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The Girth of a Nation

Nearly One-Third of American Children Eat Fast Food Daily; U.S. Leads World in Overweight and Obese Teens

By Editorial Staff

According to the National Restaurant Association, the number of "quick service" (fast-food) restaurants in the United States more than doubled between 1972 and 1995. There are now an estimated 228,000 fast-food restaurants in this country; collectively, they generated approximately \$131 billion in sales in 2002 - a figure higher than the gross domestic product of several other industrialized nations, including New Zealand, Israel and Ireland.

As the number of fast-food restaurants has increased, so has the number of overweight and obese children. The first dramatic jump in childhood obesity rates occurred from 1976 to 1980, when approximately 12 percent of all American children between the ages of 6 and 19 were diagnosed as overweight or obese. These numbers have continued to rise at an alarming rate. The American Obesity Association now estimates that nearly 31 percent of all U.S. children and teens ages 6 to 19 (approximately 18 million children) are either overweight or obese. The situation has become so serious that at least one organization has labeled obesity, and the health conditions it contributes to, the "black plague" of the 21st century.

The results of two new studies provide more proof that eating fast food is directly linked to overweight and obesity. The studies show that significantly more American teenagers are overweight or obese compared to teenagers in Europe and Israel - perhaps because nearly one-third of all American children eat fast food in an average day.

"The associations between fast food and diet seem to be causally related"

In the first study, published in the Jan. 1 issue of *Pediatrics*, 6,212 children between the ages of 4 and 19, from all socioeconomic levels and regions of the United States, were interviewed and asked to describe the type and amount of food they consumed on two nonconsecutive days in a 4- to 11-day period. (A child was considered to have eaten fast food if the food was obtained at a fast-food restaurant or "pizza place.") Children ages 12 and older provided their own information on food intake; children ages 6 to 11 described their food intake and were assisted by an adult household member (i.e., a "proxy") responsible for preparing the child's meals; and proxy interviews were conducted for children younger than age 6. Data were used to calculate caloric and nutrient intake.

Mean Energy, Nutrient and Food Intake Among Children Ages 4-19, Based on Fast-Food Intake			
Energy, Nutrients and Food Groups	Had No Fast Food	Had Fast Food	Difference
Energy (kcal)	2,049	2,236	+ 187
Total fat (grams)	75	84	+ 9
Saturated fat (grams)	26.8	30.3	+ 3.5
Total carbohydrates (grams)	277	303	+ 25
Added sugars (grams)	94	122	+ 28
Dietary fiber (grams)	14.3	13.2	- 1.1
Total fluid milk (grams)	302	236	- 66
Fruits and nonstarchy vegetables (grams)	148	103	- 45
Non-diet carbonated beverages (grams)	243	471	+ 228

The researchers discovered that on any given day, an average of 30.3 percent of all children ate fast food. Although fast-food consumption was more likely to occur in the South than any other region of the U.S., and in males more than females, consumption of fast food was nevertheless pandemic: children of both genders, all age groups, all household income levels, all racial/ethnic groups, all degrees of urbanization, and all regions of the country ate fast food to some degree.

Increased consumption of fast food was associated with two specific factors - age and household income. Nearly one-fourth (24.6 percent) of children ages 4-8 ate fast food on a given day. In the 14- to 19-year-old age group, however, an alarming 39 percent of children ate fast food. Similarly, only 24.9 percent of children in low-income households consumed fast food, compared to 35.1 percent of children living in high-income households.

For children who ate fast food in a given day, between 29 percent and 38 percent of that day's total caloric energy was obtained from fast food, and the number of fast-food-derived calories increased with age.

Comparing fast-food consumers to nonconsumers, caloric intake was 3.6 percent higher in children ages 4 to 8, 6.4 percent higher in children ages 9 to 13, and a whopping 16.8 percent higher in 14- to 19-year-olds. Children who consumed fast food also ate "more total fat, more saturated fat, more total carbohydrates, more added sugars, more sugar-sweetened beverages, less fluid milk, and fewer fruits and non-starchy vegetables" compared to non consumers. These differences were deemed "statistically significant" across virtually all age categories.

Based on the information provided in the interviews, the researchers estimated that children who ate fast food consumed an average of 187 calories per day more than children who did not. At that rate, the extra calories "theoretically could account for an additional 6 pounds of weight gain per child per year" if a child maintained the same activity level.

