

## Evaluation of Fast Food Consumption among Children and Teenagers

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### ABSTRACT

Fast food refers to food that can be served ready to eat fast. Fast food and junk food are often used interchangeably. Energy dense food with high sugar/fat/salt content and low nutrient value in terms of protein, fiber, vitamin and mineral content is termed junk food. Many of our children are fond of such readymade food. Sponsorship of sports or cultural competitions with attractive gifts is the main way of promotion of fast food sale. Nuclear families, working mother, socioeconomic status, close proximity of fast food shop, food test and quick service in the shop are important contributing factors of fast food consumption. This kind of food is responsible for obesity, hypertension, dyslipidemia, heart disease and diabetes. Easy availability of healthy food with reasonable prices along with its campaign, school midday-food programme and health education can improve dietary habits of children. Implementation of laws for regulation of marketing and selling of fast food may be another step in controlling consumption of such food by our children.

Keywords: Fast foods, Junk foods, Children, Obesity, Healthy food.

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### INTRODUCTION

Fast food denotes food which is prepared and served quickly at outlets called fast food restaurants. Finger food comprises most of the fast food, and can be eaten without cutlery. Fast foods include chips, sandwiches, hamburgers, fried chicken, French fries, chicken nuggets, fish, pizza or ice-cream, although many fast food restaurants offer slower foods like chilly mashed potatoes or salads. Fast food is often highly processed and prepared in an industrial fashion, i.e., with standard ingredients and methodical and standardized cooking and production methods [1] [2] [3]. It is usually rapidly served in cartons or bags or in a plastic wrapping, in a fashion which minimizes cost. The phenomenal growth of the fast food industry continues. Fast food restaurants appeal especially to person less than 35 years. For those who eat a meal or a snack in a fast food restaurant once a week or so, the effect on the nutritive adequacy of the diet is not great. But for workers and teenagers who might eat a meal daily at these places the nutritive contributions must be carefully considered.

A typical meal in a fast food restaurant (Ham burger, French-fries, Milk shake) furnish about half of the caloric requirement of a teen age boy, 40 percent or more of his protein allowance, and up to one-third of his thiamin, riboflavin, and niacin allowances. The meal also provides significant amounts of calcium and iron. But if coffee or soft drink is substituted for the milk shake the calcium content of the meal is very low. Most fast food meals are low in fiber, vitamin A and C, folacin and some trace minerals [4]. Many are low in calcium and iron. Gradually fast food restaurants are introducing break-fast items, orange juice, frozen yogurt and salad bars to provide wider choice and more opportunity to meet the nutrient requirements. Fast food is growing component in diet, and the frequency of fast food use has increased dramatically since the early 1970s.

Fast food is especially popular among adolescents, who on an average visit a fast food outlet twice per week. Many people have raised concerns about the nutritional quality of fast food, not only

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for children and adolescents but also for adults. Several factors have contributed to this phenomenal increase in the use of fast food, including a greater number of working women, dual-career families, more diverse schedule of family members, an aging population and an increasing number of one and two person households. Fast foods meet the needs of many people because they are quick, reasonably priced and readily available. Also currently these restaurants are responding to the health concerns of their customers by changing some of their practices, such as the continued trend towards the use of vegetable oils instead of animal fats for frying, an increase in the number of low-fat menu items, and more fruits and vegetables available at salad bars. Food industry analysis even predict a future of increasing home delivery services, high-quality vending machine foods and ready to eat packages for microwave equipped homes [5] [6].

Adolescence is the time of rapid growth and development in life. Nutrient needs are at the peak. Diet in this age has repercussions on the future health. High intake of fat, cholesterol and salt is associated with heart disease, cancer, osteoporosis and diabetes. Improper intake of nutrients and inactivity may even lead to lifelong obesity [7]. Adolescent are least bothered about what they eat, so adults around them have to keep watch what, where and with whom they eat because it determines their eating patterns. Urban adolescents tend to enjoy soft drinks, breads, potato chips, popcorn and ready to eat meals. These foods are rich sources of carbohydrates but have low nutrient density. For adequate intake of micro nutrients, fruits, vegetables are must. One of the marked changes in the urban eating habits is the trend of dining out.

