

You are what you eat, Missouri!

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Increasing Healthy food Options in Missouri Schools

The Issue

Diet has been linked to a variety of chronic conditions, including diabetes, heart disease, obesity, and cancer. Certain groups, such as ethnic minorities and those with lower levels of income and education, are at higher risk, but may not have access to adequate or accurate nutrition information. Dietary behaviors are established early in life, and the relationship between these behaviors and disease risk is cumulative throughout a person's lifetime. Although previous interventions have proven effective in changing dietary behaviors in the short-term, long-term changes have proven more difficult to obtain. One way to increase the likelihood of success is to implement interventions that address various influences on the behaviors of school-age children, while ensuring access to healthy food choices.

Recommendations

At present, the environment in most schools is not conducive to making healthy food choices.

- Policy makers should implement policies that not only emphasize the availability of fruits, vegetables, and lower fat alternatives in schools, but also focus on providing clear and simple nutrition messages to students.
- Schools should obtain input from students on preferred healthy food choices.
- Special emphasis should be made on targeting ethnic minorities, who can be more easily reached in schools as compared to community or neighborhood settings.

Recent Research

Numerous interventions have targeted dietary change to reduce the risk of chronic disease.

- In school-age children, multi-level interventions in school settings have proven effective. One recent study examined the influence of individual, behavioral, and socio-environmental factors and availability on the fruit and vegetable intake of nearly 4000 adolescents from 31 public schools within the home setting (1).
- Other studies have examined school-based health education. One looked at 76 schools that served as intervention and control sites for a previous trial on cardiovascular disease that had taken place five years earlier; these schools provided nutrition education and reduced-fat school lunches, along with physical activity classes (2).
- Another, which included approximately 3700 ethnically diverse teens from four sites that previously participated in the same randomized, controlled trial, examined the maintenance of healthy behaviors among participating students (3).
- Researchers in Rhode Island assessed the environment of 102 schools and implemented an intervention in four urban schools that targeted nutrition and physical activity based on guidelines set forth by the Centers for Disease Control and Prevention (4). Additionally, differences in schools with high and low minority enrollment were examined (4).

- Researchers have also examined community norms of body weight, access to fruits and vegetables vs. higher fat, higher calorie food choices, and adolescent food choices in urban settings (5, 6).

Findings

The success of interventions to improve dietary choices among school-age children varies, but several key findings provide evidence for the most effective types of intervention.

- Environment is an important factor in fruit and vegetable intake, and availability predicts intake (1).
- Long-term changes can be obtained in school settings where the environment supports healthy behavior (2, 3).
- Changes in the school environment that support healthy choices increase the chances that school-age children will adopt and maintain healthy behaviors (2, 3).
- The majority of schools with high minority enrollment offer few programs encouraging healthy behaviors (4).
- School-based interventions will reach a wide variety of students, and provide an important opportunity to access those groups that typically have limited access to health information and higher rates of disease, including ethnic minorities and low-income groups (4).
- Minority communities have limited access to healthy food choices and cultural norms do not support health-promoting behaviors (5).
- Minority adolescents are disproportionately affected by obesity, and school-based interventions targeting obesity are needed for this group (6).

References

1. Neumark-Sztainer D, Wall M, Perry C, Story M. Correlates of fruit and vegetable intake among adolescents. Findings from Project EAT. *Prev Med.* 2003 Sep;37(3):198-208.
2. Hoelscher DM, Feldman HA, Johnson CC, Lytle LA, Osganian SK, Parcel GS, Kelder SH, Stone EJ, Nader PR. School-based health education programs can be maintained over time: results from the CATCH Institutionalization Study. *Prev Med.* 2004 May;38(5):594-606.
3. Nader PR, Stone EJ, Lytle LA, Perry CL, Osganian SK, Kelder S, Webber LS, Elder JP, Montgomery D, Feldman HA, Wu M, Johnson C, Parcel GS, Luepker RV. Three-year maintenance of improved diet and physical activity: the CATCH cohort. *Child and Adolescent Trial for Cardiovascular Health. Arch Pediatr Adolesc Med.* 1999 Jul;153(7):695-704.
4. Pearlman DN, Dowling E, Bayuk C, Cullinen K, Thacher AK. From concept to practice: using the School Health Index to create healthy school environments in Rhode Island elementary schools. *Prev Chronic Dis.* 2005 Nov;2 Spec no:A09. Epub 2005 Nov 1.
5. Fitzgibbon ML, Stolley MR. Environmental changes may be needed for prevention of overweight in minority children. *Pediatr Ann.* 2004 Jan;33(1):45-9. Review.
6. Wang Y, Tussing L, Odoms-Young A, Braunschweig C, Flay B, Hedeker D, Hellison D. Obesity prevention in low socioeconomic status urban African-american adolescents: study design and preliminary findings of the HEALTH-KIDS Study. *Eur J Clin Nutr.* 2006 Jan;60(1):92-103.

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