Several explanations were offered for why fast food intake is linked to an increased risk for obesity, including:

- **The basic composition of fast food.** The typical fast-food meal (such as a cheeseburger, French fries and a soda) contains high levels of fat, salt, refined starch, carbohydrates and added sugars, and low amounts of dietary fiber and other nutrients. Repeated consumption of fast food could "displace" more healthy types of food, such as fruits and nonstarchy vegetables, from the diet. In addition, the researchers noted that fast food is being served in "increasingly large" portion sizes, which has been linked to increased caloric intake.
- **Societal factors.** According to the authors, "In a hectic society, busy family routines foster a need for quick and convenient meals." Nevertheless, these routines and societal stresses could "preclude preparation of healthful dinners at home," and lead children to look outside the home for the majority of their meals.
- **Financial wherewithal.** "Despite the ubiquity of fast food, children of higher socioeconomic status may have more discretionary money and consequently greater access to fast food," the authors noted. "This fact may account for the independent relationship of higher income to greater consumption of fast food in our study."
- **Marketing.** The scientists suggested that "pervasive advertising" and "repetitious messages" could cause children to consume more fast food. "The industry markets heavily to children with the goal of

fostering a fast-food habit that will persist into adulthood," they wrote.

The authors held back little of their apparent disdain for fast food and its negative effects on children in their conclusion:

"On a typical day that fast food is eaten, children consume substantially more total energy and have worse dietary quality compared with a typical day without fast food. The associations between fast food and diet seem to be causally related, as demonstrated with ... comparisons potentially free from confounding by demographic and socioeconomic influences. In light of these findings and other recent studies, measures to limit marketing of fast food to children may be warranted."

Prevalence of BMI at or Above 85 th Percentile (Overweight) and 95 th Percentile (Obese) by Sex, Age and Country								
Country	13-Year-Old Boys (%)		13-Year-Old Girls (%)		15-Year-Old Boys (%)		15-Year-Old Girls (%)	
	Overweight	Obese	Overweight	Obese	Overweight	Obese	Overweight	Obese
Austria	15.2%	5.5%	14.4%	6.1%	11.6%	5.1%	10.9%	4.4%
Belgium (Flemish)	11.1%	4.2%	13.0%	3.4%	13.1%	5.2%	15.4%	5.8%
Czech Republic	12.1%	4.5%	10.3%	2.7%	8.1%	1.9%	9.3%	3.5%
Denmark	9.8%	1.8%	12.2%	2.6%	10.4%	3.2%	18.2%	6.5%
Finland	19.4%	6.9%	22.6%	5.8%	15.6%	4.9%	14.5%	5.1%
France	11.4%	3.4%	15.6%	4.2%	9.8%	2.7%	12.8%	4.0%
Germany	13.7%	3.5%	12.3%	4.3%	14.2%	5.4%	14.8%	5.1%
Greece	28.7%	8.9%	18.9%	5.0%	28.9%	10.8%	16.4%	5.5%
Ireland	24.7%	7.0%	21.4%	6.6%	19.3%	2.8%	14.2%	4.7%
Israel	13.9%	3.5%	12.3%	4.8%	20.1%	6.8%	16.4%	6.2%
Lithuania	7.5%	1.8%	9.0%	2.4%	5.2%	0.8%	8.1%	2.1%
Portugal	12.5%	3.5%	22.8%	8.9%	14.3%	5.2%	20.8%	6.7%
Slovakia	14.1%	4.1%	13.2%	3.9%	16.5%	4.4%	11.3%	1.1%
Sweden	11.0%	3.8%	14.4%	4.8%	12.3%	4.0%	12.3%	3.4%
United States	25.6%	12.6%	26.6%	10.8%	28.2%	13.9%	31.0%	15.1%

"We're still in first place in a race that unfortunately we shouldn't want to be winning"

In the second study, published in the *Archives of Pediatric and Adolescent Medicine* (APAM), researchers used data from school-based surveys of more than 29,000 13-year-olds and 15-year olds in 15 industrialized nations. The surveys asked each teenager his or her height and weight; that information was used to calculate the average body mass index (BMI) for each population. Overweight was defined as having a body mass index at or above the 85th percentile for a person of that age. Having a BMI at or above the 95th percentile meant that the child was obese. The study data were weighted, such that each country was represented as equally as possible.

Results

Among boys, American 13-year-olds tied with Greek boys with the highest average BMI; American 15-year-olds had the second-highest BMI. American girls ages 13 and 15 had the highest average BMI of

teens in any of the countries surveyed.

On a percentage basis, a significant number of American children were considered either modestly overweight or obese. Among 13-year olds, 38.1 percent of American boys and 37.4 percent of American girls were overweight or obese. The percentages worsened with age: Among American 15 year-olds, the overweight/obese numbers increased to 42.1 percent for boys and 46.1 percent for girls. Greece, Portugal, Israel, Ireland and Denmark also had high teen obesity rates, although they were still far smaller than those seen in the U.S.

