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UNIVERSITY OF
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Center for Research in Nutrition & Health Disparities

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An Evaluation of a Program Aimed at Increasing Fruit and Vegetable Consumption Among School Aged Children in South Carolina

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***Executive Summary:* Most children do not consume the recommended daily amount of fruits and vegetables. An evaluation was conducted to determine the outcomes of an educational program aimed at reducing barriers to fruit, vegetable, and whole grain consumption among children exposed to the program. The results reveal the influence of offer versus serve in regards to fruit and vegetable consumption. Offered fruits were found to be consumed less than served vegetables. Further, snack items negatively influenced the amount of produce children consumed. Implementing alternate school fundraisers and serving versus offering fruits with school lunches may increase consumption of produce among children.**

Is your child average? Most people like to believe that their children are above average, and to be an above average fruit and vegetable consumer would not be hard. The average child in the U.S. eats no vegetables and the equivalent of less than 1/2 cup of fruit per day.¹ The latest guidelines say 1/2 the plate of foods we eat should be vegetables and fruit. The U.S.D.A., well-meaning school food service organizations, and parents have been trying to improve this situation here in South Carolina. We had the opportunity to evaluate how our best efforts are affecting children at a local elementary school. The evaluation will provide evidence of the effectiveness of the educational program in reducing barriers to fruit, vegetable, and whole grain consumption among children exposed to the program. The results will be useful to decision makers considering long-term support for the educational program at community, state, and national levels.

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After picture of a school meal tray

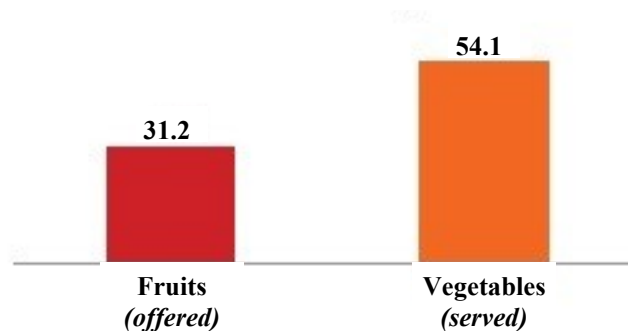
Study Description:

A picture of the lunch tray was taken immediately after students purchased their lunch and a second picture was taken before the student threw away his/her lunch tray. Numbered stickers were placed on the lunch tray in order to match pictures, and the amount of fruits and vegetables consumed by the students were calculated. The pictures taken at the time of payment and at the disposal of the uneaten portion were compared to measure fruit, vegetable, entrée, and snack item consumption.

Summary of Findings:

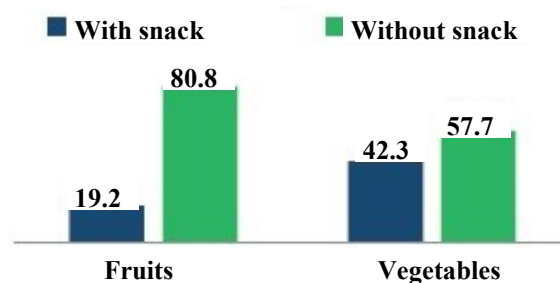
These data revealed the influence of *offer* versus *serve* in regards to fruit and vegetable consumption. Foods are considered to be offered when they are made available to the children and served when they are placed on the children's trays. Fruits were offered while vegetables were served and the percentage of students who had at least a bite was more than double for vegetables (54.1%) than fruits (31.2%). The difference in fruit and vegetable consumption is seen in Table 1.

Table 1: Percentage of students who tried fruits and vegetables



Additionally, we found that snack items negatively influenced the amount of fruits and vegetables that children consumed. When children purchased snack items (e.g., chips, cookies) they were significantly less likely to consume fruits and vegetables. These differences in consumption are shown in Table 2.

Table 2: Percentage of students who consumed fruits and vegetables (if they purchased a snack or not)



Conclusions:

Our findings suggest that ensuring every child has fruits and vegetables on their tray versus merely offering them to children has a significant impact on fruit and vegetable consumption. Snack items negatively impacted children's overall fruit and vegetable consumption. Snack items are currently sold in cafeterias for fundraising in a number of school districts in S.C. We found the Sam's Club online price for 50-count box of chips is \$11.98, making the estimated cost per bag 24-cents for schools. With the schools charging \$1.25 per bag, the school is making roughly \$1.01 per bag of chips. On the day we visited the elementary school, 26 children purchased a snack item. Using this information, this particular school makes \$4,726.80 yearly, a sum that could be made up through other fundraising efforts that do not contribute to the sale of empty calories to children. Such efforts could include the sale of nutritional snacks and beverages, or other healthy fundraising options. Studies have shown that promoting the sale of low-fat food options and increasing the availability of these healthy options resulted in a higher percentage of sales from healthy foods and no effect on the overall food service revenue. In a survey, 80% of principals in West Virginia reported little or no change in revenue when implementing a state policy restricting the sale of snack items and soda in schools.²

The cost of taking out snack item fundraising in school cafeterias is no match for the cost of obesity. The cost of medical expenses related to obesity in S.C. was \$1.06 billion in 2003.³ More than half of these expenses were paid through Medicaid and Medicare programs, making the cost to taxpayers \$8 million for that year alone. It is estimated that \$1.2 billion dollars was spent due to obesity in S.C. Research shows that less snacking leads to better eating habits. Although it has not yet been proven that taking out snack items in school cafeterias would reduce childhood obesity rates, it could be a positive first step toward prevention.

Here is what you can do:

- ⇒ Suggest alternate fundraising options
 - > Walk-a-thons or races
 - > Read-a-thons
 - > Donations
- ⇒ Ask that fruits be served with school lunches
- ⇒ Suggest schools offer recess before lunch
- ⇒ Educate yourself and your local schools on best practices to create healthy school food environments

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