Reducing or Preventing Weight-Related Disease Through Increasing Fruit & Vegetable Consumption Among Low-Income Elementary Children: A Community-Based Research & Extension Intervention Systems Approach

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An interdisciplinary, longitudinal endeavor of
The University of Maryland College Park
School of Public Health
College of Agriculture & Natural Resources
Maryland Cooperative Extension
The Maryland Department of Human Resources
The United States Department of Agriculture
The Maryland Food Stamp Nutrition Education Program
Project FRESH: Fruits & Veggies Raise Energy for School Health

Project FRESH Focus:
Increasing fruit and vegetable consumption among low-income children, their families and school personnel.
Intended FRESH Outcomes

- **Long Term**—Increase access to, and availability and affordability of, fruits and vegetables in community, home, and school environments such that low-income youths who are introduced to a variety of fruits and vegetables regularly consume the minimum daily intake as a behavior carried over into adulthood.

- **Intermediate Term**—Provide research-based evidence that will be incorporated into curricula and programming so that maximum impact occurs among the targeted youths and adults.

- **Short Term**—Assess impact of interventions on student preference and consumption of fruits and vegetables
Interventions:

Introducing nutrition education into 4th & 5th grade curricula;

Enhancing the school cafeteria environment;

Collaborating with the teaching faculty, food service workers & school administration;

Providing healthy activities for the entire family;

Offering nutrition workshops to parents and guardians;

Encouraging gardening by students and families; and

Bringing a farmers market directly to the community.
FRESH Framework

School Environment:
Availability/Accessibility of FV
Food Service Worker, Teacher & Principal Engagement

Home Environment:
Availability/Accessibility of FV
Shopping for FV

Parental Modeling:
Parents FV consumption
Parent Food/Taste Preferences

Student Factors:
Self-efficacy – ate lunch at school
Food/Taste Preferences

Student Fruit & Vegetable Consumption:
Student average daily fruit and vegetable consumption
Why is this Research and Educational Intervention “Cutting Edge?”
Significance of this Research & Extension Outreach Intervention Initiative

- Low-income families experiencing low levels of food security
- Fruits and vegetables costly
- Fruits and vegetable consumption associated with prevention of weight-related diseases
- These students depend on school food for 1/3-2/3 of daily intake
- Behaviors of parents, teachers and food service workers affect children’s preferences & consumption
- Little research or evidence for intervention exists
- Few interventions address multiple systems impacting consumption
- Research often separate from translation and application &/or conducted without input of community under investigation.

Filling a gap in knowledge that may lead to improved health and well-being
“The word "impressive" hardly describes the excellence of FRESHtival...the children and their parents had fun, everyone learned, and everyone ate lots and lots of fruits and vegetables.”  

State agency executive director

“I didn’t know that I liked apples!”

Student

“I learned that I do not need to go to McDonalds for yogurt parfaits anymore because now I know how to make them myself”  

Parent
“I asked my kids if they wanted an ice cream party as an end of the year treat. Instead of ice cream, they CHOSE a fruit salad party! You would be so proud!! We had blueberries, honeydew, strawberries, bananas, grapes, and pineapple. Thanks again for all your help this year!! I am sure the kids thank you too!!”

Tiffany M. Marr
Baltimore Highlands Elementary School
Unsolicited E-Mail 6-14-08
FRESH Future

- Second year measures being collected for analysis
- Additional expanded investigations underway or proposed for funding include:
  1) Measuring Availability, Accessibility and Affordability of Fruits & Vegetables at Community Food Outlets
  2) Measuring Family Level Social, Behavioral & Other Environmental Determinants of Fruit & Vegetable Consumption
  3) Incorporating Findings into School, Family and Community-based Interventions and Testing For Impact on Behavior
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