Nutrition Insights

Report Card on the Diet Quality of Children Ages 2 to 9

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The diet quality of most children ages 2 to 9 is less than optimal. This is of concern because poor eating habits in young children may impair their growth and development and serve as the foundation for poor eating behaviors as adults. Such eating behaviors, as well as inactivity among American children, are key factors in the prevalence of overweightness among children over the past decades. Recent data show that 13 percent of American children 6 to 11 years old are overweight, compared with 4 percent in the 1960's. Overweight children are at risk for cardiovascular diseases, Type II diabetes, and other serious health problems. Information on their diets is critical to help develop strategies for healthier children.

This *Nutrition Insight* uses the Healthy Eating Index to examine the diet quality of American children ages 2 to 9. Data used for analysis are from the U.S. Department of Agriculture (USDA), Agricultural Research Service's 1998 Continuing Survey of Food Intakes by Individuals (Supplemental Children's Survey), a nationally representative survey containing information on the diets of 4,011 children ages 2 to 9.

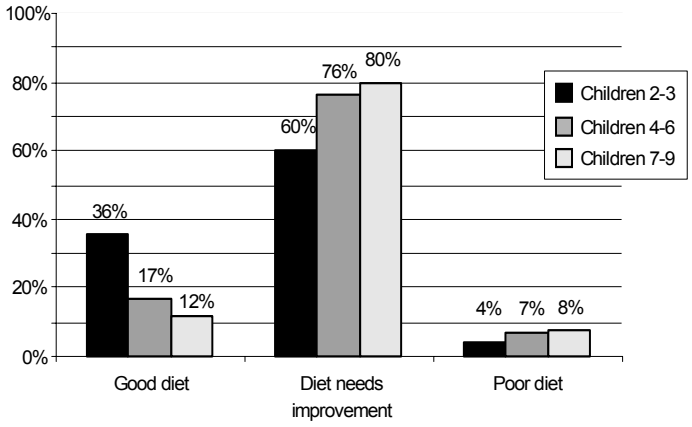
How the Healthy Eating Index is Computed

The Healthy Eating Index (HEI), computed on a regular basis by USDA, is a summary measure of people's diet quality. The HEI provides an overall picture of the type and quantity of foods people eat, their compliance with specific dietary recommendations, and the variety in their diets. The Index consists of 10 components, each representing different aspects of a healthful diet.

Components 1-5 measure the degree to which a person's diet conforms to the USDA's Food Guide Pyramid serving recommendations for the five major food groups: Grains (bread, cereal, rice, and pasta), vegetables, fruits, milk (milk, yogurt, and cheese), and meat (meat, poultry, fish, dry beans, eggs, and nuts). Component 6 measures total fat consumption as a percentage of total food energy (calorie) intake. Component 7 measures saturated fat consumption as a percentage of total food energy intake. Components 8 and 9 measure total cholesterol intake and total sodium intake, respectively. And component 10 measures the degree of variety in a person's diet.

Each component of the Index has a maximum score of 10 and a minimum score of zero. Intermediate scores are computed proportionately. High component scores indicate intakes close to recommended ranges or amounts; low component scores indicate less compliance with recommended ranges or amounts. The maximum combined scores for the 10 components is 100. An HEI score above 80 implies a "good diet," an HEI score between 51 and 80 implies a diet that "needs improvement," and an HEI score less than 51 implies a "poor diet."[1]

Figure 1. Healthy Eating Index rating for children ages 2 to 9, 1998



Most children have a diet that "needs improvement" or is "poor"

Most children ages 2 to 9 have a diet that "needs improvement" or is "poor" (fig. 1). Older children in this age group have a lower HEI score than younger children (table 1). For children ages 2 to 3, 36 percent have a good diet, and 4 percent have a poor diet. For children ages 7 to 9, only 12 percent have a good diet and 8 percent have a poor diet. Much of the decline in diet quality for children occurs between the age groups 2 to 3 and 4 to 6. Between these two age groups, the percentage of children having a good diet falls from 36 to 17 percent. The average HEI score for children ages 2 to 3 is 74.4, for children ages 4 to 6, 68.4, and for children ages 7 to 9, 68.0.

