The "Best Snacks EVER" Series

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Community Health Project
Montpelier – Vermont
*Best Snacks EVER* Series

Longitudinal Integrated Clerkship
Class of 2021

Made Possible By:

- Dr. Payne
- Kellogg Hubbard Children’s Library
- Union Elementary School
- Part 2 after-school program
Problem Identification and Description of Need

- 1 in 5 children of school age are obese (above 95\textsuperscript{th} percentile)\textsuperscript{1}.
- Factors that contribute to obesity: Genetics, Metabolism, Eating Behaviors, Physical Activity Behaviors, Short Sleep Duration, and Negative Childhood Events\textsuperscript{1}.
- For children and adolescents aged 2-19 years (2015-2016):
  - Obesity has affected ~13.7 million individuals\textsuperscript{1}.
    - Obesity prevalence was:
      - 13.9\% among 2-5 year-olds
      - 18.4\% among 6-11 year-olds
      - 20.6\% among 12-19 year-olds
- 14\% of US children 1-2 years old had iron deficiency (2007-2010)\textsuperscript{1}.
- 45-48\% of children aged 12-23 months in the U.S. ate a vegetable on a given day (2009-2014)\textsuperscript{1}.

\textsuperscript{1}References are omitted for brevity.
Problem Identification and Description of Need

- In Vermont:
  - 27.5% of adults are obese, a rate better than 42 other states (2018).²
  - “In Vermont, 15.1% of children aged 10 to 17 have obesity, giving Vermont a ranking of 20 out of 51 for this age group among all states and the District of Columbia (2018)”².

- KEEPING WEIGHT OFF IS HARD! One study shows only 20% of patients were able to lose 10% of body weight and keep it off for at least one year³.
Public Health Cost and Unique Cost Considerations in Host Community

- A 2019 report says obesity costs the nation $149 billion annually in medical expenses and lowers economic productivity by $66 billion each year\(^5\).

- **Childhood** obesity is estimated to cost $14 billion annually (U.S.) in direct health expenses\(^2\).

- Obesity-Attributable Expenditures by State (2009) are estimated to be a VT cost of $291 million per year\(^6\).

- The crudest estimate in the world (data could only be found on the state level for VT costs):
  - If we assume Montpelier’s per person population is representative of the rest of Vermont:
    - Vermont population 626,299 -> $291,000,000
    - Montpelier population 7,484 -> $3,460,746
Support for this project idea came from the staff of the Kellogg Hubbard Library Children’s Division and the Union Elementary School in Montpelier in partner with the Part 2 program.

Through our discussion we decided on a way to provide both information and a fun environment for children after school.

We focused on 3 sessions to include nutrition information using books, healthy snacks, and creative projects.

Thank you Kellogg Hubbard Children’s Library for your expertise in planning and implementing this project!
Reasoning for target age group: Obesity in Vermont jumps from 12-14% to around 27% when comparing childhood obesity rates to adults rates. Poor eating habits is one of many contributing factors, so my project aims to target this before the age of increased obesity.

Goal: To discuss healthy eating with young children in an engaging manner. To have FUN!

3 after-school sessions (ages K-3rd grade)
- 20-25 kids per session.
- Sessions included healthy snacks, reading one nutrition healthy book, and a nutrition themed craft.

We learned about:
- All-the-time-foods and sometimes-foods!
- Eating a variety is super healthy!
- Other ways to stay healthy!
- What is in our food!
  - (vitamins, minerals, proteins, carbohydrates, sugars, etc.)
Each book reading contained discussion points that allowed students to express thoughts about eating and healthy or less-healthy choices.

- Through these discussions I was able to ask the children what lessons the stories were trying to tell and what they had learned.

- Teachers from the Union Elementary School had such a great time with the program that they requested to continue this project with the Kellogg Hubbard Library going forward!

- Results were not numerically measured/quantified for this project.
Ways in which the effectiveness could be evaluated:

- Simple surveys to assess before and after knowledge about nutrition (difficult to do with smaller children).
- Home survey to ask parents to discuss what was learned that day with their children and provide feedback to our program.
- Through medical records (and parent/IRB approval of course) the participant’s and same-school control’s obesity rates could be measured and compared.

Limitations:

- Small cohort. Short series.
- Children reached may not represent the community as a whole.
- Only addresses one aspect of the multifaceted problem of obesity. Does not address available foods in the school/home environment, food costs for healthy choices, food culture, unhealthy food promotion, etc.
Recommendations for Future Interventions/Projects

- Involve parents in the program and provide information about healthy recipes/snacks.
- Include information on resources for obtaining healthy food at lower costs for those that qualify (in a subtle manner, such as included on recipe handouts).
- More information on exercise education.
- Extend project to outdoor activities/games.
- Grow the project to a bigger scale to reach more children.
- Target the 9-12 age group where the biggest VT obesity rate jump happens between kids and adults.
THANK YOU!


4. HL Chen. The scope and impact of obesity in Vermont - Strategies for change. Preventive Medicine, Volume 80, November 2015, Pages 44-46.
