Combating Childhood Obesity with a Nurse Practitioner Led Wellness Program in the School Setting

Joy King-Mark, MSN, APRN, NP-C, DNP-S

Georgia College & State University●231 W. Hancock St. ● Milledgeville, GA 31061

Background of Childhood Obesity

Overweight children and childhood obesity have been identified as an area of national and global concern for healthcare providers and society. Its prevalence has been described as one of the most common chronic childhood conditions.

Recent childhood obesity data and statistics include:

❖ Despite national initiatives, such as the Lets Move Campaign, there is still a significant amount of children and adolescents classified as overweight or obese.
❖ The percentage of children between the ages of 6 to 11 who are obese increased from 7% in 1980 to 12% in 2012.
❖ Obesity in adolescents age 12 to 18 increased from 5% to 21% between 1980 to 2012.
❖ 43 million children and adolescents are estimated to be overweight or obese globally with an additional 92 million children at risk of becoming overweight worldwide.

Growing concern surrounding childhood obesity in the future:

❖ If these trends continue the number of obese infants and young children will increase from 42 million to 70 million by 2025 (World Health Organization [WHO], 2014).
❖ Despite growing concern the use of advanced practice nurses, specifically family nurse practitioners, to aid in school-based wellness initiatives to address childhood obesity is limited.

Baldwin County School District

District Characteristics
• 4 Elementary Schools
• 1 Middle School
• 1 High School
• 1 Early College Program
  • 7th – 12th grade
• 55.2% Caucasian
• 43.6% African American

County Characteristics
• 32.1% live below poverty line compared to the national average of 15.6%
• 31% of adult population is obese
• 28% of adult are not physically active
• 11.4% of adults have diabetes compared to national average of 9.3%

Poster Presentation Aims

1. Explore the conceptual format of a school-based FNP led nutritional and physical activity education program to reduce childhood obesity.
2. Discuss the theoretical framework utilized during this translational project.
3. Address research findings and limitations.
4. Provide information about additional areas for future research.

Current Research and Limitations

A needs assessment was conducted to evaluate current knowledge regarding school-based childhood obesity prevention and reduction methods explored within the past decade.

The following areas were identified:

➤ Reduction of body mass index (BMI)
➤ Promotion of healthy diet
➤ Promotion of physical activity
➤ Satisfaction and participation of students
➤ Reduction of risk factors of atherosclerosis

➤ Very limited research regarding advanced practice nurses in school setting to aid in childhood obesity efforts.
➤ There is a growing need to explore new learning method in familiar settings to improve childhood wellness initiatives

Theoretical Framework

Orem's Self-Care Deficit Theory
✧ Associated with empowering individuals to take initiative regarding their health
✧ Health behaviors are initiated through basic conditioning factors (BCFs)
✧ Specific components applicable to the wellness initiative:
   ✧ Estimative
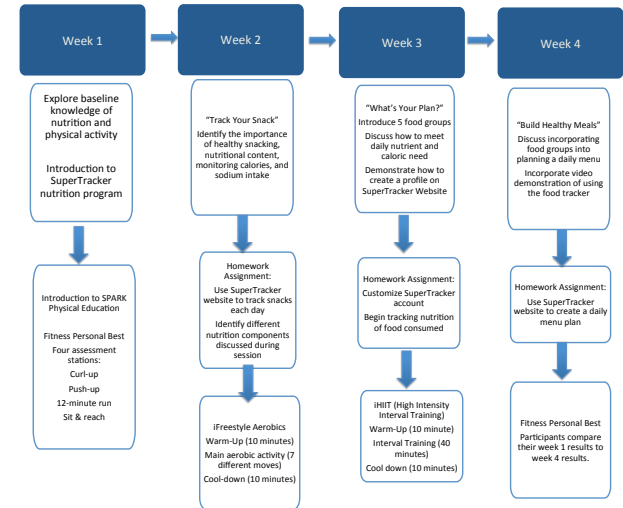   ✧ Translational
   ✧ Production

Methods

This 4-week wellness intervention aim to evaluate improvement in self-efficacy, activity level, and eating habits in rural Georgia adolescents age 14 – 17.

Data was collected through the following methods:

• **Patient Centered Assessment & Counseling for Exercise (PACE+): Physical Activity and Diet Surveys for Adolescents** prior to initiation and upon completion
   • Physical Activity
   • Sedentary Behavior
   • Dietary Fat
   • Fruits & Vegetable

• **Jawbone UP Move**
   • Activity tracker to be wore throughout study

• **Demographic information**
   • Gender
   • Age
   • Grade level
   • Parental education

• **Anthropometric information**
   • Height
   • Weight
   • BMI
   • BMI percentile
   • Blood pressure
   • Waist circumference

Process of Implementation

Week 1
Explore baseline knowledge of nutrition and physical activity

Introduction to SuperTracker nutrition program

Introduction to SPARK Physical Education

Fitness Personal Best
Four assessment stations:
Curl-up
Push-up
12-minute run
Sit & reach

Week 2
"Track Your Snack"
Identify the importance of healthy snacking, nutritional content, monitoring calories, and sodium intake

Homework Assignment:
Use SuperTracker website to track snacks each day
Identify different nutrition components discussed during session

iFreestyle Aerobics
Warm-Up (10 minutes)
Main aerobic activity (7 different moves)
Cool-down (10 minutes)

Week 3
"What's Your Plan?"
Introduce 5 food groups
Discuss how to meet daily nutrient and caloric need
Demonstrate how to create a profile on SuperTracker Website

Homework Assignment:
Customize SuperTracker account
Begin tracking nutrition of food consumed

iHIIT (High Intensity Interval Training)
Warm-Up (10 minute)
Interval Training (40 minutes)
Cool down (10 minutes)

Week 4
"Build Healthy Meals"
Discuss incorporating food groups into planning a daily menu
Incorporate video demonstration of using the food tracker

Homework Assignment:
Use SuperTracker website to create a daily menu plan

Fitness Personal Best
Participants compare their week 1 results to week 4 results.

Findings and Limitation

❑ Overall, participant demonstrated moderate weight reduction compared to baseline data;
   ❑ Stats placed here.
❑ Participant improved their perspective on fruit and vegetable consumption and physical activity.
   ❑ Stats placed here.
❑ Participants showed a reduction in systolic blood pressure and waist circumference
   ❑ Stats placed here.
❑ Limitations of this study:
   ❑ Small sample size (15 participants)
   ❑ Limited duration of study
   ❑ No control group

Future Research

✓ Longitudinal study with control and intervention group
✓ Larger sample size
✓ Evaluate perception of school educators on incorporate family nurse practitioners into school programs on regular basis