is useful in assessing nutritional status and overall health.

Overweight is defined as having a BMI \geq 85th percentile but \leq 95th percentile (AAP, 2017).

Obese is defined as having a BMI \geq 95th percentile (AAP, 2017). Persons who are overweight or obese are at risk of poor health due to excessive adipose tissue.

Conceptual Underpinning and Theoretical Framework of the Project

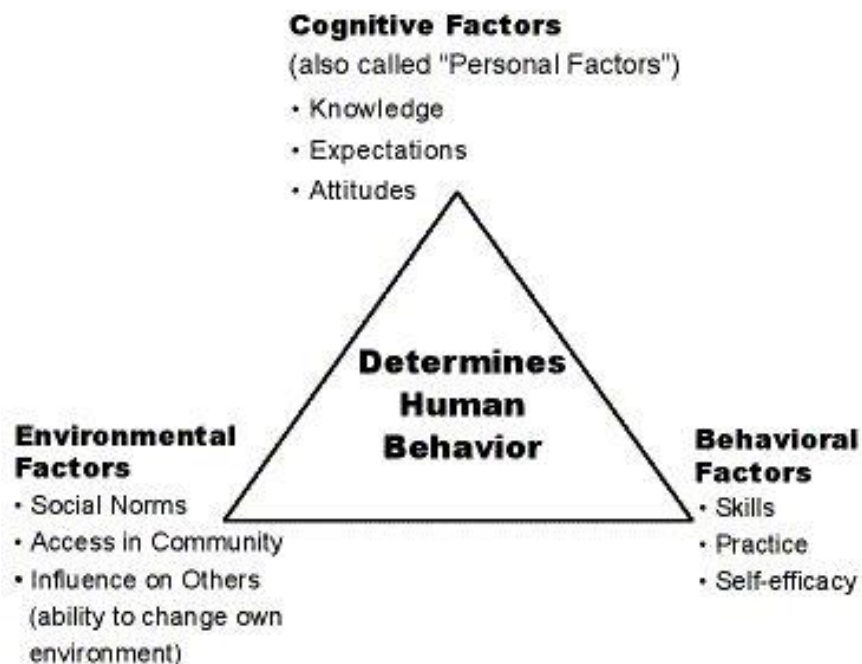


Figure 1. Albert Bandura 1986 Social Cognitive Theory

Social Cognitive Theory (SCT) states that the outcome of our behavior is the reciprocal exchange between our environment, personal factors, and behavioral factors (Alexander, Cao, & Alfonso, 2020). The quality improvement study aims to implement a nutritional education program to improve preadolescents' knowledge and change dietary behavior. The SCT will guide the project study and demonstrate how the effects of the environment and the acquisition of knowledge will change dietary and behavioral habits.

Social Cognitive Theory, a theoretical framework created in 1986 by Albert Bandura, analyzes disease prevention and health promotion. Bandura states that some of the core elements of SCT are self-efficacy, self-regulatory, and socially oriented interventions (Bandura, 1998). Self-efficacy refers to a person's belief in their ability to achieve, obtain or produce the desired outcome. People must be able to control their thought processes, motivations, and environmental factors to obtain their desires. Bandura believes self-efficacy is constructed through

accomplishments, vicarious experiences, social persuasion, and stress response. In addition, goal setting has been linked to self-motivation and guides a person to change behaviors.

Self-regulatory refers to a person's ability to monitor and control their emotions or actions toward self-directed goals. Self-regulation requires accountability, consistency, and being truthful to oneself. These characteristics will ensure that a person sets realistic, obtainable goals for themselves, and they will have the ability to make necessary changes when needed. Bandura states that self-observation is the first step in implementing change in one's behavior.

Human behavior is influenced by a person's social network system (Bandura, 1998). Socially oriented interventions provide "social structure support" that increases the rate of personal change. A supportive environment assists a person through challenging situations, increases self-motivation, and improves a person's thought process regarding their capabilities.

The SCT guided this study based on the idea that preadolescent behaviors can change with the appropriate nutritional intervention program by improving a person's belief that they can change, self-accountability, and creating a social support system to encourage the change. Habits formed during the preadolescent stage are essential to growth and development (USDA, 2020). Utilizing Bandura's SCT, the project implemented a nutritional program for preadolescents that is age-appropriate, easy to remember and to be utilized as a standard consistent message. The program provided preadolescents with the information needed to influence their food choices. Their perceived knowledge gained was utilized as goals they set to achieve changes in their dietary habits for a healthy life.

Methodology

Study Design

This was a quality improvement project with pre-, post-, and follow-up questionnaires that assessed nutritional knowledge, nutritional status, and physical status. This quality improvement project was conducted at two primary care pediatric offices. Preadolescent patient nutritional knowledge was assessed using a utilized pre-test, a post-test after introducing the nutritional intervention program, and a follow-up survey. The quantitative study examined whether the nutritional program influences preadolescents to choose healthier food options. The nutritional intervention, MaineHealth, "5-2-1-0 Let's Go!" was presented by this DNP student utilizing brochures and discussing examples of healthy food options.

Setting and Participant

Broward County, Florida, has a population of 1.9 million (410,000 are under 18 years old) (Florida Department of Health, Division of Public Health Statistics, & Performance Management, 2022a; Florida Department of Health, Division of Public Health Statistics, & Performance Management, 2022b). 30% of the children are overweight or obese. This DNP quality improvement project aims to improve preadolescence nutritional knowledge and change dietary habits to promote a healthy life at two pediatric clinics. The clinics are in Cooper City, FL, and Pembroke Pines, FL. In Cooper City, the population is 35,000 (49% White, 30% Hispanic, and 7% Black); 47% report an unhealthy diet, and 35% are overweight (City Data, 2022a). The clinical site reports majority of their patients are white and eat healthy. Pembroke Pines population 174 000 (48% Hispanic, 22% White, and 21% Black), 48% report an unhealthy diet, and 34% are overweight (City Data, 2022b). The clinical site reports majority of their

patients are Black or Hispanic and are unhealthy. The stakeholders are the patients, their parents, the providers, staff, private insurance, Medicaid, and the practice.

The pediatric office adheres to the American Academy of Pediatrics (AAP) recommendation to identify pediatric patients at risk starting from birth by utilizing growth charts and assessing BMI changes starting at two years old (Daniels & Hassink, 2015). According to the 2015 AAP Primary Prevention of Obesity guidelines, a child with a BMI \geq 85th percentile is considered overweight and at risk of becoming obese. During well-child and sick visits, the providers identify children at risk or those with a BMI \geq 85, assess laboratory levels when appropriate, and discuss changing dietary and physical behavior to prevent obesity or future health complications. The pediatric office has printed nutritional documents they provide their patients to inform them of healthy food options.

Although the clinical sites adhere to the AAP obesity prevention guidelines, they continue to have an increase in overweight and obese pediatric patient. Healthy People 2030 set a goal to reduce obesity in children and adolescents to 15.5% by recommending food portion control, behavioral modifications and taking accountability for actions (Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Office of the Secretary, & U.S. Department of Health, and Human Services, 2022).

The AAP states that school-age is when dietary habits and physical activities are established; educating and reinforcing positive activities is vital. Therefore, participants for this project were preadolescents aged 9 to 13 years overweight or obese. Inclusion criteria were preadolescents 9 to 13 years with BMI \geq 85. Exclusion criteria included developmental and physical restrictions, diabetes, high blood pressure, or other chronic health conditions that would make participating challenging. The protection of human subjects and the approval to conduct

this study was established through Florida International University (FIU) Institutional Review Board (IRB) approval. The approval to conduct the quality improvement study at the pediatric clinic in Broward County, FL, was also approved. Minimal risk was involved with the study, and no personal information collected will be distributed.

Nutritional and Physical Intervention

In 2006, seven Maine-based organizations created the Let's Go! five-year pilot program on the prevention of obesity in children and adults focused on physical activity and healthy eating (Maine Health, 2020, p. 2). The message 5-2-1-0 Let's Go, endorsed by medical professionals, recommends: 5 or more fruits or vegetables, 2 hours or less recreational screen time, 1 hour or more of physical activity, 0 sugary drinks, and more water. The program was distributed in communities, schools, healthcare, and workplace. Due to the pilot program's success, it would be adopted at the Barbara Bush Children's Hospital at Maine Medical Center and statewide. The "5-2-1-0 Let's Go! Program, which is nationally known and was used as the nutrition intervention for this quality improvement study. Permission of use was sought, and the DNP student was instructed that no licensing agreement would be needed. The use of this program does not require permission, and all education materials or tool kits (Appendix A) are available on the Maine Health website.

Data Collection

The surveys used to assess preadolescent knowledge, nutritional status, and physical activity was the Preadolescent Nutritional Knowledge and Behavioral and a Modified CDC 2021 Youth Risk Behaviors and Surveillance System survey (YRBSS). The Modified YRBSS was submitted to the Florida International University IRB department. The pre-test (Appendix B) consisted of 11 questions that assessed the nutritional and physical habits using the modified

YRBSS and six questions assessing general nutritional knowledge. The post-test (Appendix C) consisted of the same six questions from the pre-test, which assessed nutritional knowledge and asked one additional question regarding the education intervention. The two-week follow-up (Appendix D) consisted of a total of 17 questions which are the same as the pre-test. It included one additional question from the post-test regarding the education intervention. The content validity is based on the 5-2-1-0 Let's Go, and the questionnaires reflect the recommended nutritional and physical intake supported by the AAP and USDA.

The questionnaire was created to assess the effectiveness of the 5-2-1-0 Let's Go program implemented at a primary care pediatrician's office for the preadolescent population aged 9 to 13. The questions consisted of 11 ordinal which assessed the nutritional and physical status of the participants, six nominal questions that assessed general nutritional knowledge, and one question that assessed retention of the 5-2-1-0 Let's Go program. The measurement of the responses was based on a previous study that measured the participant's level of nutritional knowledge or if the participants met the recommended nutritional guidelines (Williams, 2019).

Project Approach

The primary care pediatric provider handed the project flyer (Appendix E) to potential participants that met the project inclusions during their well-child visit. The potential participants and their parents that agreed to the project study were introduced to the DNP student the same day. The DNP student explained the project, discussed the project implications, and associated risks, and reviewed parental consent and child assent. Those that confirmed participation continued with the implementation of the quality improvement project by the DNP student. Using a handheld tablet, the pre-test (Appendix B) was administered through Qualtrics and collected demographic information such as age, gender, and race. Next, the DNP student taught

the nutritional and physical intervention 5-2-1-0 Let's Go program and educational material (Appendix A). Immediately following the intervention, the post-test (Appendix C) was administered through Qualtrics. Two weeks following the pre-test, the participants received a call to assess the follow-up (Appendix D) through Qualtrics via a link sent to their cellphone (one participant) or their parent's cellphone. It is to note that all but one participant did not have cell phones. The DNP student asked the participant to sit in an area where they can focus and answer the questions. The DNP student sent a private link, in which the participant completed the survey with the DNP student on speaker, and they were able to voice concerns or ask any questions.

Data Analysis

The Preadolescent Nutritional Knowledge and Behavioral questionnaire and a Modified YRBSS was given at 3 points in time, pre, post, and 2 weeks post-intervention. There were 11 ordinal scales that assessed nutrition, physical status, and the participant's behavior within the past seven days. This ordinal data was awarded a numerical point system for each of the five responses, one through five. One indicated decreased recommended intake or physical activity. Participants with an overall score of five were likely to adhere to the recommended physical or nutritional intake supported by the American Academy of Pediatrics and the U.S. Department of Agriculture. The numerical point system for each of the five responses was then added as a whole number and divided the total possible points per question to report as a percentage. The statistical data was compared using simple descriptive statistics. Demographic data such as age, gender, and the race was reported as frequencies and percentages.

Results

The timeframe of the quality improvement project was over seven weeks fall of 2022.