The decline in children's overall HEI score as they get older is linked to significant declines in their fruit and sodium component scores of the HEI. The average fruit score falls from 7.4 for children ages 2 to 3 to 5.0 for children ages 7 to 9 and the average sodium score falls from 8.7 for children ages 2 to 3 to 6.1 for

Table 1. Healthy Eating Index: Overall and component mean scores for children ages 2 to 9, 1998 (percent of children meeting the dietary recommendations for each component in parentheses)

	Mean		
	Children 2-3	Children 4-6	Children 7-9
Total HEI Score	74.4[a]	68.4[b]	68.0[b]
Grains	8.5[a] (57)	7.6[b] (31)	7.9[c] (34)
Vegetables	6.3[a] (35)	5.1[b] (19)	5.6[c] (22)
Fruit	7.4[a] (60)	5.8[b] (35)	5.0[c] (25)
Milk	7.4 (45)	7.7 (50)	7.6 (50)
Meat	6.6[a] (29)	5.6[b] (17)	5.9[b] (13)
Total fat	7.3 (39)	7.4 (38)	7.3 (38)
Saturated fat	5.4 (30)	5.7 (30)	6.2 (39)
Cholesterol	8.6 (82)	8.7 (81)	8.5 (78)
Sodium	8.7[a] (61)	7.5[b] (40)	6.1[c] (32)
Variety	8.0[a] (54)	7.5[b] (46)	7.8[b] (47)

Note: Scores with different superscripts are significantly different from each other at the .05 level.

children ages 7 to 9. For children ages 7 to 9, only 25 percent meet the dietary recommendation for fruit and 32 percent meet the dietary recommendation for sodium. This decline may be because as children get older, they consume more fast food and salty snacks.

Children's grain, vegetable, and meat scores also decline as they get older. The HEI score for grains is relatively good (8.5) for children ages 2 to 3, but significantly declines as children get older. The majority of children do not meet the dietary recommendation for vegetables or meat.

Milk, total fat, saturated fat, and cholesterol scores are similar among the three age groups of children. Cholesterol scores are relatively good for children ages 2 to 9, and most of these children (78 to 82 percent) meet the dietary recommendation for cholesterol (300 milligrams or less per day). Only 38 to 39 percent of these children meet the dietary recommendation for total fat (30 percent or less of total calories from total fat).

Children's HEI Scores Have Not Changed Much Since 1989

The HEI was first computed using 1989 food consumption data. It is therefore possible to compare the scores for children ages 2 to 9 in 1989 and 1998. Although there were changes in the way the milk and variety components of the HEI were calculated in each year, comparisons based on average scores may be made. The overall HEI score for children ages 2 to 9 has not changed significantly from 1989 to 1998—approximately 70 points in both years—indicating a diet that needs improvement. There was no significant difference in HEI component scores for children between the 2 years.

Conclusion

As indicated by the Healthy Eating Index, the diet of most children ages 2 to 9 needs substantial improvement to meet dietary recommendations. Children ages 7 to 9 have a lower quality diet than younger children. The decline in children's diet quality as they get older is associated with a decline in their fruit and sodium HEI scores. Nutrition promotion activities should focus particularly on this younger age group to prevent or even reverse a worsening of the diet as children get older. There has not been any significant change in the diet quality of children ages 2 to 9 from 1989 to 1998. This *Nutrition Insight* provides a better understanding of children's diets and the types of dietary changes needed to improve children's eating behaviors.

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[1] For more details on how the Healthy Eating Index is computed, see: Bowman, S.A., Lino, M., Gerrior, S.A., and Basiotis, P.P. 1998. *The Healthy Eating Index: 1994-96*. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. CNPP-5. Available at http://www.cnpp.usda.gov.

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