A number of factors contribute to the increasing popularity of eating out. Smaller families, working mothers, double income households, higher income, more fast food outlets and increased advertising are some of them. Increased availability of food away from home may adversely affect nutrition intake. Children

Maxwell and Caleb tend to consume foods higher in fat and lower in fiber and calcium when they eat outside. Advertisements showing sodas with fast meals instead of milk or juice motivate children to select less nutritious foods. Eating low nutrient density food in moderation does not pose a serious threat to the nutritional status of an adolescent whose basic food habits are nutritionally sound [8]. However when carried to extremes or when practiced by the adolescent who does not and/ or has not good food habits these practices may compromise growth and maintenance of body functions.

#### **Fast Food Promotion**

In adolescents' aged 12-18 years of US, there is a decrease in percentage of energy intake from foods consumed at home, whereas the proportion of energy intake from restaurant food and fast food increased over time. Consumption of fast food promoted in various ways throughout the globe. Sponsorship of sports or cultural competitions with attractive gifts is the main means of promotion of first food sale. This offers discounts on purchase of their fast food brand. Sports stars are often involved in advertisement of fast food products. Advertisements in television with animation and cartoon are another way of lurching first food. This activity has an important role in promoting unhealthy dietary practices with diets rich in fat, sodium or added sugar among children. Apart from advertising via television, other media like posters, magazines, billboards, radio and cinemas favor fast food marketing [9].

#### **Factors Related to Fast Food Consumption**

Fast foods are taking popularity by nuclear families because working parents have less time for meal preparation by themselves. Majority of working parents with school going children are in stress. Children spend most of the time away from home by attending tuition classes after school hours. Children take breakfast at home and fast food in school or outside school. A positive correlation of increased fast food consumption and

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increased body mass index was found among adolescents.

Socio economic status is an important factor related to fast food consumption. Children from high socio-economic status prefer fast foods to traditional foods despite their better nutritional knowledge. It has been seen that children who are overweight are significantly more likely to recognize fast food restaurant logos than other food logos [10] [11]. Again, families' socio-demographic characteristics play a role in children's recognition of food logos. Factors related to fast food preference by Bangladeshi university students are convenience, easy accessibility, taste, cost and quick service in fast food shop. Most of the fast food users take such kind of food though they know well about negative effects on themselves associated with fast food consumption.

#### **Changes in Fast Food Consumption**

Over the past few decades, the food and home environments have changed tremendously. Environmental influences that affect eating behaviors include the changing nature of the food supply; increased reliance on foods consumed away from home; food advertising, marketing, and promotion; and food prices. Furthermore, there are more families in which both parents work, and time limitations have become an important factor in determining the types of foods consumed [12] [13]. The food industry responded to these new family issues by increasing the numbers of convenience foods and prepared meals available. In addition, portion sizes have increased over the past 2 decades, as has the per capita availability of added sugars and fats.

Our modern eating environment has had an effect on the way children eat. Several researchers have examined trends in food consumption in children with the use of cross-sectional surveys conducted in the 1970s, 1980s, and 1990s [14]. These surveys showed that, in adolescents aged 12-18 years, there was a decrease in the percentage of energy intake from foods consumed at home, whereas the proportion of energy intake from

Maxwell and Caleb restaurant food and fast food increased over time. In these adolescents, 74.1% of total daily energy was provided by foods consumed at home in the 1977-1978 Nationwide Food Consumption Survey, but this proportion decreased to 68.3% and 60.5%, respectively, in the 1989-1991 and 1994-1996 Continuous Survey of Food Intake by Individuals (CSFII). The most dramatic increase in the proportion of foods consumed from restaurants and fast food outlets from 6.5% to 16.7% occurred between 1977-1978 and 1989-1991. In the latest CSFII (1994-1996), this proportion had risen yet further, to 19.3%. Accordingly, money spent on foods away from home represented 25% of total food expenditures in 1977-1978, whereas in 1995 it represented 40% of food spending. In Project EAT (Eating Among Teens), a study that aimed to identify various factors associated with the nutritional intakes of adolescents, 75% of adolescents reported eating at a fast food restaurant during the previous week. Male students in grades 9-12 were more likely than those in grades 7 and 8 to report visiting a fast food outlet - 3 times in the previous week; however, there was no effect of school grade in females [15].

Male and female students who reported eating at a fast food restaurant - 3 times in the past week had energy intakes 40% and 37%, respectively, higher than did those who did not eat at a fast food outlet. Fast food restaurant use was associated with greater intakes of soft drinks and lower intakes of fruit, vegetables, grains, and milk. When Lin et al examined the overall at-home and away-from-home diet quality of children aged 2-19 y, they found that 26% of total meals and snacks were consumed as foods away from home and that those meals and snacks provided a total of 32% of total daily energy.