The participants completed the project in two weeks, from the initial pre-test questionnaire to the completion of the two-week follow-up questionnaire. A total of n=7 participants participated and completed the quality improvement project.

Demographics

Frequencies and percentages were calculated for Age, Gender, and Race. The most frequently observed categories of age were 12 years old, 11 years old, and 9 years old, each with an observed frequency of 2 (28.57%). The most frequently observed category of Gender was Male (n = 6, 85.71%). The most frequently observed categories of Race were Hispanic or Latino, Black or African American, and Other, each with an observed frequency of 2 (28.57%).

Frequencies and percentages are presented in Table 2.

Table 2

Age, Gender, Race table

| Variable | <i>n</i> | <i>%</i> | Cumulative <i>%</i> |
|---------------------------|----------|----------|---------------------|
| Age | | | |
| 12 years old | 2 | 28.57 | 28.57 |
| 11 years old | 2 | 28.57 | 57.14 |
| 9 years old | 2 | 28.57 | 85.71 |
| 10 years old | 1 | 14.29 | 100.00 |
| Gender | | | |
| Male | 6 | 85.71 | 85.71 |
| Female | 1 | 14.29 | 100.00 |
| Race | | | |
| Hispanic or Latino | 2 | 28.57 | 28.57 |
| Black or African American | 2 | 28.57 | 57.14 |
| Other | 2 | 28.57 | 85.71 |
| White | 1 | 14.29 | 100.00 |

Note. Due to rounding errors, percentages may not equal 100%.

YRBSS

The Modified YRBSS was implemented pre- and at 2 weeks. The survey was completed by seven participants (n=7).

Question one asked, during the past week, how many times did you drink 100% fruit juices such as orange juice, apple juice, or grape juice? The possible responses were; No fruit juice (1 point), A few times during the past week (2 points), Almost every day (more than 4 days) (3 points), Everyday (4 points), More than once a day (5). Pre-implementation, a total of 13 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 37%. Two-week implementation, a total of 18 points were applied and multiplied by 100 for a percentage of 51%. The percentage increased from pre-implementation to 2 weeks is 38%. Figure 2 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question two asked, during the past week, how many times did you eat fruit? The possible responses were; No fruits (1 point), A few times during the past week (2 points), Almost every day (more than 4 days) (3 points), Everyday (4 points), More than once a day (5). Pre-implementation, a total of 15 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 43%. Follow-up implementation, a total of 24 points were applied and multiplied by 100 for a percentage of 69%. The percentage increased from pre-implementation to 2 weeks is 60%. Figure 3 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question three asked, during the past week, how many times did you eat green salad? The possible responses were; No green salad (1 point), A few times during the past week (2 points), Almost every day (more than 4 days) (3 points), Everyday (4 points), More than once a

day (5). Pre-implementation, a total of 9 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 26%. For follow-up implementation, a total of 16 points were applied and multiplied by 100 for a percentage of 46%. The percentage increased from pre-implementation to 2 weeks is 77%. Figure 4 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question four asked, during the past week, how many times did you eat potatoes? The possible responses were; No potatoes (1 point), A few times during the past week (2 points), Almost every day (more than 4 days) (3 points), Everyday (4 points), More than once a day (5). Pre-implementation, a total of 12 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 34%. Follow-up implementation, a total of 14 points were applied and multiplied by 100 for a percentage of 40%. The percentage increased from pre-implementation to 2 weeks is 18%. Figure 5 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question five asked, during the past week, how many times did you eat vegetables? The possible responses were; No vegetables (1 point), A few times during the past week (2 points), Almost every day (more than 4 days) (3 points), Everyday (4 points), More than once a day (5). Pre-implementation, a total of 16 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 46%. Follow-up implementation, a total of 22 points were applied and multiplied by 100 for a percentage of 63%. The percentage increased from pre-implementation to 2 weeks is 37%. Figure 6 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question six asked, during the past week, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? The possible responses were; No soda or

pop (5 points), A few times during the past week (4 points), Almost every day (more than 4 days) (3 points), Everyday (2 points), More than once a day (1). Pre-implementation, a total of 27 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 77%. Follow-up implementation, a total of 28 points were applied and multiplied by 100 for a percentage of 80%. The percentage increased from pre-implementation to 2 weeks is 4%. Figure 7 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question seven asked, during the past week, how many times did you drink a can, bottle, or glass of a sports drink such as Gatorade or Powerade? The possible responses were; No sports drinks (5 points), A few times during the past week (4 points), Almost every day (more than 4 days) (3 points), Everyday (2 points), More than once a day (1). Pre-implementation, a total of 31 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 89%. Follow-up implementation, a total of 28 points were applied and multiplied by 100 for a percentage of 80%. Percentage decrease from pre-implementation to 2 weeks is 10%. Figure 8 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question eight asked, during the past week, how many times did you drink a bottle or glass of plain water? The possible responses were; No plain water (1 point), A few times during the past week (2 points), Almost every day (more than 4 days) (3 points), Everyday (4 points), More than once a day (5). Pre-implementation, a total of 31 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 89%. Follow-up implementation, a total of 34 points were applied and multiplied by 100 for a percentage of 97%.

The percentage decreased from pre-implementation to 2 weeks is 9%. Figure 9 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question nine asked, during the past week, how times did you drink a glass of milk? The possible responses were; No milk (1 point), A few times during the past week (2 points), Almost every day (more than 4 days) (3 points), Everyday (4 points), More than once a day (5). Pre-implementation, a total of 20 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 57%. Follow-up implementation, a total of 22 points were applied and multiplied by 100 for a percentage of 63%. The percentage increased from pre-implementation to 2 weeks is 11%. Figure 10 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question 10 asked, during the past week, how many days were you physically active for a total of at least 60 minutes per day? The possible responses were; 0 days (1 point), A few times during the past week (2 points), Almost every day (more than 4 days) (3 points), Everyday (4 points), More than once a day (5). Pre-implementation, a total of 20 points were applied, divided by the total possible score of 35, and multiplied by 100 for a percentage of 57%. Follow-up implementation, a total of 25 points were applied and multiplied by 100 for a percentage of 71%. The percentage increased from pre-implementation to 2 weeks is 25%. Figure 11 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

Question 11 asked, during the past week, how many hours do you spend in front of a TV, computer, smartphone, or other electronic device watching shows or videos, playing games, accessing the Internet, or using social media? The possible responses were; A lot (1 point), About 3 hours (2 points), About 2 hours (3 points), About 1 hour (4 points), Less than 1 hour (5 points), No screen time (6 points). Pre-implementation, a total of 17 points were applied,

divided by the total possible score of 42, and multiplied by 100 for a percentage of 40%. Follow-up implementation, a total of 32 points were applied and multiplied by 100 for a percentage of 76%. The percentage increased from pre-implementation to 2 weeks is 90%. Figure 12 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

The Nutritional Status score of the seven participants during the past 7 days was a total of 174 points divided by the total possible score of 315 and multiplied by 100 for a percentage of 55%. Follow-up implementation, a total of 206 points were applied and multiplied by 100 for a percentage of 65%. The percentage increased from pre-implementation to 2 weeks is 18%. These results indicate an 18% improvement change in their dietary habits figure 13. During the past 7 days, the Physical Activity Status score of the seven participants is 37 points divided by the total possible score of 77 and multiplied by 100 for a percentage of 48%. Follow-up implementation, a total of 48 points were applied and multiplied by 100 for a percentage of 62%. The percentage increased from pre-implementation to 2 weeks is 29%. These results indicate that their physical activity level improved by about 29% figure 13. Figure 13 displays the results of the YRBSS pre-implementation and 2-week post-implementation follow-up.

A two-tailed paired samples t-test was conducted to examine the effectiveness of the educational and physical intervention. The mean difference in the participant's nutritional status reported no significant based on an alpha value of .05, $t(6) = -2.25$, $p = .066$. The mean difference of the participant's physical activity status reported by the two-tailed paired samples t-test was not significant based on an alpha value of .05, $t(6) = -2.19$, $p = .072$. Although the sample t-test shows no significance, the increased percentage has proven that the participants improved their nutritional knowledge. Also, change was noted in their dietary and physical habits.

Preadolescent Nutritional Knowledge and Behavioral

The Preadolescent Nutritional Knowledge and Behavioral was implemented pre, post, and at 2 weeks. The survey was completed by seven participants (n=7). There are six questions that assess the participant's nutritional knowledge and physical recommendations. The mean percent correct pre-implementation was 60%. The mean percent correct post-implementation was 95%. The mean percent correct at 2 weeks post-implementation was 93%. This showed an improvement from pre-implementation to a two-week follow-up of 55%. Figure 14 displays the percentage difference between the pre-, post-, and 2-week follow-up questionnaires. Figure 15 displays the number of participants that chose the correct answer for each question assessing nutritional and physical knowledge.

A repeated measures analysis of variance (ANOVA) with one within-subjects factor was conducted to determine whether significant differences exist among pre-, post-, and 2-week follow-up assessments of the participant's general nutritional and physical knowledge. The results were examined based on an alpha of .05. The main effect for the within-subjects factor was significant, $F(2, 12) = 14.07, p < .001$, indicating there were significant differences.

Overall, the results of the two-tailed paired samples t-test was significantly based on an alpha value of .05, $t(6) = -2.90, p = .027$, indicating the null hypothesis can be rejected. This finding suggests that the difference in the mean of overall pre-test scores and the mean of overall 2-week follow-up scores was significantly different from zero. The mean of the pre-test scores was significantly lower than the mean of the 2-week follow-up scores. This means the preadolescent nutritional knowledge improved post-implementation, and there was improvement noted in nutritional food selections and increased physical activity. With some guidance, the

participants were able to drink more water, increase physical activity, and incorporate more fruits or vegetables into their diet.

Implication for Advanced Practice Nursing

Nurse practitioners play an important role in implementing evidence-based practices through quality improvement projects. The primary aim of implementing this nutritional and physical educational project is to develop a program at this primary care office that the medical providers can use to improve the patient's and their family's knowledge of nutritious food choice items. Although the intervention was used with participants that were overweight or obese, the goal is to implement this program with all patients to prevent obesity or health complications related to poor nutritional intake and a sedentary lifestyle. Advanced practice nurses have many years of experience and understand the importance of evidence-based care in health outcomes. The addition of advanced practice nurses to the healthcare industry has increased patient access to providers, improved patient health outcomes, improved patient satisfaction, and alleviate the cost associated with inadequate care (Woo, Lee, & Tam, 2017).

Advanced Practices Nurses are essential in implementing the changes needed to improve patient care outcomes and provide efficient care. The significance of introducing the 5-2-1-0 Let's Go nutritional and physical education program supports patient health outcomes while promoting the recommended dietary intake. Healthy eating requires a plan, readiness, family support, and community engagement. The advanced practice nurse can bridge the gaps within the community and organization to implement the change needed to improve adolescent health. Using the 5-2-1-0 Let's Go program is an appropriate first step to encourage patients to select better food options and to get physical. Local schools, community centers, and healthcare providers can mobilize the 5-2-1-0 Let's Go message of eating 5 fruits and vegetables, no more

than 2 hours of recreational screen time, 1 hour or more of physical activity, and 0 sugars, drinking more water.

Dissemination Plan and Sustainability

To sustain this quality improvement plan, the 5-2-1-0 Let's Go program results are to be shared with the pediatric clinic, the clinicians, and the staff involved with patient care. The clinicians will have the opportunity to ask questions about concerns and provide feedback. The clinicians are to be trained in how they can use the program to educate their patients and caregivers and to align with the community leaders, organizations, and stakeholders to promote 5-2-1-0 Let's Go. The equipment required to deliver the 5-2-1-0 Let's Go message will vary. The program has a point of contact who can assist clinicians with the available resources and toolkits needed to implement the project. The materials are free to download. Clinicians can choose to print poster boards or literature that advertises the message of the simple measures recommended to get healthy.

