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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

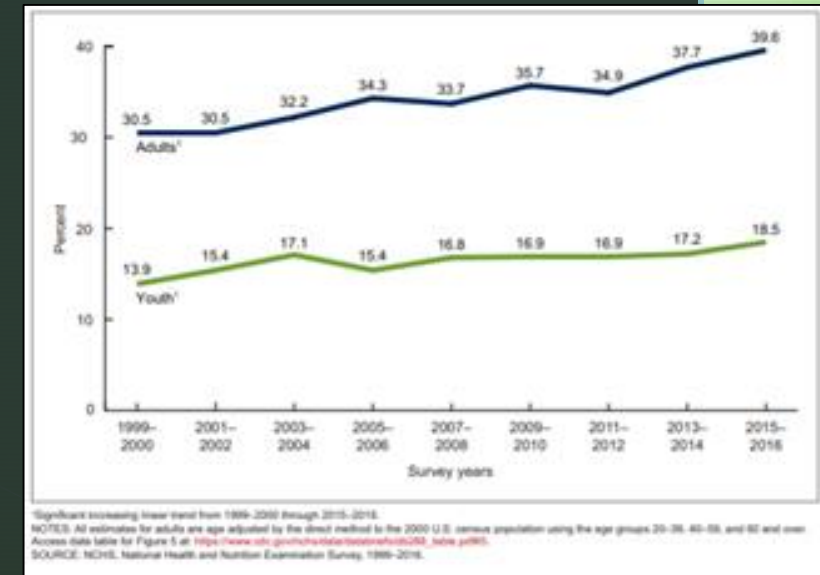


Problem Identification and Description of Need

- 1 in 5 children of school age are obese (above 95th percentile)¹.
- Factors that contribute to obesity: Genetics, Metabolism, Eating Behaviors, Physical Activity Behaviors, Short Sleep Duration, and Negative Childhood Events¹.
- For children and adolescents aged 2-19 years (2015-2016):
 - Obesity has affected ~13.7 million individuals¹.

- Obesity prevalence was:

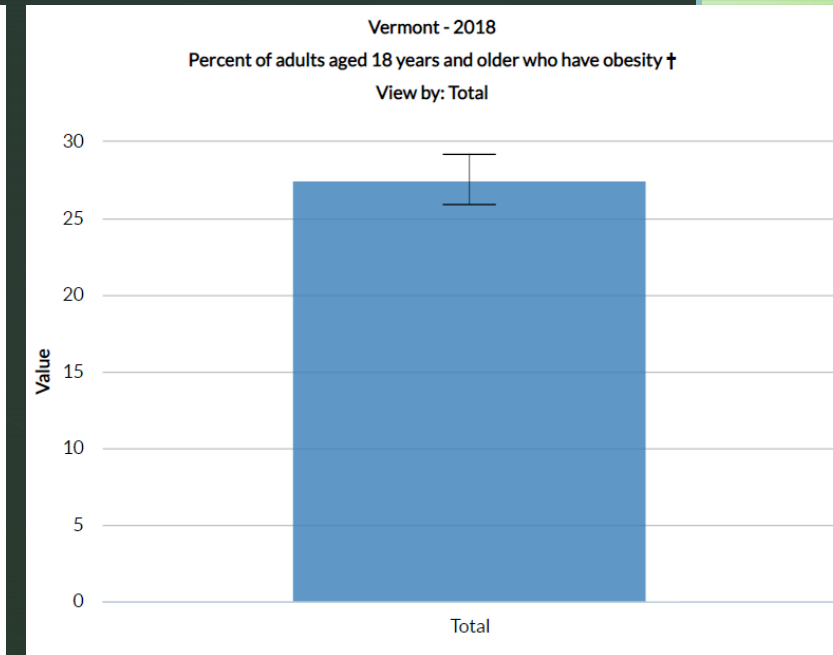
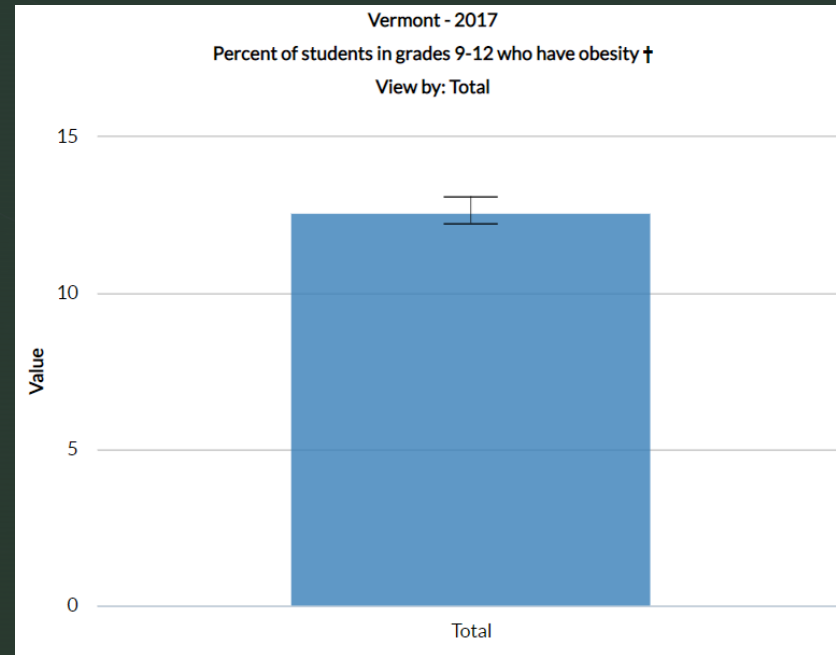
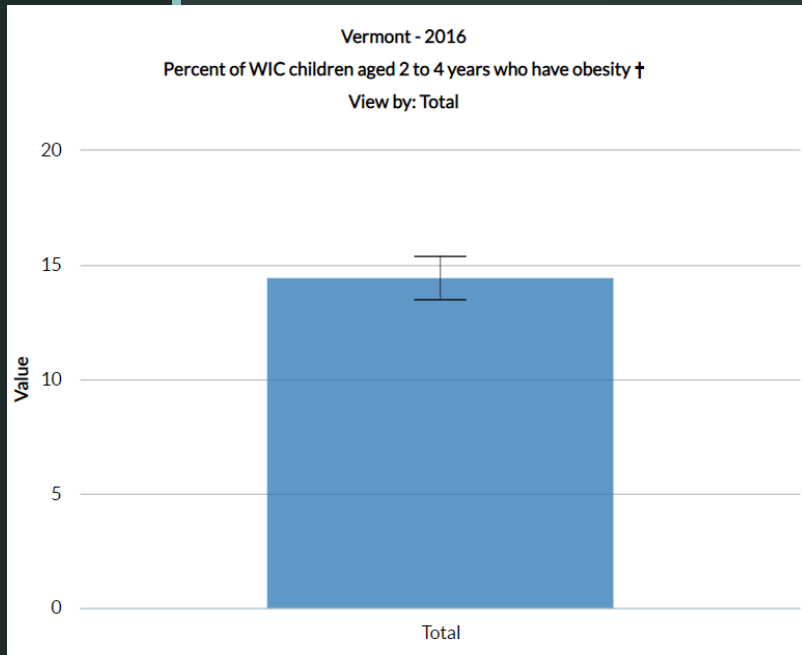
- 13.9% among 2-5 year-olds
- 18.4% among 6-11 year-olds
- 20.6% among 12-19 year-olds



- 14% of US children 1-2 years old had iron deficiency (2007-2010)¹.
- 45-48% of children aged 12-23 months in the U.S. ate a vegetable on a given day (2009-2014)¹.

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 year⁵.
- Childhood obesity is estimated to cost \$14 billion annually (U.S.) in direct health expenses².
- Obesity-Attributable Expenditures by State (2009) are estimated to be a VT cost of \$291 million per year⁶.
- 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**

Community Perspective on Issue and Support for Project



- 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!



Intervention and Methodology

- 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.)

Results/Response Data



- 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.



Evaluation of Effectiveness and Limitations

- 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!

References

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