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Raising Healthy Vermonters: Preventing Childhood Obesity by Establishing Healthy Habits

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Family Medicine Rotation 4, Sept/Oct 2015
Preceptors: Dana Kraus, MD; Jay Dege, MD
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Community Health Problem: Childhood Obesity

- Obesity results from an imbalance of calories in which the amount of calories consumed is greater than those expended. Obesity is also affected by genetic, behavioral, and environmental factors.
- Obesity is defined as a Body Mass Index $\geq 30.0 \text{ kg/m}^2$
- Children who are obese are more likely to be obese as adults.
- The need to address this disease is profound. Childhood obesity can eventually lead to diabetes, hypertension, heart disease, arthritis, obesity-related cancers, and other life-threatening illnesses.

Public Health Cost

- In America, approximately **17% (12.7 million)** of children ages 2-19 are obese (CDC).
- Cost of obesity in America: **\$190.2 billion** (National League of Cities).
- In Vermont, approximately **11.3%** of children ages 10-17 are obese (Trust For America's Health).
- Cost of obesity in Vermont: **\$141 million** (Vermont Department of Health).
- Cost of childhood obesity over a lifetime: **\$19,000/child** (Duke Global Health Institute).
- During the past 4 decades, childhood obesity rates in the US have quadrupled (National League of Cities).
- In a population-based sample of 5- to 17-year-olds, 70% of obese youth had at least one risk factor for cardiovascular disease (CDC).
- From 1998-2003, the prevalence of obesity increased from **13.1% to 15.2%**. However, from 2003-2010, the prevalence of obesity decreased slightly from **15.2% to 14.9%**, revealing a slow reversal of the childhood obesity epidemic (CDC)

Community Perspective

In-person interview with Louisa Driscoll, RN (School Nurse at St. Johnsbury School) on childhood obesity prevention in a school setting:

- St. Johnsbury School is a K-8 school in rural Vermont where 70% of students qualify for free/reduced lunch.
- In an effort to promote healthy eating, the school offers a fresh salad bar daily, includes health and nutrition classes in the curriculum, and provides gardening classes in the summer.
- Through the USDA Farm-to-School Grant Program, each student is offered a fresh fruit or vegetable from a local farm every day in the classroom.
- Students can no longer purchase soda from vending machines.
- To promote exercise, free swim lessons are offered at the community pool.

Community Perspective

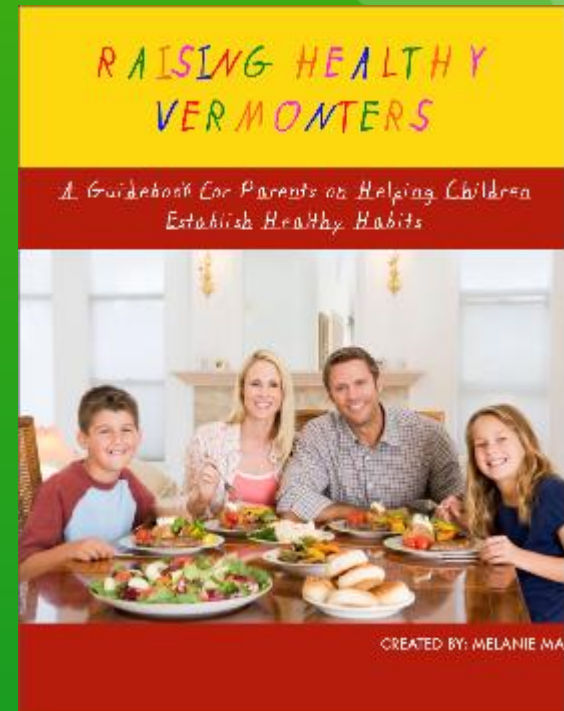
In-person interview with Richard Wasserman, MD (Pediatrics Attending Physician at the University of Vermont Medical Center) on motivational interviewing with parents to prevent childhood obesity:

- First, inquire whether parents are interested in helping their child lose weight.
- If so, help parents identify their values and beliefs on health along with their child's current behaviors and patterns of eating and physical activity.
- Try to reconcile the values with behaviors and use shared decision making to make adjustments to eating and physical activity.
- A step-by-step approach often leads to better and longer-lasting results as compared to attempting a complete overhaul.

Intervention and Methodology

Intervention:

- A 15-page booklet for parents on how to help their children establish healthy habits was created using patient-friendly language.
- Booklets were distributed to providers at the St. Johnsbury Community Health Clinic and several copies were made available in the waiting room.



Intervention and Methodology

Methodology:

- Information and data on childhood obesity, Michelle Obama's *Let's Move!* campaign, MyPlate, and motivational interviewing were gathered from sources including the CDC, Childhood Obesity Task Force, and US Department of Agriculture.
- In-person interviews were conducted with community members at the St. Johnsbury School, University of Vermont Medical Center, and St. Johnsbury Community Health Center.

Results and Response

- Providers expressed enthusiasm about sharing this resource with parents given the prevalence of childhood obesity among their patient population.
- Parents/caretakers of pediatric patients displayed great interest in following several suggestions offered in the informational booklet. One parent expressed appreciation for the sample grocery list provided.
- Concerns about lack of parental motivation were raised. Agreed that parents in pre-contemplative and contemplative stages of change would receive most benefit from intervention by working in conjunction with on-site health coach at St. Johnsbury Community Health Center.

Effectiveness and Limitations

Possible methods to evaluate effectiveness:

- Quantitative: Track BMI values of two cohorts of patients within the same age range—one of which that has reviewed the booklet and one that has not—for a number of years and analyze the BMI data to identify any possible trends.
- Qualitative: Distribute questionnaire to elicit qualitative feedback from parents on their experiences with implementing strategies from the booklet

Effectiveness and Limitations

Limitations:

- Financial and/or transportation barriers may prevent parents from being able to purchase fresh produce and/or enroll their children in sports and other activities.
- Patients may become lost to follow-up, therefore making it difficult to assess effectiveness of intervention.
- One community member expressed a genuine concern shared by some parents in St. Johnsbury: given the number of registered sex offenders residing in the community, parents are somewhat reluctant to allow their children to play outside. Therefore, their children are limited to spending their free time indoors and, as a result, are less physically active.

Future Interventions

- Create a guide for providers on motivational interviewing with parents to prevent childhood obesity.
- Partner with a local school to conduct lesson on making healthy food choices and distribute informational booklet in nutrition and health classes.
- Host a cooking demonstration for parents at a local school or community center kitchen. Session will discuss cost of ingredients and nutritional value of food. Healthy, low-cost recipes will be provided.
- Create a patient-friendly exercise log tool to motivate patients to be active and track their own progress.
- Organize a community 5K walk/run event to promote physical activity and raise awareness for childhood obesity.

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