Bandura's (1998) "Social Cognitive Theory" states that a person's social network system influences human behavior. Implementing a socially oriented intervention that is easy to remember will support the patient and their family's adherence. This quality improvement project conducted by an Advanced Practice Nurse aims to reduce the cost of care that burdens the healthcare system due to complications related to being obese and the complications that affect one's health. Another implication is to improve patient satisfaction with their health and the care provided by the healthcare clinicians and to identify barriers in the homes or community setting. As mentioned, about 41% of the pediatric population is overweight and obese (USDA, 2020). In practice, the focus should be on how we can effectively treat this vulnerable population and prevent adverse health outcomes.

Limitations

A limitation of this project is the small sample (n=7). There was no control over the participants that met the project requirement that presented to the clinic for their well-child visit. The limited sample size may have affected some of the statistical results, which indicated no significance could be determined but the percentage improvement determined change occurred. In addition, the quality improvement project consisted of a narrowed age group, 9 to 13 years old. The pediatric clinician stated having many participants scheduled for a well-child visit that were overweight or obese but older than 13 years of age. Another limitation of the study is the need for caregiver participation. Children need their caregivers to participate, encourage, and support them in eating nutritional food items and increasing their physical activity. The family unit must be part of the treatment plan. Therefore, future studies must include the caregiver.

Despite these limitations, there was significant improvement with the participants changing their diet to include more fruits and vegetables, decreasing sugary intake, and drinking more water. Also, there was an increase in awareness of what the nutritional intake should consist of and the recommended physical activity requirements to promote a healthy lifestyle.

Conclusion

The project demonstrated improvement in preadolescent nutritional knowledge improved nutritional food selections and encouraged increased physical activity. The 5-2-1-0 Let's Go program in a pediatric primary care setting proved the message was effective if the providers educated the patients with a simple message to get healthy. Providers need consistent, age-appropriate, and non-overwhelming messages about healthy eating and getting active. Overall, improving the nutritional knowledge of the patients and their caregivers can influence their food

choice selection and change their physical behaviors to decrease their risk of becoming obese and the complications associated with an unhealthy lifestyle and promote a healthy lifestyle.

According to Healthy People 2030, currently, there are about 20% of children and adolescents are obese (Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Office of the Secretary, & U.S. Department of Health and Human Services, 2022). The goal is to decrease this rate to 15.5 %. Healthy People 2030 aims to reduce the rate of overweight or obese children by increasing their awareness of nutritious foods and physical activity. Providers must acknowledge those obese and at risk to initiate preventative measures. In addition, there must be policy changes and changes to school curriculums and community settings to promote and aid children in selecting healthy food options and getting physical. Yoo and Suneja (2022) state that healthcare clinicians are essential in educating patients and their caregivers about their health. The provider must provide sufficient screening and appropriate information to encourage change in the patient's dietary habits and physical behavior. The patient's behaviors and habits can change slowly, but we must remain consistent with promoting gradual change within their health.

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Table 1

| Nutritional Education Intervention | | | | | | |
|---|---|--|---|--|---|--|
| Author/year | Design | Sample/setting | Topic studied | Key findings | Misc. note | John Hopkins Appraisal Tool |
| Powell (2019) | Quasi-experimental quality improvement study. | Data from Kings Canyon Unified District and Adventist Health at a school-based health clinic, Reedley, California. Survey, video, pre-, and post-test of N=600. | Improving the nutritional knowledge of adolescents at Kings Canyon and helping them make better food choices. | Nutritional knowledge increased post video and increased perceived healthy habits. Also, students reported that video allows them to make better food choices. | Follow-up performed the following year of N=70. Improvement noted. No intervention vs. control group. The video the study used was based on the United States Department of Agriculture (USDA) - My Plate. | Level II Good-Quality |
| Cho et al. (2017) | Quasi-experimental | n=1792 | Assessing the association | The goal of the study was to | 49% (N=883) participants had | Level II |

| | | | | | | |
|--------------------------|--|--|---|---|--|-----------------------------|
| | survey | <p>Greenbrier CHOICES (Children's Health Opportunities Involving Coordinated Efforts in Schools), between 2012 and 2014 in West Virginia</p> <p>The study took place over two years, at two middle schools, grades 6th to 8th, and the age range is 10-to-18-year-old.</p> | between the 5-2-1-0 goals and completing Progressive Cardiovascular Endurance Run (PACER) laps. | determine if adherence to the 5-2-1-0 goals would influence the completion of the PACER laps. | <p>their highest adherence to the fruits and vegetable goals, 47% (N= 847) adhered to the physical activity goal, whereas only about 1% met all four goals of the 5-2-1-0 goals.</p> <p>Also, the results indicated that participants who met more goals reported higher PACER laps.</p> | High-Quality |
| Meiklejohn et al. (2016) | A systemic review of RCTs with meta-analysis | In a literature search that resulted in over 7,000 articles (2004 -2014), only 11 studies met the inclusions with about 190 to 3,500 | To “update evidence” on nutritional education intervention in the adolescent populations age 10-19. | The interventions were composed of nutritional facts delivered by teachers, students, technology such as texts messages, interactive web-based programs, and physical | Outcome measures are "anthropometric and dietary intake." | Level 1 Good-Quality |

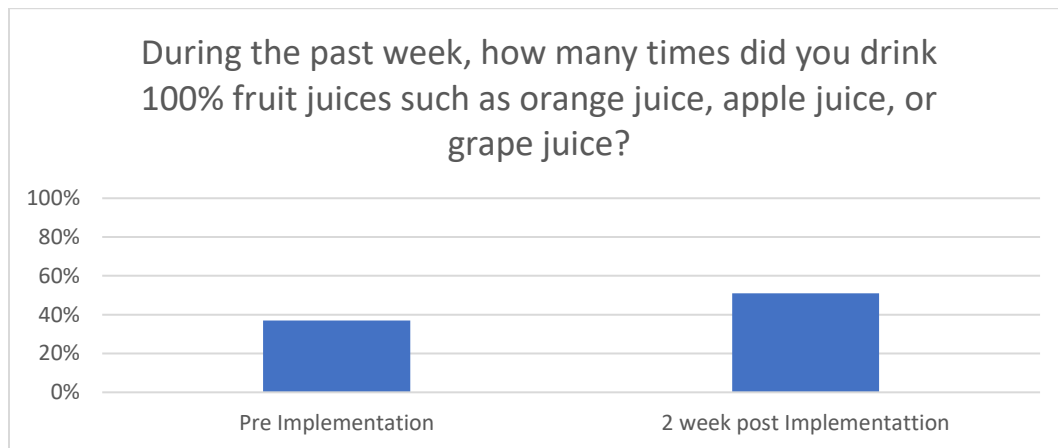
| | | participants. Database-Cumulated Index to Nursing and Allied Health Literature (CINAHL), OVID Medline, and PsycINFO | | programs. Two studies delivered through "physical education programs and activities" report changes in BMI. Significant dietary change was noted when there was parental involvement, direction from their teacher, or environmental changes made for better food options. | | |
|--------------------------------|-------------------------------------|--|---|--|--|------------------------------------|
| Game-Based Intervention | | | | | | |
| Author/year | Design | Sample/setting | Topic studied | Key findings | Misc. note | John Hopkins Appraisal Tool |
| Hermans et al. (2018) | Between-subjects experimental study | (N=108) Volunteered participants were in primary school, in the fifth and sixth grade, ages 10 to | Assess the effectiveness of a health web-based game on nutritional knowledge and the chosen food options of | The experimental group (N=50) <i>Alien Health Game</i> had better knowledge post-game but not during follow-up assessment than the Control group | The study also compared long-term vs. short-term outcomes. Short-term had better memory recall. Long-term requires | Level II Low-Quality |

| | | 13, and randomly placed in one of the groups (control or intervention). Dutch participants | school-aged children. | (N=58) who played <i>Super Shopper</i> . The dietary intake results reported that both groups could select healthier options. | continuing education. Potential learning issues affecting the <i>MyPlate</i> guidelines in English and not in Dutch. Social Cognitive Theory (3 articles) Theory of Planned Behavior (2 articles) | |
|-------------------------|--------------------------|---|---|--|--|-------------------------------------|
| BMI Intervention | | | | | | |
| Author/year | Design | Sample/setting | Topic studied | Key findings | Misc. note | John Hopkins Appraisal Tool |
| Brown et al. (2018) | Repeated measures design | n=770 The participant's ages ranged from 6 to 12. The study was | Assess instant and long-term changes of primary-school-age children's BMI and | The study results determined that the 10-week intervention decreased BMI | The authors suggest a continuous support system and education | Level II High-Quality rating |

| | | | | | | |
|--|--|---|---|--|--|--|
| | | <p>conducted in Lanarkshire, Scotland, and was part of the Child Healthy Weight Program.</p> <p>School-based intervention</p> | <p>psychosocial variables following a 10-week lifestyle intervention.</p> | <p>from pre-test to post-test, but no change was noted at the 6-month follow-up. During the control period, there were no changes noted. The participant's frame of mind regarding trying fruits or vegetables did not change during the intervention phase.</p> | <p>are recommended to implement change.</p> <p>Transtheoretical Model of Behavior Change (TTM) (25) and Social-Ecological Model (SEM) formatted in a health education framework.</p> | |
|--|--|---|---|--|--|--|

Figure 2

Participants Response Percentages Regarding Fruit Juice Intake

**Figure 3**

Participants Response Percentages Regarding Fruit Intake

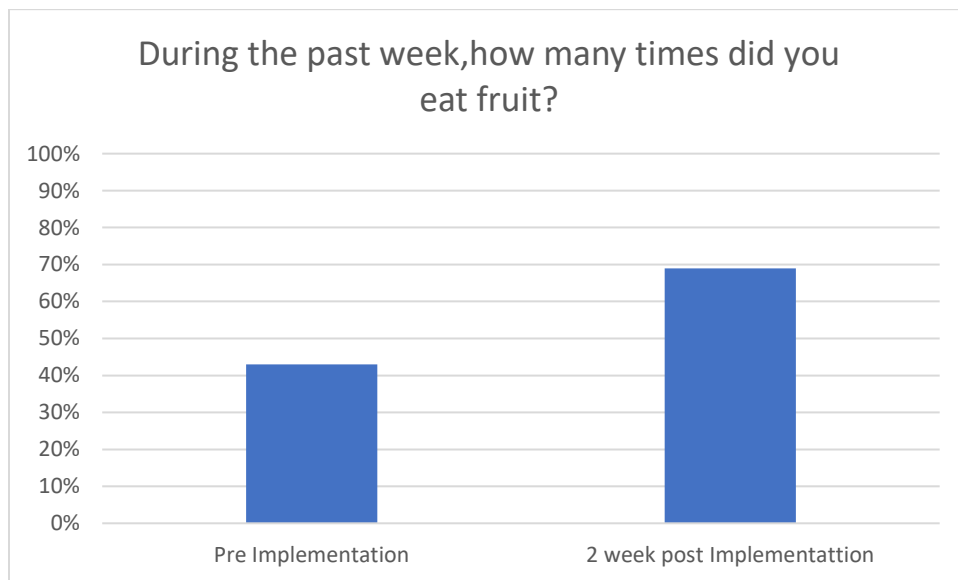
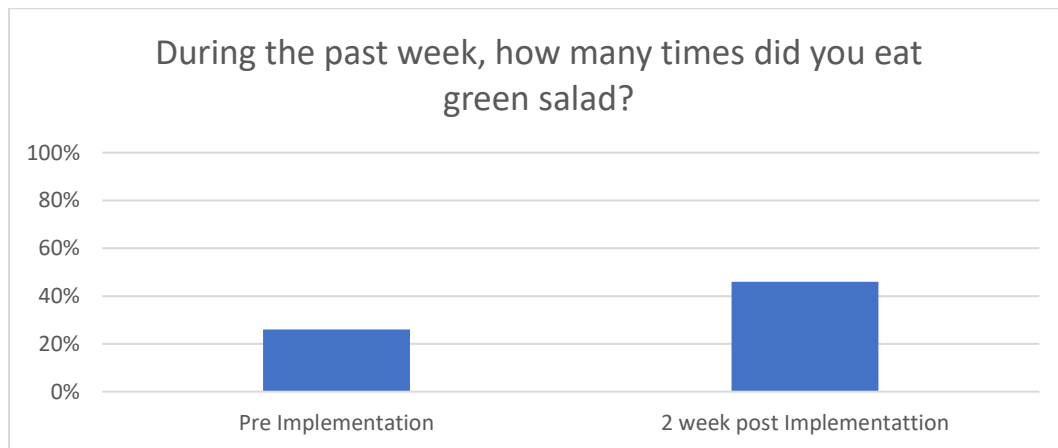