Away-from-home meals were higher in fat, saturated fat, and sodium and lower in fiber, iron, and calcium than were at-home meals. Although cross-sectional studies did not find any association between fast food restaurant use and body weight or body mass index (BMI; in kg/m<sup>2</sup>) in children, one longitudinal trial

in young adult women found that the consumption of one additional fast food meal/wk was associated with an increase in energy intake of 56 kcal/d and a weight gain of 0.72 kg over and above the average weight gain that naturally occurs over a 3-y period. To our knowledge, no longitudinal study of the effect of a change in fast food restaurant use on body weights in children has been reported. Such studies would be complicated by growth in children, who require a greater energy imbalance to present with signs of overweight.

Snack food consumption showed trends similar to those of fast food consumption in children. Snacking was defined by study participants as the consumption of non-meal foods. The proportion of snacks from home foods decreased from a high of 76.4% in 1977-1978 to a low of 64.8% in the 1994-1996 survey. When [16] examined trends in snacking behaviors in children, they found that the number of snacking occasions, defined as foods consumed within a 15-min period distinct from the meal, as reported by the child, increased by 24-32% in all age categories (2-5, 6-11, and 12-18 y). Because the weight and energy content of each snack remained stable over time, this change resulted in a 30% increase in the amount of daily energy provided by snacks: 378, 462, and 612 kcal/d for children aged 2-5, 6-11, and 12-18 y, respectively

When [17] studied influences on adolescent eating behaviors, they found that snack consumption was positively related to sugar scores for males and to sugar and fat scores in adolescent females. Fat and sugar scores consisted of the number of daily servings from the fat food group, which included foods with added fats and higher-fat versions of lower-fat foods on the questionnaire, and the sweets food group, which consisted of foods with added sugar and sugar-sweetened beverages, cereals, snacks, and desserts. These data are corroborated by the observation by [18] [19] of an increase in the consumption of salty snacks, candy, and soft drinks from 1977 to 1996. Therefore, in the past 3 decades, the prevalence of snacking has increased, as

has the prevalence of overweight in children. Although a causal relation cannot be inferred from these data, it is not unreasonable to believe that snack-food and soft drink consumption may have, at least in part, contributed to the greater prevalence of childhood overweight [20].

Trends in fast food restaurant use and snacking habits thus show that the quality of the diet of children and adolescents has deteriorated over the past several years. In the 1989-1991 CSFII, only 1% of children met all of the recommendations for servings from the US Department of Agriculture food guide pyramid for children, and current trends do not seem to show improvements in nutrient intakes [21] [22]. In fact, a study from 2000 showed that only 5% of 7-14-y-old children met the national recommendations for servings of fruit and 9% met the recommendations for dairy. Discretionary fat and added sugar, assessed as the quantity of added fat and sugar as well as the amount of sugar and fat consumed if the higher-fat and higher-sugar version of a food was chosen, accounted for 46% of total daily energy intake.

Furthermore, it seems that, as children age, fast food consumption increases. This increase can be balanced by a proportional decrease in energy from other, more nutritious foods such as fruit and vegetables, milk, and grains, or it may simply be an addition to an already balanced diet. Both options seem likely [23]. In fact, if energy intake were balanced with expenditure, then weight gain would not occur. Although longitudinal data are not available concerning increased fast food consumption and body weight changes, one can propose that increases in body weight and increases in fast food and snack consumption are concurrent events that potentially are causally related [24]. However, any reference to causal relations should be made with extreme caution, given that no data are currently available to show such a relation. The dietary quality of school lunches is a public policy issue that has come to the

forefront in the debate of the last decade on increasing body weights in children. In 1993, a report from the US Department of Agriculture stated that school lunches tended to exceed the national recommendations for fat, saturated fat, and cholesterol [25]. A few years later, similar observations were made with regard to meals offered in the National School Lunch Program (NSLP) and the National School Breakfast Program. Researchers found that lunches contained 38% of energy from fat and 15% from saturated fat, and that the sodium content was also elevated, at ~1479 mg/meal. These values are far from the current recommendations to consume ~ 30% of energy as total fat, ~ 10% as saturated fat, and ~2400 mg Na/d.