"The rest of the world may be catching up, but we're still in first place in a race that unfortunately we shouldn't want to be winning," remarked Dr. David Ludwig, an obesity researcher at Children's Hospital in Boston, Mass. Dr. Ludwig was not involved in the *APAM* study, but was the lead author in the *Pediatrics* study described earlier.

By comparison, Lithuania had the lowest obesity rates of any country in the study. Among Lithuanian 15-year-olds, 2.1 percent of girls and 0.8 percent of boys were obese, and 8.1 percent of girls and 5.2 percent of boys were modestly overweight.

In an interview with the Scripps-Howard news service, Dr. Mary Overpeck, a co-author of the study, elaborated on data not detailed in the study, noting that Lithuanian teens have less money to buy fast food than teens in most other industrialized nations, and that there are still relatively few fast-food restaurants in Lithuania compared to the other countries in the study.

Dr. Overpeck also suggested that poor eating habits and a lack of exercise were contributing factors to obesity. American children ranked among the top three countries in terms of consuming sweets, chocolate and soft drinks daily, and were more likely to eat potato chips or French fries than teens in most of the other nations. "U.S. students also ranked in the lowest range for exercising enough to be out of breath or sweat at least twice a week during their free time," she added.

Citizens, Health Care Professionals Call for Reforms

There is little doubt that consumption of fast food is having an adverse effect on the health and well-being of many Americans. However, it is by no means the only factor; studies have shown that Americans also are exercising less and spending more time in front of a television or computer than ever before. According to the CDC, more than 60 percent of American adults are not regularly active, and 25 percent of the adult

population is not active at all.

For children and adolescents, the numbers are even more frightening. In 1999, only 56 percent of all high-school students were enrolled in a physical education class, only 55 percent participated in a sport of any kind, and only 29 percent attended PE class daily. Approximately half of all Americans ages 12 to 21 are not regularly physically active. With regard to diet and nutrition, the CDC estimates that more than 60 percent of all people younger than age 18 eat too much fat; 51 percent eat less than one serving of fruit a day; and less than 20 percent eat the recommended number of servings of fruits and vegetables each day.

Parents must also share some of the blame. A survey presented at a meeting of the American Dietetic Association found a significant percentage of infants and children consumed far too much fat, sugar and salt daily, and too little fruits and vegetables - eating patterns that looked "startlingly similar to some of the 'problematic' American dietary patterns" seen in overweight and obese adults. Parents - particularly mothers - were the primary caregivers in the survey, and were the ones responsible for the foods offered to the children.

Yet in some parts of the world, people are trying to make a difference. As we go to press, a group of committed parents, educators and nutritionists in Canada have voiced their concerns about poor nutrition and increasing childhood obesity - and while the fast-food industry has ignored these concerns, the soft-drink industry has responded. Under an agreement reached with Coca-Cola Co. and PepsiCo, Inc., cafeterias and vending machines in elementary and middle schools throughout Canada will now be stocked with water, pure fruit juice, noncarbonated juices and sports drinks, rather than high-calorie carbonated sodas.

"We're restricting choice," said Calla Farn, a spokeswoman for the industry group, Refreshments Canada. "We're responding to the desire to change (soft drink) offerings, especially in the elementary school environment where children are not equipped to make appropriate food and beverage choices."

Moreover, on Jan. 5, 2004, the American Academy of Pediatrics issued a new policy statement recommending that doctors contact school superintendents and board members, and "emphasize the notion that every school in every district shares a responsibility for the nutritional health of its students." Among other things, the statement recommends that school districts invite public discussion before signing any contract with a food or drink vendor; that if a school district already has a soft drink contract in place, it should be adapted so that it does not promote overconsumption by students; that vending machines not be

placed within the cafeteria space where lunch is sold; and that soft drinks not be sold as part of, or in competition with, school lunch programs.

Despite recent claims, it's clear that obesity is a problem that can't be solved with a pill or injection. The list of conditions linked to obesity is nearly infinite; diabetes, cardiovascular disease, stroke, cancers of the stomach and colon, high blood pressure, high blood cholesterol, depression and osteoporosis are just some of the more common disorders that can arise from being chronically overweight or obese. If not addressed soon, the problems caused by obesity will - like America's waistline - simply keep getting bigger and bigger.

Editor's note: The CDC Web site provides basic information on body mass index, including a BMI calculator. Visit www.cdc.gov/nccdphp/dnpa/bmi/calc-bmi.htm.

Resources

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