Figure 4

Participants Response Percentages Regarding Green Salad Intake

**Figure 5**

Participants Response Percentages Regarding Potatoes Intake

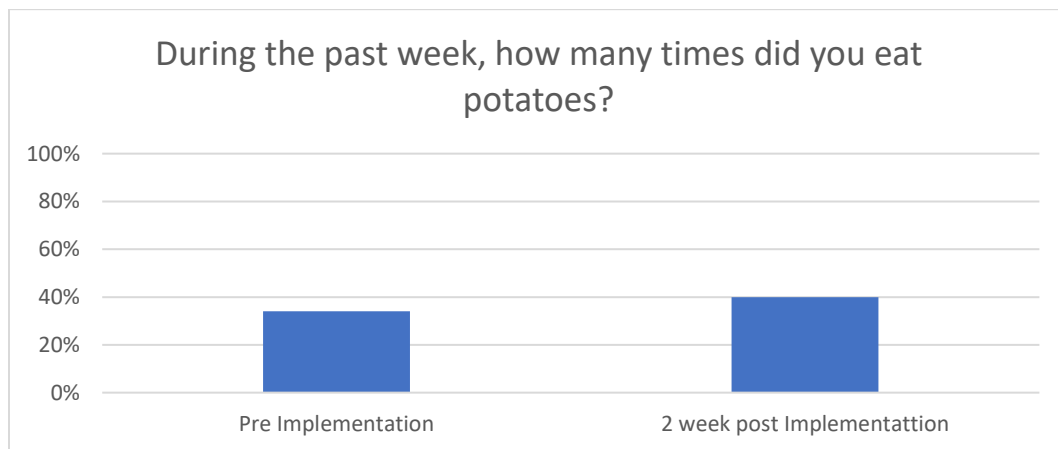
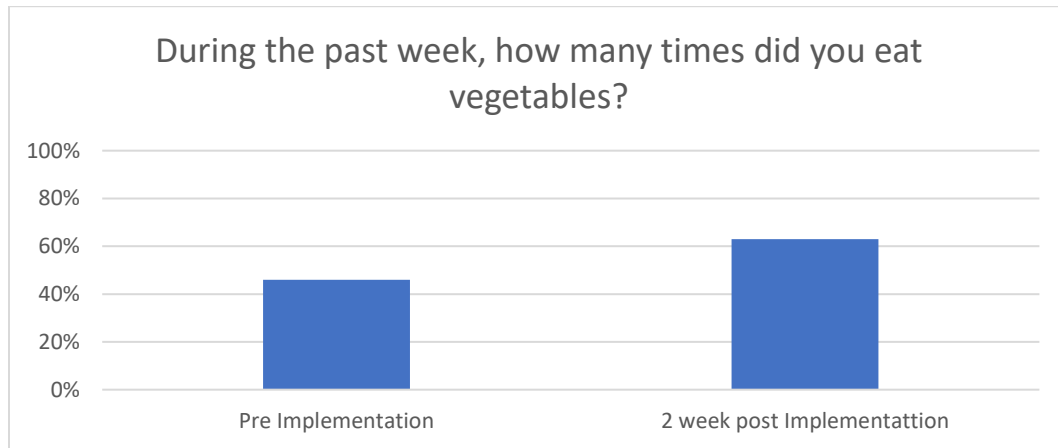


Figure 6

Participants Response Percentages Regarding Vegetables Intake

**Figure 7**

Participants Response Percentages Regarding Soda or Pop Intake

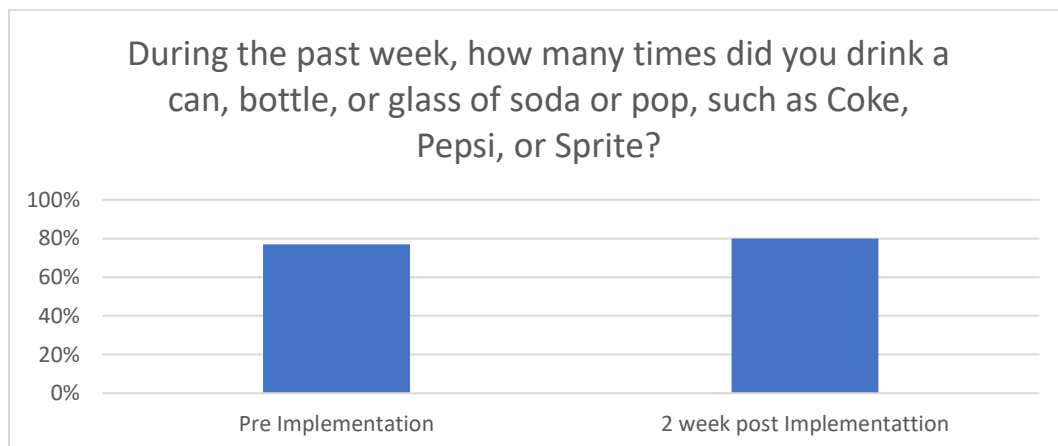


Figure 8

Participants Response Percentages Regarding Sport Drink Intake

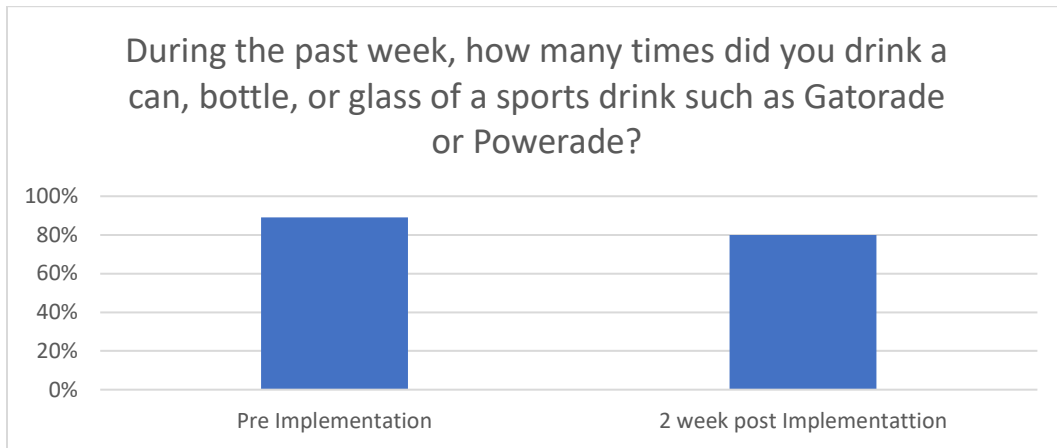


Figure 9

Participants Response Percentages Regarding Plain Water Intake

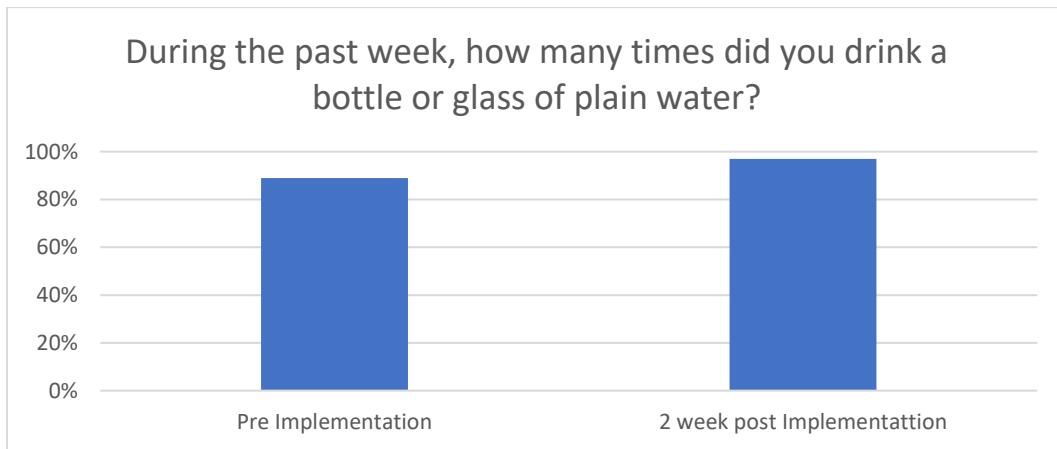
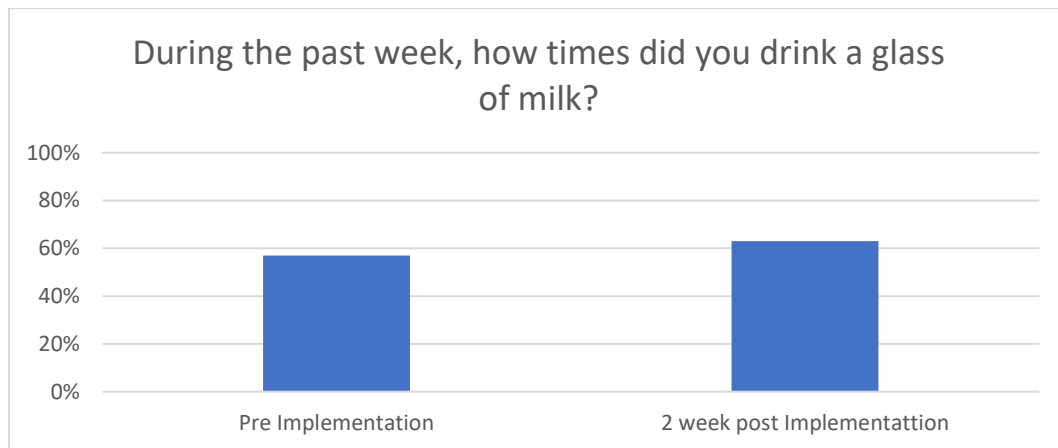


