The Relationship Between Eating School Lunch and Overweight or Obesity in Elementary School Children

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ABSTRACT

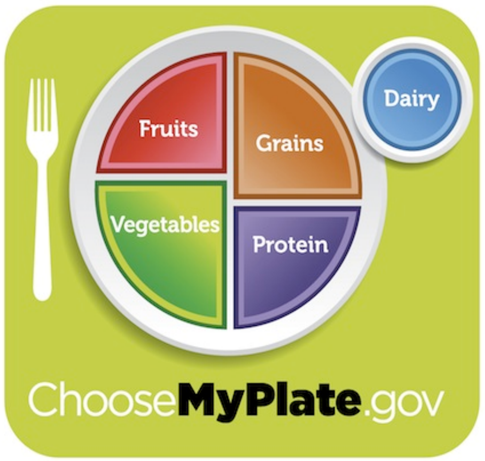
Childhood obesity has become a grave concern in the U.S. and globally today. The purpose of this study was to investigate the impact of school lunch on overweight or obesity in elementary school children. The results revealed that eating school lunch was significantly related to increased risk of overweight or obesity in school children.

PROBLEM

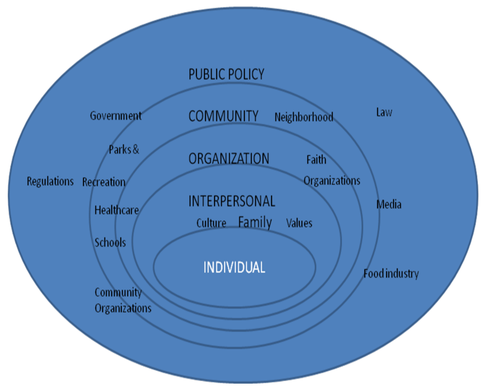
The rates of childhood overweight and obesity have more than tripled in the past 30 years, with the prevalence of obesity among children ages 6 to 11 years increasing from 6.5% in 1980 to 19.6% in 2008. These factors have impelled the reason for this study. To date, this disease has been recognized as a public health concern, affecting over 9 million children in the United States (Centers for Disease Control and Prevention, 2007, 2009; U.S. Department of Health, n.d.). Childhood overweight and obesity are continuous epidemics that begin in childhood and extend through adulthood and are the leading causes of numerous health problems.

PURPOSE

The purpose of this cross-sectional quantitative study was to investigate the impact of the National School Lunch Program on childhood overweight or obesity in elementary school children.



CONCEPTUAL FRAMEWORK



RELEVANT LITERATURE

This study considers relevant literature from 1995 to the present to show the vast differences in the obesity rate then and now, since children's sedentary behaviors and eating habits may have changed over time. Since obesity is a complex disease with multiple causes, other risk factors examined in terms of child development, health assessment, and obesity treatment and prevention strategies. Journals of interest included the *Journal of Pediatrics* to identify risks involved in early childhood obesity, and assessment and treatment of childhood obesity; the *American Journal of Public Health* on the epidemic of childhood obesity in the United States; and the *Journal of the American Medical Association*. Also, the NSLP nutritional guidelines and nutrient intake analyses of children participating in the program were obtained from the United States Department of Agriculture (USDA); and the CDC's Youth Risk behavior Surveillance System which was retrieved for relevant nutritional and physical activity data as pertained to the study.

RESEARCH QUESTIONS

RQ1. Do school lunches contribute to overweight or obesity in elementary school children?

RQ2. Do home prepared lunches contribute to overweight or obesity in elementary school children?

RQ3. Does the number of fast food meals eaten in a week increase the risk of overweight or obesity in elementary school children?

PROCEDURES

A cross-sectional parent survey to examine the impact of the NSLP versus home-prepared meals on childhood obesity in elementary school.

Data were collected using a survey questionnaire. This was entered into Microsoft Excel and then imported into Epi Info which is a CDC's internet instrument for analysis.

Parents of children 5 to 11 years old from 2 afterschool centers completed a modified dietary and physical questionnaire from the CDC's Youth Risk Behavioral Survey using Google Document as the primary data collection source.

DATA ANALYSIS

The data were then analyzed using Epi Info. The CDC's children's growth chart was used to calculate and compare obesity status which was the dependable variable (yes *versus* no).

Obesity was compared to each individual variable using chi-square test to assess whether the percentage of children who are obese in the 2 groups are statistically different. ($p < .05$).

Multiple logistic regression was used to estimate independence associations between school lunch and the likelihood of being obese versus not obese among the students, after adjusting for age, gender, race/ethnicity, and physical activity.

FINDINGS

1. Eating school lunch was significantly related to increased risk of overweight and obesity in school children.

2. Children in kindergarten enter school at an ideal weight => 85th percentile), but as they move up into the grades the association to overweight or obesity becomes apparent.

3. There was only a slight difference in overweight or obesity with the girls, while the significance of overweight or obesity was seen in the males as they enter higher grades.

LIMITATIONS

Although there were paper surveys, over 50% of the respondents participated via FaceBook, an internet-base social network site. Therefore, there is no way of knowing whether those respondents have children, or if they were answering the questions honestly. In fact, of the parents (n=266) who responded that their children were "about the right weigh" 70% of those children were overweight or obese.

The height, weight, and age might not represent the child also, which would make the BMI calculation skewed.

Another major limitation is the use of cross-sectional survey studies. Although cross-sectional studies can be advantageous, since it can be done quickly and cheaply, and in one point in time, it does not prove cause and effect.

CONCLUSIONS

Many parents prefer to prepare a lunch from home for their children, which often times are not nutritiously comparable to the school lunch (NSLP), yet the school lunch tends to be a contributory risk factor of childhood obesity.

The information from this study can help to guide stakeholders to make better nutritious decision for all school children.

SOCIAL CHANGE IMPLICATIONS

Help to find ways to promote healthy living, beginning in the schools, and hopefully in the next 2-3 years, school lunch will be available to all school children.

Availability of school lunch to every child.

Through the reexamination of the ingredients present in school lunch, the USDA will lower the calories and sugar, and not only make the food more nutritious but also tasty.

Parents should be better educated to understand the benefits of a healthy school lunch.

CDC should now include elementary school children in nutritional monitoring using the YRBS, so overweight or obesity can begin to be tracked from an early age.

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