School-based behavioral interventions are recommended to Increase Vegetable and Fruit Consumption Among Youth

Consumption of five or more daily servings of vegetables and fruit is associated with a decreased risk of heart disease, high blood pressure, and cancer at many sites. Few school-aged children in this country consume at least five daily servings of vegetables and fruit – less than one in four consume the recommended amounts of vegetables and fruit. Low energy-dense foods, such as vegetables and fruit, may be protective against weight gain and obesity. Given that a diet rich in vegetables and fruit will help young people stay healthier, it important to know what strategies work best to increase consumption.

A systematic review of published studies, conducted by the Agency for Health Care Research and Quality, found that multi-component interventions in school-based settings have increased consumption of vegetables and fruit. Based upon this review, multi-component behavioral interventions in schools are recommended to increase vegetable and fruit consumption among youth in schools. Single component interventions, such as differential pricing of vegetables and fruit for sale in schools, show promising results, but further research is needed.

Background on the Interventions

- To increase vegetable and fruit consumption, these programs seek to increase vegetable and fruit consumption by utilizing a multi-component intervention strategy
- Typical multi-component strategies include changing the food environment by increasing availability, attractiveness, and variety of vegetables and fruit in school foodservice; promoting social support by encouraging classroom team activities and parental involvement; goal setting; interactive activities, such as taste testing and cooking activities; and increasing knowledge and attitudes about the benefits of increased vegetable and fruit consumption.

Findings from the Systematic Review

- In 5 of the 7 studies reviewed, vegetable and fruit consumption increased significantly. In a separate meta-analysis of 6 multi-component school-based interventions, the average effect size was an increase of 0.4 daily vegetable and fruit servings.
- Studies employing a theoretical basis, such as Social Cognitive Theory, were more likely to report significant increases in intake of vegetables and fruit than were studies that did not use theory.
- The interventions were more successful at increasing fruit intake (vs. vegetable intake) among children.
- The use of social support components, such as classroom team activities and student advisory committees, in the interventions was associated with greater increases in vegetable and fruit consumption

Publications:

Ammerman A, Lindquist C, Hersey J, et al. Efficacy of interventions to modify dietary behavior related to cancer risk. Evidence Report/Technology Assessment No. 25: AHRQ. February 2001.

Howerton, M, Berrigan, D., Solomon, R., Dodd, K., Bell, S., Nebeling, L. Meta-Analysis of School-Based Nutrition Programs that Focus on Increasing Consumption of Fruits & Vegetables. Manuscript in preparation.