Figure 10

Participants Response Percentages Regarding Milk Intake

**Figure 11**

Participants Response Percentages Regarding Physical Activity

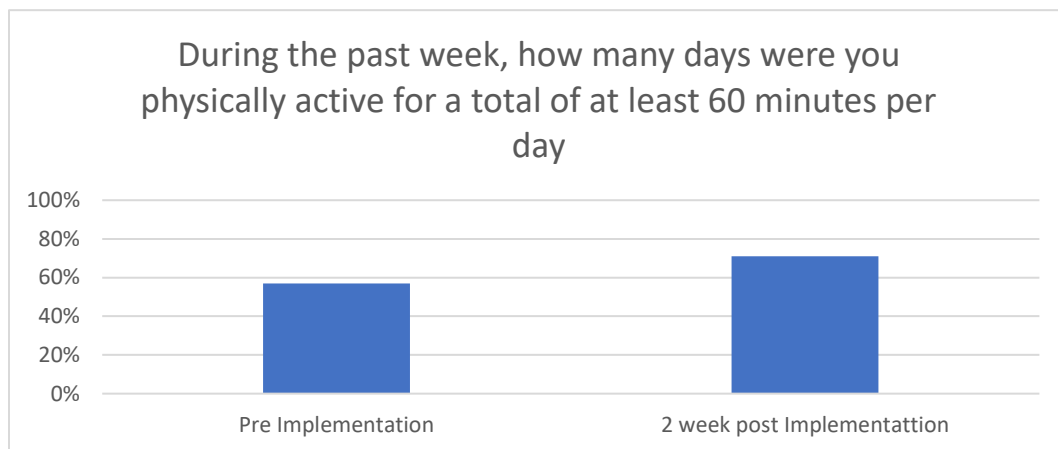
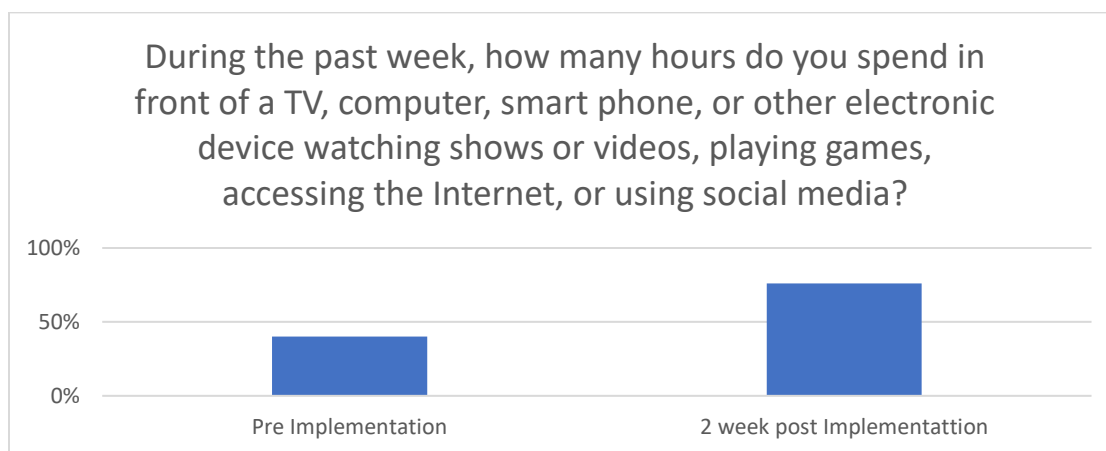


Figure 12

Participants Response Percentages Regarding Screen Time

**Figure 13**

Nutritional and Physical Status of the 7 participants.

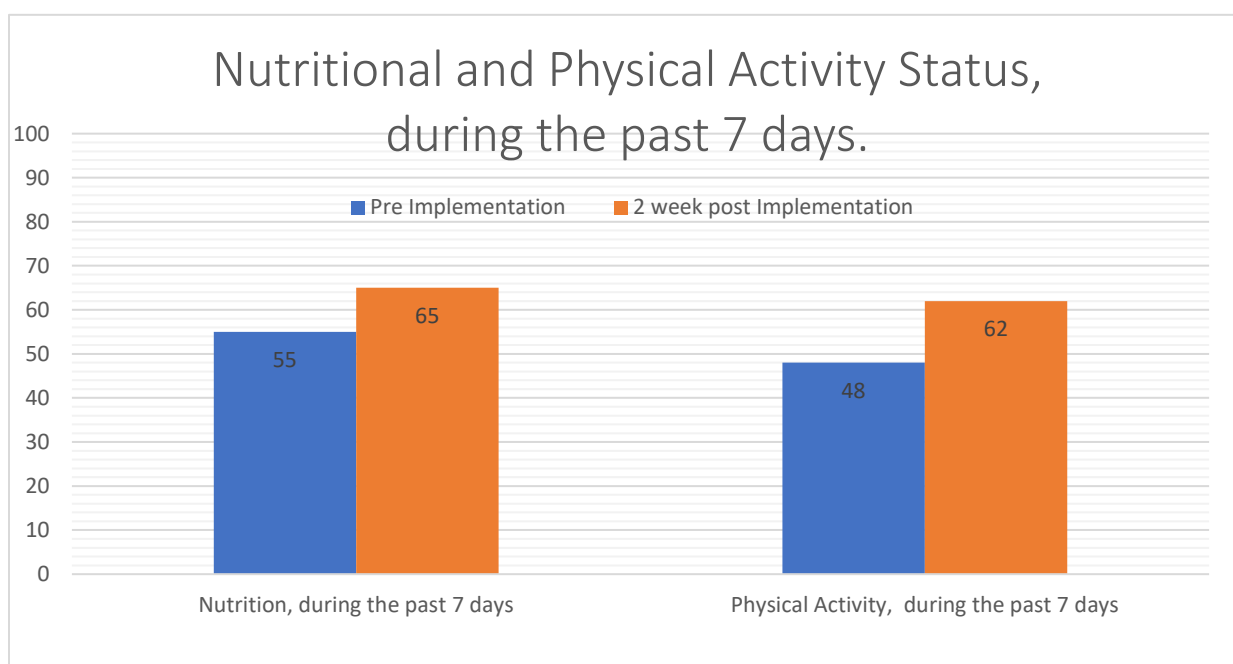


Figure 14

Percentage differences for Pre-, Post-, and 2 week Follow-up Implementation

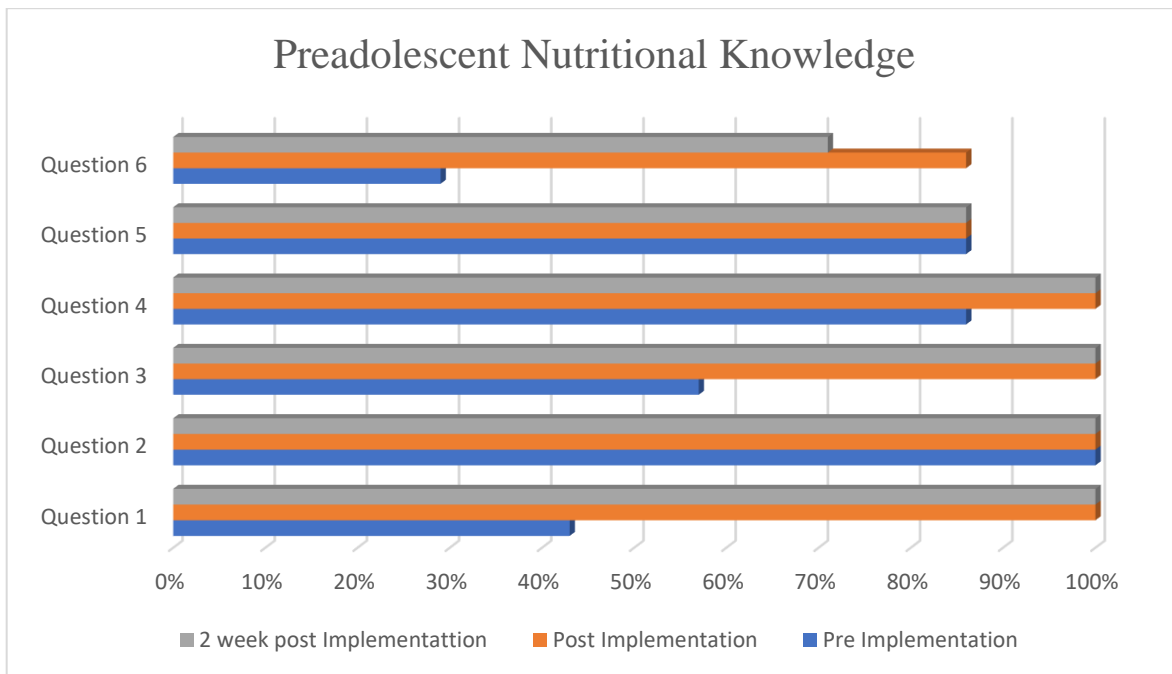
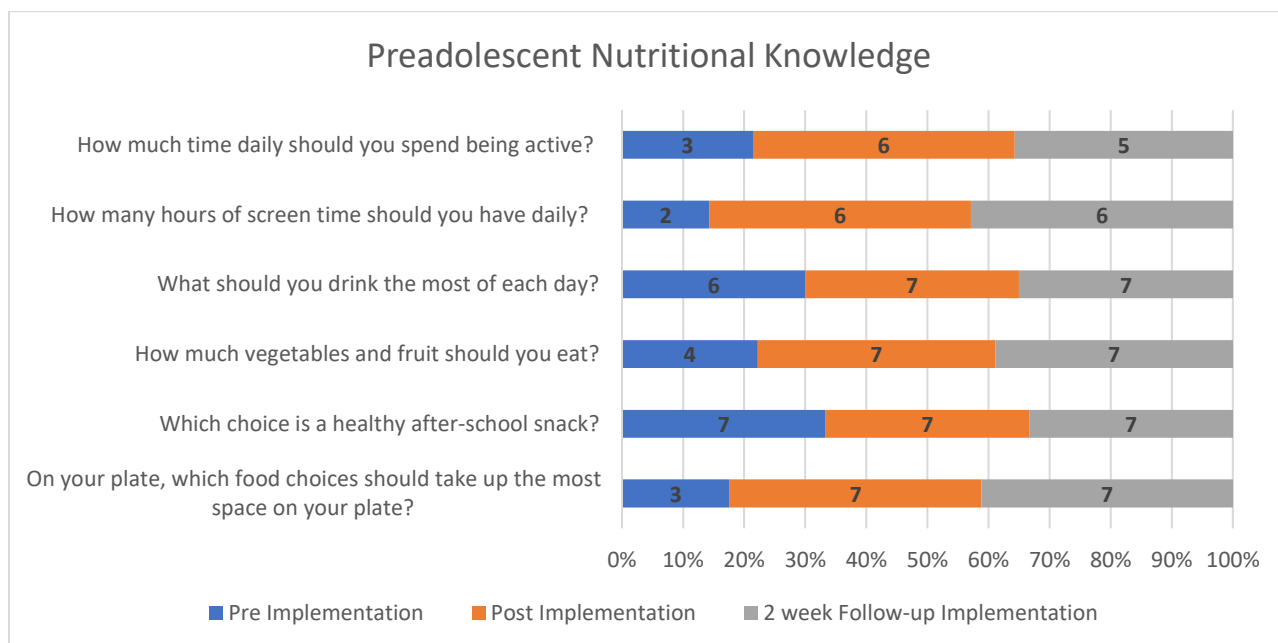


Figure 15

Number of participants the selected the correct answer

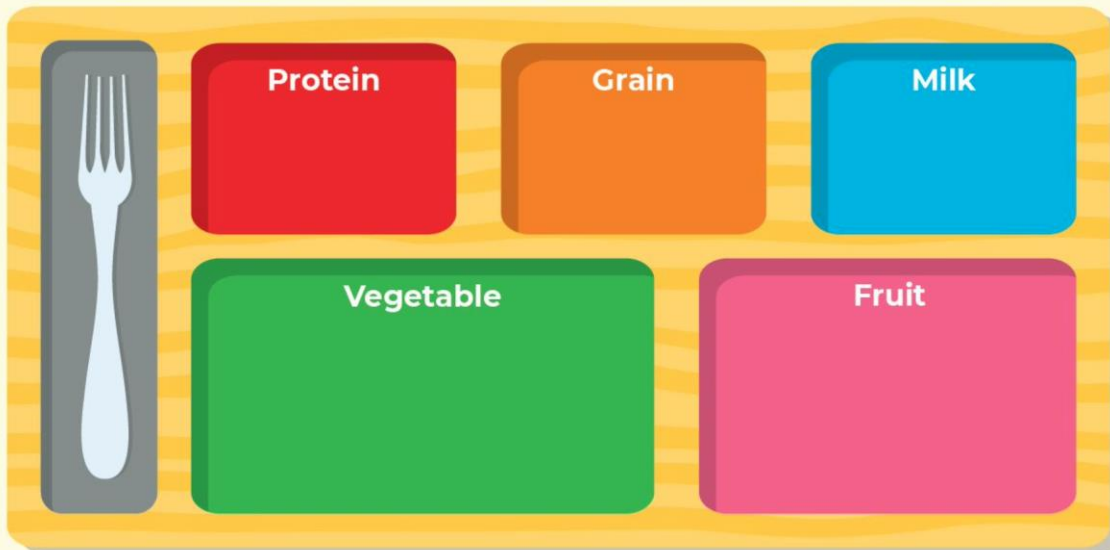


APPENDIX A

“5-2-1-0 Let’s Go! MaineHealth” Intervention



BUILD A HEALTHY LUNCH



MaineHealth
LET'S GO!
 5-2-1-0

buildahealthylunch

Poster

SERVING UP MyPlate



Fruits:
Fuel Up With Fruits at Meals or Snacks
 Pears, watermelon, plums, raisins, berries, and applesauce (without extra sugar) are just a few of the great choices. Make sure your fruit juice is 100% juice.