Schools differ in methods of food delivery to children. Some schools have only cafeterias and provide the NSLP, whereas other schools also have a la carte food items and student stores. When the quality of meals consumed from these various sources was compared, it was found that cafeteria lunches provided an average of 31.1 g total fat, and bag lunches (from home) provided ~20.8 g fat [26] [27]. A la carte foods contained, on average, 13.1 g fat per item and student-store food items averaged 6.4 g fat per item. Because students who buy meals on an a la carte basis typically consume more than one item, that option would often lead to greater fat consumption than would cafeteria and bag lunches, and it would also lead to fat intakes that exceed national recommendations. If one considers that bag lunches are representative of overall food consumption patterns at home, then consuming a la carte foods or the school lunch would lead to greater overall daily fat consumption than would consuming a bag lunch.

Another disturbing aspect of the school food supply is that fresh fruit and vegetables were not available in student stores when [28] sampled 24 public middle schools in San Diego County, CA. These researchers reported that 47.2% of students attending schools where there is a student store shop at the store ~ 1

Maxwell and Caleb time/wk, and the most popular food item was candy; cakes and cookies were the next most popular items. Eighty-eight percent of foods sold in these stores contained ~ 5 g fat, 20 g sugar, or both per item. The study reported that students consumed, on average, 8.7 g fat and 23.0 g sugar per snack, which represents a substantial contribution to daily energy intakes in US youths.

One method of improving the diets of school-aged children would therefore be to provide additional healthy food choices, such as fruit and vegetables, in student stores or to abolish these stores altogether. In fact, when fruit, juice, and vegetable intakes of 4th graders, who had access only to NSLP meals, were compared with those of 5th graders who had access to foods from a snack bar, the grade 5 students consumed significantly fewer servings of fruit, juice, and vegetables than did the grade 4 students (0.6 compared with 0.8 servings, respectively). It is interesting that grade 5 students who had access only to NSLP meals consumed the same numbers of servings of fruit, juice, and vegetables as did the grade 4 students [29] [30]. It was concluded that the lack of fruit, juice, and vegetable choices in snack bars or the presence of competing snacks and high-fat, high-sugar desserts at snack bars may account for the differences in fruit, juice, and vegetable consumption between students who have access to a snack bar and those who do not. Price may be another incentive that could affect food choices, because it has been reported that, when the price of lower-fat or healthy food items is reduced, there is an increase in the purchase of these foods.

#### **Consequences of Excessive Fast Food Consumption**

Consumption of diet high in sugar, saturated fat, salt and calorie content in children can lead to early development of obesity, hypertension, dyslipidemia and impaired glucose tolerance. The concerns with fast food consumption in developing countries also include poor hygiene during preparation storage and handling leading to microbiological contamination.



Fast foods have high level of fat and sugars that are not only unhealthy but addictive and that creates a vicious cycle making it hard for children to choose healthy food. High content of trans fat in commercially available fast foods predispose children to risk of future heart diseases. Energy density of fast food is more than twice the recommended daily allowance for children. Fast food intake leads to higher proportion of calories being derived from total and saturated fat [31].

Moreover, the micronutrient content (carotene, vitamin A, vitamin C) of the fast food is also low. Low levels of calcium and magnesium in the diet can contribute to osteoporosis. Diets rich in

Taking of fast food is a dietary habit of our present day children. Consumption of diet rich in sugar, saturated fat, salt and calorie in children can lead to early development of health hazards. There are various reasons for consumption of such food by children. Most of fast food users know well about negative effects associated with fast food consumption. However, they take fast food without considering their health complications. The young generations are getting

Maxwell and Caleb free sugars can lead to increased risk of dental caries. Junk foods often contain colors that are inedible, carcinogenic and harmful to the body [32] [33]. Food coloring may result in hyperactivity and lapses of concentration in children. Poor nutritional habits can undermine these pre-requisites of learning, as well as decrease the strength that children need for making friends, interacting with family, participating in sports and games or simply feeling good about themselves. Fast food consumption and globalization of diet has lead to loss of traditional healthy food practices. One of the consequences of ready availability of cheap food outside the home is devaluation of cooking skills [34].

#### CONCLUSION

addicted to fast food which indicates a serious public health problem. Prompt necessary actions should be undertaken to tackle this health problem. Implementation of laws to regulate the marketing of fast foods may be an important step in reducing fast food consumption by children. Awareness regarding healthy feeding may save children from harmful effects of fast food.

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