Vegetables:
Color Your Plate With Great-Tasting Veggies
 Try to eat more dark-green, red, and orange vegetables, and beans and peas.

Grains:
Make at Least Half Your Grains Whole Grains
 Choose whole-grain foods, such as whole-wheat bread, oatmeal, whole-wheat tortillas, brown rice, and popcorn, more often.

Protein:
Vary Your Protein Foods
 Try fish, shellfish, beans, and peas more often. Some tasty ways include a bean burrito, hummus, veggie chili, fish taco, shrimp stir-fry, or grilled salmon.

Dairy:
Get Your Calcium-Rich Foods
 Choose fat-free or low-fat milk, yogurt, and cheese at meals or snacks. Dairy foods contain calcium for strong bones and healthy teeth.

Keep on Moving!
 Kids need at least 60 minutes of physical activity every day. Whether that's running, biking, tossing a ball, or playing tag, every little bit counts. So, run around at recess, jump rope with friends, ride your scooter, or play a sport. It all adds up!

Know Your "Sometimes" Foods
 Look out for foods with added sugars or solid fats, such as candy, cake, cookies, chips, ice cream, soda, fruit punch, lemonade, hot dogs, and bacon. They fill you up so that you don't have room for the foods that help you eat smart and play hard. Enjoy these every once in a while, not every day.

Education Material



SERVING UP MyPlate

Fruits:
Fuel Up With Fruits at Meals or Snacks
Pears, watermelon, plums, raisins, berries, and applesauce (without extra sugar) are just a few of the great choices. Make sure your fruit juice is 100% juice.

Vegetables:
Color Your Plate With Great-Tasting Veggies
Try to eat more dark-green, red, and orange vegetables, and beans and peas.

Grains:
Make at Least Half Your Grains Whole Grains
Choose whole-grain foods, such as whole-wheat bread, oatmeal, whole-wheat tortillas, brown rice, and popcorn, more often.

Protein:
Vary Your Protein Foods
Try fish, shellfish, beans, and peas more often. Some tasty ways include a bean burrito, hummus, veggie chili, fish taco, shrimp stir-fry, or grilled salmon.

Dairy:
Get Your Calcium-Rich Foods
Choose fat-free or low-fat milk, yogurt, and cheese at meals or snacks. Dairy foods contain calcium for strong bones and healthy teeth.

Keep on Moving!
Kids need at least 60 minutes of physical activity every day. Whether that's running, biking, tossing a ball, or playing tag, every little bit counts. So, run around at recess, jump rope with friends, ride your scooter, or play a sport. It all adds up!

Know Your "Sometimes" Foods
Look out for foods with added sugars or solid fats, such as candy, cake, cookies, chips, ice cream, soda, fruit punch, lemonade, hot dogs, and bacon. They fill you up so that you don't have room for the foods that help you eat smart and play hard. Enjoy these every once in a while, not every day.

USDA Serving Up MyPlate — Grades 5 & 6
U.S. Department of Agriculture • Food and Nutrition Service • September 2011 • FNIS-048
<http://teamnutrition.usda.gov>

*Education
Material*

"5-2-1-0 Let's Go! MaineHealth" Take

MyPlate at Home

Dear Parents,
Our class is starting a unit called **Serving Up MyPlate**. Your child will explore how to make healthy food choices and be physically active, while also building skills in Math, Science, and English Language Arts. Our school hopes these lessons will support your efforts at home to help your child develop healthy eating habits.

This booklet from the United States Department of Agriculture's Team Nutrition initiative offers some fun and easy tips for building healthier family meals that include the five food groups. Be on the lookout, as well, for class work coming home that will show what we are learning at school about making healthy choices. This is a great opportunity to talk with your child about nutrition, try new foods together, and get your child involved in making healthier meals and snacks.

Enjoy!

Choose **MyPlate**.gov

This week, my family will:

- Eat a dark-green, red, or orange vegetable at dinner.
- Switch to a whole-grain cereal at breakfast.
- Drink fat-free or low-fat (1%) milk at meals.
- Eat beans or peas at dinner at least once.
- Drink water instead of soda or other sweet drinks.
- Enjoy fruit for dessert.

USDA Find recipes and more on the Team Nutrition Web site:
<http://teamnutrition.usda.gov>

*Take
Home
Brochure*

Take Home Brochure

5-2-1-0 EVERY DAY!

LETSGO.ORG

| | |
|--|--|
| <h1>5</h1> <p>or more FRUITS & VEGETABLES</p> | <h1>2</h1> <p>hours or less of RECREATIONAL SCREEN TIME</p> |
| <h1>1</h1> <p>hour or more of PHYSICAL ACTIVITY</p> | <h1>0</h1> <p>sugary drinks, MORE WATER</p> |

MaineHealth

LET'S GO!

5-2-1-0

MH 5210 and tips handout_Page_2

Help your child live 5-2-1-0 every day!

| | | | | | |
|---|--|---|--|---|---|
| <h2>5</h2> <p>or more fruits and vegetables</p> | <p>Give foods fun names, like "x-ray vision carrots" and "mighty broccoli trees."</p> | <p>Add veggies to foods you already make like pasta, soups, casseroles, pizza.</p> | <p>Keep washed and chopped veggies and fruits in the fridge so they are ready to grab and eat.</p> | <p>Add fruit to cereal, pancakes, or other breakfast foods.</p> | <p>Try fruits and veggies with dip such as salad dressing, yogurt, nut butter, or hummus.</p> |
| <h2>2</h2> <p>hours or less of recreational screen time</p> | <p>Put away phones and turn off the TV during meals. Make it a time to sit and talk about the day.</p> | <p>Have craft items ready to go. You can even find supplies in your recycling bin!</p> | <p>Stock up on books, coloring sheets, and board games. Print free activity sheets from the internet.</p> | <p>Create an obstacle course with chairs, blankets, and other household items.</p> | <p>Play hide and seek!</p> |
| <h2>1</h2> <p>hour or more of physical activity</p> | <p>Try jump ropes and hula hoops to keep the whole family active.</p> | <p>Use a balloon to keep your child moving. Try to keep it from touching the floor!</p> | <p>Turn on music and have a family dance party.</p> | <p>Go for a hike on trails or in the park. Look for animal tracks or collect leaves and stones.</p> | <p>Get outside and ride bikes or play tag. Look up different tag games online.</p> |
| <h2>0</h2> <p>sugary drinks, more water</p> | <p>Freeze fruit, like berries, in ice cubes. Watch your water change color as they melt!</p> | <p>Use cool cups, bottles, or straws to make water extra fun!</p> | <p>Add fresh fruit or herbs to water for natural flavor. Try mixing flavors, like watermelon and mint.</p> | <p>Try mixing seltzer with a splash of juice.</p> | <p>Suggest a glass of water or milk instead of juice.</p> |

MH 5210 and tips handout_Page_1

APPENDIX B

De-identifier _____
Phone Number _____

**Preadolescent Nutritional Knowledge and Behavioral &
Modified CDC 2021 Youth Risk Behaviors and Surveillance System (YRBSS)
(Pretest)**

Demographics

How old are you?

- a) 9 years old
- b) 10 years old
- c) 11 years old
- d) 12 years old
- e) 13 years old

What is your sex?

- a) Female
- b) Male

What is your race? (Select one or more responses.)

- a) Hispanic or Latino
- b) Black or African American
- c) White
- d) Other

Do you have any of these conditions (developmental, physical restrictions, diabetes, high blood pressure, or other chronic health conditions)?

- a) Yes
- b) No

Theses 9 questions ask about food you ate or drank during the past 7 days. Think about all the meals and snacks you had from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

1. During the past 7 days, how many times did you drink **100% fruit juices** such as orange juice, apple juice, or grape juice? (Do **not** count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)
 - a) No fruit juice
 - b) A few times during the past week
 - c) Almost everyday (more than 4 days)
 - d) Everyday
 - e) More than once a day
2. During the past 7 days, how many times did you eat **fruit**? (Do **not** count fruit juice.)
 - a) No fruit
 - b) A few times during the past week
 - c) Almost everyday (more than 4 days)
 - d) Everyday
 - e) More than once a day
3. During the past 7 days, how many times did you eat **green salad**?
 - a) No fruit green
 - b) A few times during the past week
 - c) Almost everyday (more than 4 days)
 - d) Everyday
 - e) More than once a day
4. During the past 7 days, how many times did you eat **potatoes**? (Do **not** count french fries, fried potatoes, or potato chips.)
 - a) No fruit potatoes
 - b) A few times during the past week
 - c) Almost everyday (more than 4 days)
 - d) Everyday

- e) More than once a day
5. During the past 7 days, how many times did you eat **vegetables**? (Do **not** count green salad)
- No vegetables
 - A few times during the past week
 - Almost everyday (more than 4 days)
 - Everyday
 - More than once a day
6. During the past 7 days, how many times did you drink a **can, bottle, or glass of soda or pop**, such as Coke, Pepsi, or Sprite? (Do **not** count diet soda or diet pop.)
- No soda or pop
 - A few times during the past week
 - Almost everyday (more than 4 days)
 - Everyday
 - More than once a day
7. During the past 7 days, how many times did you drink a **can, bottle, or glass of a sports drink** such as Gatorade or Powerade? (Do **not** count low-calorie sports drinks such as Propel or G2.)
- No sports drink
 - A few times during the past week
 - Almost everyday (more than 4 days)
 - Everyday
 - More than once a day
8. During the past 7 days, how many times did you drink a **bottle or glass of plain water**? (Count tap, bottled, and unflavored sparkling water.)
- No plain water
 - A few times during the past week
 - Almost everyday (more than 4 days)
 - Everyday
 - More than once a day
9. During the past 7 days, how many **glasses of milk** did you drink? (Count the milk you drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.)
- No milk
 - A few times during the past week
 - Almost everyday (more than 4 days)
 - Everyday
 - More than once a day

The next 2 questions ask about physical activity.

10. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
- 0 days
 - A few times during the past week
 - Almost everyday (more than 4 days)
 - Everyday
 - More than once a day
11. On an average day, how many hours do you spend in front of a TV, computer, smart phone, or other electronic device watching shows or videos, playing games, accessing the Internet, or using social media (also called "screen time")? (Do not count time spent doing schoolwork.)
- No screen time
 - less than 1 hour (1 episode)
 - about 1 hour (2 episodes)
 - about 2 hours (4 episodes)
 - about 3 hours (6 episodes)
 - A lot

General Knowledge

12. On your plate, which food choices should take up the most space on your plate?

- a) fruits and veggies
 - b) meat
 - c) grains
13. Which choice is a healthy afterschool snack?
- a) cupcake or cookies
 - b) apple or banana, cheese or yogurt, and a whole grain crackers
 - c) soda and chips
14. How much veggies and fruit **should** you eat daily?
- a) 1 to 2 cups of veggies and 1 to 2 pieces of fruit every day
 - b) eat veggies or fruit once a month
 - c) at least 100 cups a day
15. What **should** you drink the most of each day?
- a) milk
 - b) water
 - c) orange juice
 - d) Soda
16. How many hours of screen time **should** you have daily?
(Do not add schoolwork. Just things like watching TV, cell phone, IG, Tik Tok, games, internet surfing.)
- a. No screen time
 - b. 1 hour (Like 2 tv show episodes, or playing videos, games)
 - c. 2 hours (Like 4 tv show episodes, or playing videos, games)
 - d. 3 hours or more (basically watching it for a very long time)
17. How much time daily **should** you spend being active?
(Like moving to make you heartbeat faster and you are breathing harder.)
- a. none
 - b. 30 minutes
 - c. 1 hour
 - d. 2 hours or more

APPENDIX C

Preadolescent Nutritional Knowledge and Behavioral (Post-intervention)

De-identifier _____

General Knowledge

1. On your plate, which food choices should take up the most space on your plate?
 - a. fruits and veggies
 - b. meat
 - c. grains
2. Which choice is a healthy afterschool snack?
 - a. cupcake or cookies
 - b. apple or banana, cheese or yogurt, and a whole grain cracker
 - c. soda and chips
3. How much veggies and fruit **should** you eat daily?
 - a. 1 ½ to 2 cups of veggies and 1 to 2 pieces of fruit every day
 - b. eat veggies or fruit once a month
 - c. at least 100 cups a day
4. What **should** you drink the most of each day?
 - a. milk
 - b. water
 - c. orange juice
 - d. Soda
5. How many hours of screen time **should** you have daily?
(Do not add schoolwork. Just things like watching TV, cell phone, IG, Tik Tok, games, internet surfing.)
 - a. 1 hour (Like 2 tv show episodes, or playing videos, games)
 - b. 2 hours (Like 4 tv show episodes, or playing videos, games)
 - c. 3 hours or more (basically watching it for a very long time)
6. How much time daily **should** you spend being active?
(Like moving to make you heartbeat faster and you are breathing harder.)
 - a. 30 minutes
 - b. 1 hour
 - c. 2 hours or more

Retention of Intervention

7. What does the 5210 stands for?
 - a. 5 or more fruits and vegetables, 2 hours or less of screen time, 1 hour or more of physical activity, and 0 sugars.
 - b. 5 or more meat and cheese, 2 hours or less of physical activity, 1 hour screen time, and 0 vegetables.
 - c. 5 or more cookies and cupcakes, 2 hours of a good night sleep, 1 cup of vegetable or fruit, and 0 physical activity.

APPENDIX D

De-identifier _____

Preadolescent Nutritional Knowledge and Behavioral & Modified CDC 2021 Youth Risk Behaviors and Surveillance System (YRBSS) (Follow-up)

These 9 questions ask about food you ate or drank during the past 7 days. Think about all the meals and snacks you had from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

1. During the past 7 days, how many times did you drink **100% fruit juices** such as orange juice, apple juice, or grape juice? (Do **not** count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)
 - a. No fruit juice
 - b. A few times during the past week
 - c. Almost everyday (more than 4 days)
 - d. Everyday
 - e. More than once a day

2. During the past 7 days, how many times did you eat **fruit**? (Do **not** count fruit juice.)
 - a. No fruit
 - b. A few times during the past week
 - c. Almost everyday (more than 4 days)
 - d. Everyday
 - e. More than once a day

3. During the past 7 days, how many times did you eat **green salad**?
 - a. No fruit green
 - b. A few times during the past week
 - c. Almost everyday (more than 4 days)
 - d. Everyday
 - e. More than once a day

4. During the past 7 days, how many times did you eat **potatoes**? (Do **not** count french fries, fried potatoes, or potato chips.)
 - a. No fruit potatoes
 - b. A few times during the past week
 - c. Almost everyday (more than 4 days)
 - d. Everyday
 - e. More than once a day

5. During the past 7 days, how many times did you eat **vegetables**? (Do **not** count green salad)
 - a. No vegetables
 - b. A few times during the past week
 - c. Almost everyday (more than 4 days)
 - d. Everyday
 - e. More than once a day

6. During the past 7 days, how many times did you drink a **can, bottle, or glass of soda or pop**, such as Coke, Pepsi, or Sprite? (Do **not** count diet soda or diet pop.)
 - a. No soda or pop
 - b. A few times during the past week
 - c. Almost everyday (more than 4 days)
 - d. Everyday
 - e. More than once a day

7. During the past 7 days, how many times did you drink a **can, bottle, or glass of a sports drink** such as Gatorade or Powerade? (Do **not** count low-calorie sports drinks such as Propel or G2.)
 - a. No sports drink
 - b. A few times during the past week
 - c. Almost everyday (more than 4 days)
 - d. Everyday
 - e. More than once a day

8. During the past 7 days, how many times did you drink **a bottle or glass of plain water**? (Count tap, bottled, and unflavored sparkling water.)
- No plain water
 - A few times during the past week
 - Almost everyday (more than 4 days)
 - Everyday
 - More than once a day
9. During the past 7 days, how many **glasses of milk** did you drink? (Count the milk you drank in a glass or cup, from a carton, or with cereal. Count the half pint of milk served at school as equal to one glass.)
- No milk
 - A few times during the past week
 - Almost everyday (more than 4 days)
 - Everyday
 - More than once a day

The next 2 questions ask about physical activity.

1. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
- 0 days
 - A few times during the past week
 - Almost everyday (more than 4 days)
 - Everyday
 - More than once a day
2. On an average day, how many hours do you spend in front of a TV, computer, smart phone, or other electronic device watching shows or videos, playing games, accessing the Internet, or using social media (also called "screen time")? (Do not count time spent doing schoolwork.)
- No screen time
 - less than 1 hour (1 episode)
 - about 1 hour (2 episodes)
 - about 2 hours (4 episodes)
 - about 3 hours (6 episodes)
 - A lot

General Knowledge

1. On your plate, which food choices should take up the most space on your plate?
- fruits and veggies
 - meat
 - grains
2. Which choice is a healthy afterschool snack?
- cupcake or cookies
 - apple or banana, cheese or yogurt, and a whole grain crackers
 - soda and chips
3. How much veggies and fruit **should** you eat daily?
- 1 to 2 cups of veggies and 1 to 2 pieces of fruit every day
 - eat veggies or fruit once a month
 - at least 100 cups a day
4. What **should** you drink the most of each day?
- milk
 - water
 - orange juice
 - Soda
5. How many hours of screen time **should** you have daily?
(Do not add schoolwork. Just things like watching TV, cell phone, IG, Tik Tok, games, internet surfing.)
- No screen time
 - 1 hour (Like 2 tv show episodes, or playing videos, games)
 - 2 hours (Like 4 tv show episodes, or playing videos, games)

- d. 3 hours or more (basically watching it for a very long time)
6. How much time daily **should** you spend being active?
(Like moving to make you heartbeat faster and you are breathing harder.)
- a. none
 - b. 30 minutes
 - c. 1 hour
 - d. 2 hours or more

Retention of Intervention

1. What does the 5210 stands for?
- a. 5 or more fruits and vegetables, 2 hours or less of screen time, 1 hour or more of physical activity, and 0 sugars.
 - b. 5 or more meat and cheese, 2 hours or less of physical activity, 1 hour screen time, and 0 vegetables.
 - c. 5 or more cookies and cupcakes, 2 hours of a good night sleep, 1 cup of vegetable or fruit, and 0 physical activity.

APPENDIX E

Participant's Needed

for a study on improving your food choices and getting active to change unhealthy weight.



We would like to know if we can help you choose better foods options and get healthy

Is this you

- Are 9 to 13-year-old
- Do you want to eat better and get active to get healthy?

- Parents/guardian and child will be asked to: sign the consent form.
- Location: [REDACTED]
- Participants will be asked to: 1) Take a survey - how much do you know? 2) Listen to a 15-minute program. 3) Complete a survey now and then receive a short phone call 2 weeks later for another survey.
- No cost to participate. You will receive free promotional gifts.

The information we find out in this study will influence health care providers to use programs to help kids change their health behaviors.

This research is being conducted by ~~Daphnie~~ Romulus under the direction of Dr. Rosa Roche, Clinical Associates Professor at Nicole Wertheim College of Nursing & Health Sciences



FIU

FLORIDA
INTERNATIONAL
UNIVERSITY

For more information please call:

~~Daphnie~~ [REDACTED]

APPENDIX F

June 25 2022

Rosa M. Roche, PhD, APRN, PPCNP-BC
Interim Chair and Clinical Associate Professor
Nicole Wertheim College of Nursing & Health
Science Florida International University

Dear Dr. Roche,

Thank you for inviting [REDACTED] to participate in the DNP project of Daphne Romulus. We have reviewed the "5210 Let's Go" intervention program which includes materials from the United States Department of Agriculture (USDA) guidelines. This program discusses recommended daily food groups to consume, physical activity and limited screen time to promote healthy lifestyles in children and adolescents. It is understood that Daphne Romulus will commence this quality improvement project as part of the requirements for the Doctor of Nursing Practice Program at Florida International University. After reviewing the proposal of the project titled "*Improving preadolescent nutritional knowledge to promote healthy lifestyle: A quality improvement project*," she has the facilities full support in completing this project at our establishment as it aligns with our philosophy of healthy living in pre and young adolescence.

I aware that this project will be implemented at our [REDACTED] clinics in [REDACTED], Florida. To implement this project Daphne Romulus will:

- Recruit the project participants
- Give consent
- Collect patient health information.
- Provide nutritional educational intervention.
- Administer pre- and post-test surveys to assess intervention.
- Perform a follow-up call to collect survey.

Our facilities will provide the referrals to Daphne Romulus, of those patients between the ages of 9-13 years old who have a BMI > 85% and have no other underlying medical conditions. We will provide the necessary means to assist the Daphne Romulus with her project for as long as the IRB approval states. The facility does not plan to intervene with subjects by performing procedures, intervention, or by manipulating the environment for research purposes. Daphne Romulus will be the only personnel who executes the study procedures.

The 20-minute nutritional educational intervention will be taught by Daphne Romulus utilizing handout materials. Any data collected by Romulus will be kept confidential and participant's information will be de-identified. Data will be stored in a password protected file by Daphne Romulus. A copy of the parental consent and child assent form including HIPAA authorization will be stored in the participant's file.

The project aims to improve preadolescent nutritional knowledge, utilizing a nutritional education intervention targeting adolescence overweight or obese. The goal is to improve nutritional food choices, implement healthy lifestyle options, such as increasing physical activity and limiting screen time. This research will be a valuable contribution to the pediatric population, and we will be happy to support this endeavor.

If any unanticipated problems or adverse events are to occur, it is up to Daphne Romulus to report these events to the IRB at FIU as promptly as possible.

Sincerely,





MEMORANDUM

To: Dr. Rosa Roche
CC: Daphnie Romulus
From: Elizabeth Juhasz, Ph.D., IRB Coordinator *EJ*
Date: August 4, 2022
Protocol Title: "Improving preadolescence nutritional knowledge to promote healthy life:
 A quality improvement project."

The Health Sciences Institutional Review Board of Florida International University has approved your study for the use of human subjects via the **Expedited Review** process. Your study was found to be in compliance with this institution's Federal Wide Assurance (00000060).

IRB Protocol Approval #: IRB-22-0358 **IRB Approval Date:** 08/02/22
TOPAZ Reference #: 111962 **IRB Expiration Date:** 08/02/25

As a requirement of IRB Approval you are required to:

- 1) Submit an IRB Amendment Form for all proposed additions or changes in the procedures involving human subjects. All additions and changes must be reviewed and approved by the IRB prior to implementation.
- 2) Promptly submit an IRB Event Report Form for every serious or unusual or unanticipated adverse event, problems with the rights or welfare of the human subjects, and/or deviations from the approved protocol.
- 3) Utilize copies of the date stamped consent document(s) for obtaining consent from subjects (unless waived by the IRB). Signed consent documents must be retained for at least three years after the completion of the study.
- 4) **Receive annual review and re-approval of your study prior to your IRB expiration date.** Submit the IRB Renewal Form at least 30 days in advance of the study's expiration date.
- 5) Submit an IRB Project Completion Report Form when the study is finished or discontinued.

HIPAA Privacy Rule: Satisfied

Special Conditions: N/A

For further information, you may visit the IRB website at <http://research.fiu.edu/irb>.

| | |
|---------------------|-------------|
| FIU IRB Approval: | 08/02/2022 |
| FIU IRB Expiration: | 08/02/2025 |
| FIU IRB Number: | IRB-22-0358 |



PARENTAL CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Improving preadolescence nutritional knowledge to promote healthy life: A quality improvement project.

SUMMARY INFORMATION

Your child and you have been selected to participate in the “5210 Let’s Go”! study because your healthcare provider believes your child will benefit from the health education program.

Things you should know about this study for you child:

- **Purpose:** The purpose of the study is to increase nutritional knowledge to promote a healthy lifestyle for your child.
- **Procedures:** If you choose to allow your child to participate, your child will be asked to take surveys and listen to a 15 to 20-minute learning activity “5210 Let’s Go! by Maine Health” and “My Plate”. And take three short survey or test that are 5 to 10 minutes. Also, practice the recommended activities (5 or more of fruits and vegetables daily, 2 hours or less of screen time that’s not schoolwork, 1 hour or more of physical activity daily, and 0 sugary drinks but more water. at every day for two weeks)
- **Duration:** This will take about two weeks.
- **Risks:** There will be no main risk or discomfort from this research.
- **Benefits:** The main benefit to your child from this research is choose healthy food options, be active, and limit screen time to promote healthy lifestyle.
- **Alternatives:** There are no known alternatives available to your child other than not taking part in this study.
- **Participation:** Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of the study is to increase your child’s nutritional knowledge and physical behaviors to promote a healthy lifestyle. The investigator wants to find out if the nutritional program “5210 Let’s Go! by Maine Health” and “My Plate” will have an effect on your food choices and activity level.

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NUMBER OF STUDY PARTICIPANTS

If you agree to allow your child to participate in this study, he/she will be one of 15 to 20 people in this research study.

DURATION OF THE STUDY

Your child's participation will involve two weeks of practice the recommended activities at every day. The program does not require you to purchase but consider fruits and vegetables are to be available to the best of your ability during meals. The activities are to be considered as normal day-to-day activities or habits.

- 5 or more of fruits and vegetables daily. (Add more vegetables to current meal)
- 2 hours or less of screen time that's not schoolwork (watching TV, TikTok, video games, etc.) (Decrease screen time)
- 1 hour or more of physical activity daily. (Like jump rope, running, jumping jacks, basketball, football, or running)
- 0 sugary drinks but more water. (Drink 4 small water bottles or cups or 2 regular size water bottles or cups a day.)

PROCEDURES

If your child participates in this study, we will ask your child to do the following things:

1. Take a 10-minute pretest (20 questions) before nutrition program during their office visit to check your nutritional knowledge, which also collects (name, phone number, race, gender, and diagnosis BMI)
2. Listen to a 15 to 20-minute learning activity "5210 Let's Go! by Maine Health" and "My Plate" nutritional teaching/activity by the research investigator Daphnie Romulus during your office visit.
3. Take a 5- minute (7 questions) posttest after the nutritional activity during their office visit to check what you learned during the learning activity.
4. Practice the program at home for two weeks. Your child will be asked to:
 - a. Eat 5 or more of fruits and vegetables daily.
 - b. No more than 2 hours or less of screen time that's not schoolwork (watching TV, TikTok, video games, etc.)
 - c. Do 1 hour or more of physical activity daily. (Like jump rope, running, jumping jacks, basketball, football, or running)
 - d. 0 sugary (soda drinks) but more water. (Drink 4 small water bottles or 2 regular water bottles a day.)
5. Two weeks later take a 5 to 10-minute (18 questions) follow-up test over the phone while at home to check if your child followed the program, changed food habits to eat more fruits or vegetables, limit your screen time to two hours, had 1 hour of physical activity, and no sugars but more water daily. I will call you at the number provided. To check how well you did with our nutritional program.

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Parents will not be asked to participate or make extra purchases during the study. The program encourages to normal day-to-day activities to continue while considering the program recommendations. Your child may refuse to take part of any or certain parts of the program. We ask that you notify investigator for further instructions.

We are asking your child to be in this study because they meet the requirements of being between 9 to 13 years old with a diagnosis of overweight or obese and does not have any underlying physical, cognitive, or chronic conditions (ie.. metabolic disorders, diabetes, etc).

RISKS AND/OR DISCOMFORTS

There could be unpredictable risk that are beyond the investigator's knowledge. However, if during this study your child experiences:

- Your child may feel self-conscious about your eating habits or while performing any physical activities while participating in this study,
- Your child may be unable to meet the nutritional expectations,
- Your child experiences any allergic effects or intolerances to any foods that is unpredictable until after you consume it, if this is the case, you should suspend that food item,
- Your child experiences unexpected discomfort during physical activities, if this is the case, activity should be stopped.

In case the child experiences any unexpected discomfort during physical activity or food reaction, we ask that you contact your healthcare provider (as per usual care).

However, this study has no anticipated risk to your child.

BENEFITS

The study has the following possible benefits to your child:

- Choose healthy food options
- Be active
- Limit screen time
- Live a healthy lifestyle.

ALTERNATIVES

There are no known alternatives available to your child other than not taking part in this study. Any significant new findings developed during the course of the research which may relate to your child's willingness to continue participation will be provided to you.

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CONFIDENTIALITY

The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report, we might publish, we will not include any information that will make it possible to identify your child. Research records will be stored securely and only the researcher team will have access to the records. However, your child’s records may be inspected by authorized University or other agents who will also keep the information confidential.

You will be asked to sign separate consent the **Health Insurance Portability and Accountability Act of 1996 (HIPAA)** that will protect sensitive patient health information from being disclosed without the participants consent of knowledge. Patient Health information collected for this study, stored by researcher, and not shared:

- Name
- Phone number
- Race
- Gender

If we learn about serious harm to your child or someone else, we will take steps to protect the person endangered even if it requires telling the authorities without your permission. If we have reason to believe that your child is being abused, we will report this to the Florida Abuse hotline. In these instances, we would only disclose information to the extent necessary to prevent harm.

The U.S. Department of Health and Human Services (DHHS) may request to review and obtain copies of your child’s records. The Food and Drug Administration (FDA) may request to review and obtain copies of your child’s records.

A description of this clinical trial will be available on <http://www.ClinicalTrials.gov>, as required by US Law. This web site will not include information that can identify your child. At most, the web site will include a summary of the results. You can search this website at anytime.

USE OF YOUR CHILD’S INFORMATION

- Your child’s information collected as part of the research will not be used or distributed for future research studies even if identifiers are removed.

COMPENSATION & COSTS

Your child will receive promotional items such as bookmarks, pencils, water bottle for participation. There are no costs to your child for participating in this study.

MEDICAL TREATMENT

Routinely, FIU, its agents, or its employees do not compensate for or provide free care for human subjects in the event that any injury results from participation in a research project. If your child becomes ill or injured as a direct result of participating in this study, contact your

child’s regular medical provider. If your child has insurance, your insurance company may or may not pay for these costs. If your child do not have insurance, or if your insurance company refuses to pay, you will be billed. Funds to compensate for pain, expenses, lost wages and other damages caused by injury are not routinely available.

RIGHT TO DECLINE OR WITHDRAW

Your child’s participation in this study is voluntary. Your child is free to participate in the study or withdraw his/her consent at any time during the study. Your child can decide to not follow diet, exercise, or screen parameters at any time. Your child will not lose any benefits if he/she decides not to participate or if your child quits the study early. We ask that you notify investigator for further instructions. The investigator reserves the right to remove your child from the study without your consent at such time that he/she feels it is in the best interest.

RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Daphnie Romulus at [REDACTED]

IRB CONTACT INFORMATION

If you would like to talk with someone about your child’s rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to allow my child to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. I understand that I will be given a copy of this form for my records.

Signature of Parent/Guardian _____
Date

Printed Name of Parent/ Guardian

Printed Name of Child Participant

Signature of Person Obtaining Consent _____
Date

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CHILD ASSENT TO PARTICIPATE IN A RESEARCH STUDY

Improving preadolescence nutritional knowledge to promote healthy life: A quality improvement project.

WHY ARE YOU DOING THIS STUDY?

You have been selected to participate in the “5210 Let’s Go”! study because your healthcare provider believes you will benefit from the health education program.

We want to tell you about a study of children like yourself. We would like to know if we can help children pick better foods choices and get healthy.

HOW MANY OTHERS WILL BE IN THIS STUDY?

If you agree to join in this study, you will be one of 15 to 20 children in this research study.

WHAT WILL HAPPEN IN THIS STUDY?

In this study, after your doctor’s visit, in private:

1. Take a 10-minute (21 questions) test to find out what you know about healthy foods.
2. Listen to a 15 to 20-minute learning activity “5210 Let’s Go! by Maine Health” and “My Plate” by the research person Daphnie Romulus
3. After the activity take a 5- minute (7 questions) test to check what you remember.
4. After you leave the doctor’s office. Remember to practice what you learned for two weeks:
 - a. Eat 5 or more of fruits and vegetables daily.
 - b. No more than 2 hours or less of screen time that’s not schoolwork (watching TV, TikTok, video games, etc..)
 - c. Do 1 hour or more of physical activity daily. (Like jump rope, running, jumping jacks, basketball, football, or running)
 - d. 0 sugary (soda drinks) but more water. (Drink 4 small water bottles or 2 regular water bottles a day.)
5. After the two weeks take a 5 to 10-minute (18 questions) test over the phone while at home. This is to check if you followed the program.

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HOW LONG WILL THE STUDY LAST?

You will need to practice the activity every day for two weeks.

CAN ANYTHING BAD HAPPEN TO ME?

While following the food and exercise program,

- You feel nervous or don't like how you feel about what you eat
- You feel like you can't do the programs,
- You find a food item that makes you sick or you don't think you can eat something anymore until after you have tried it, if this is the happens, you should stop that food item,
- You feel bad, sick, or in pain while doing the activities. You should stop the activity.

Please contact your healthcare provider. The study should not be harmful.

CAN ANYTHING GOOD HAPPEN TO ME?

This study will help you:

- Pick healthy foods, like fruit, vegetables, and drinking more water.
- Be active – This good for your heart and muscle strength.
- Less screen time
- Live healthy.

DO I HAVE OTHER CHOICES?

You do not have to join if you don't want to. If you join the study and want to leave the study at any time, you may do so.

WILL ANYONE KNOW I AM IN THE STUDY?

No one will know who you are in the study. Your information is private.

WILL I BE GIVEN ANYTHING FOR PARTICIPATING?

Because you joined and did the activities you will get bookmarks, pencils, water bottle. The study program is free to join.

WHAT IF I DO NOT WANT TO DO THIS?

If you need to stop, that's OK. You can choose not to follow diet, exercise, or screen time. If you don't like a question, you don't have to answer it and, if you ask, your answers will not be used

in the study. No one will get mad at you if you decide you don't want to participate. Just let the investigator know that you plan to stop.

WHO CAN I TALK TO ABOUT THE STUDY?

If you have any questions about the research study, you may contact Daphnie Romulus at [REDACTED]. If you would like to talk with someone about your rights of being a participant in this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

This research study has been explained to me and I agree to be in this study.

Signature of Child Participant

Date

Printed Name of Child Participant

Signature of Person Obtaining Consent

Date