

# Consumption Pattern of Unhealthy Food Items among Adolescents- A Survey

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## ABSTRACT

The aim of the study was to assess consumption pattern of the unhealthy food items (fried food, fried rice, puffs, parata, burger etc) and its association with age and gender among adolescents aged 13 to 18 years in Chennai. An exploratory survey was conducted and a convenient sampling technique was used to select 300 samples. Structured questionnaire was used to collect the data from 300 adolescents and the data was analyzed using descriptive and inferential statistics. The findings revealed that majority of the adolescents had unhealthy dietary habits. Seventy nine percentage of the samples were male and 21% of them were female. Majority of the adolescents (88.3%) were non vegetarian and 47% of the adolescents reported that their food choice was influenced by friends. Majority (47%) of the adolescents consumed potato chips, 45% consumed fried chicken, 31% consumed chocolate, 39% consumed biscuits, 23.7% consumed ice creams, 49.7% consumed coke/pepsi in common. There was a significant association found between consumption of unhealthy food items with age and gender at 0.05 level of significance.

**Keywords:** Consumption Pattern, Unhealthy Food Items, Adolescents

## Introduction

“To eat is a necessity, but to eat intelligently is an art.”

—La Rochefoucauld

Nutritional needs during adolescence are increased because of the increased growth rate and change in body composition associated with puberty Spear, B.A., et al.,2002 )<sup>1</sup> The dramatic increase in energy and nutrient requirements coincides with other factors that may affect adolescents' food choices and nutrient intake and thus, nutritional status. These factors, including the quest for independence and acceptance by peers, increased mobility, greater time spent at school and/or work activities and preoccupation with self-image, contribute to the erratic and unhealthy eating behaviors that are common during adolescence (Carson, T., et al, 2002)<sup>2</sup> Unhealthy eating habits are seen in adolescents in the United States and many other countries (Rodrigues PRM et al 2017)<sup>3</sup>.

Sound nutrition can play a role in the prevention of several chronic diseases, including obesity, coronary heart disease, and certain types of cancer, stroke, and type 2 Diabetes (Shepherd R et al1996)<sup>4</sup>. For this reason,

nutrition remains an important objective for Healthy People 2020. To help prevent diet-related chronic diseases, researchers have proposed that healthy eating behaviors should be established in childhood and maintained during adolescents (Mcnaughton SA et al 2017)<sup>5</sup>.

National and population-based surveys have found that adolescents often fail to meet dietary recommendations for overall nutritional status and for specific nutrient intakes (Neumark-Sztainer D et al 2002)<sup>6</sup>. Eating habits vary widely between individual adolescents, and also display some general trends over time, reflecting socio-cultural trends in food availability and nutritional goals. As an example, data from six national representative surveys showed that total energy intake among US adolescents increased through 2004, then decreased through 2010(Sliding MM et al 2013)<sup>7</sup>. Seven food sources, including sugar-sweetened beverages, pizza, full-fat milk, grain-based desserts, breads, pasta dishes, and savory snacks, consistently contributed to this trend. Intakes of full-fat milk, meats, ready-to-eat cereals, burgers, fried potatoes, fruit juice, and vegetables decreased, whereas nonfat milk, poultry, sweet snacks and candies, and tortilla- and corn-based dishes increased through 2010. The changes contributing

to the decline in caloric intake prior to 2010 included significant decreases in sugar-sweetened beverages, pizza, pasta dishes, bread, and savory snacks; and significant increases in fruit.

During adolescence, young people are in a transition period when they gradually take over the responsibility for their own eating habits (Milosavljevic D et al., 2015)<sup>8</sup>. Knowledge is one of the factors necessary for a healthy transition of responsibility. Therefore, this study was carried out among urban adolescents, with the objective to assess their consumption pattern & type of unhealthy foods consumed them in Chennai city, India.

**Problem Statement:** A study to assess the consumption pattern and unhealthy eating habits of adolescents residing at selected areas in Chennai.

### Objectives

To assess the consumption pattern of unhealthy food items among adolescents

To assess the food items consumed in common by adolescents

To associate the consumption of unhealthy food items with the age of adolescents

To associate the consumption of unhealthy food items with the gender

### Assessment of consumption pattern of unhealthy food items among adolescents

### Method

An exploratory survey was conducted. Three hundred adolescents in the age group of 13 to 18 years residing at Guindy and Kotturpuram community area were selected as samples using convenient sampling technique. A self report was obtained and a structured questionnaire was used to collect data. The tool consisted of demographic variables of adolescents and questions related to type of food and the frequency of consumption of unhealthy food items such as fried food and rice, non veg biriyani and food items, parata, samosa, puffs, burger, pizza, noodles, ice creams, soft drinks etc were included. Informed consent was obtained from the parents.

### Results and Discussion

Demographic variables of adolescents revealed that out of 300 samples, 26% were 15 years of age and 18.7 % of the samples were 13 & 14 years respectively. Eleven and 12% of the samples were 17 & 18 years respectively. Majority of adolescents (79%) were male. As occupation of the father is concerned, majority (57.3%) of them were daily wage earner. Majority (66.3%) of samples' mothers had completed high school education and 57.7% of the samples' mothers were house wife. Regarding religion, 72.7% of samples belonged to Hindu religion and 20.7% were Christians. Majority of the adolescents (74.3%) were non vegetarian and 47% of the adolescents reported that their food choice was influenced by friends.

**Table 1: Frequency and Percentage of consumption of unhealthy food items among adolescents**

Food item	Don't eat		Once in a week		Once in two weeks		Once in a Month/Rare		Total	
	F	%	F	%	F	%	F	%	F	%
Fried rice	107	35.7	143	47.7	37	12.3	13	4.3	300	100.0
Non Veg Biriyanis	79	26.3	150	50.0	59	19.7	12	4.0	300	100.0
Parata	93	31.0	123	41.0	68	22.7	16	5.3	300	100.0
Samosa	98	32.7	149	49.7	42	14.0	11	3.7	300	100.0
Puffs	98	32.7	147	49.0	50	16.7	5	1.7	300	100.0
Burger	99	33.0	124	41.3	65	21.7	12	4.0	300	100.0
Pizza	112	37.3	117	39.0	50	16.7	21	7.0	300	100.0
Noodles	90	30.0	142	47.3	54	18.0	14	4.7	300	100.0
Ice creams	96	32.0	120	40.0	68	22.7	16	5.3	300	100.0
soft drinks	95	31.7	129	43.0	52	17.3	24	8.0	300	100.0

Table 1 reveals that, out of 300 adolescents, 47.7% adolescents have eaten fried rice once in a week and 12.3% of them consumed once in two week. Fifty percentages of the samples were taking Non Veg Biryani once in a week and 19.7% were taking once in two weeks.

Parata was consumed by 41% of adolescents once in a week and 22.7% consumed once in two weeks. Samosa was consumed by 49.7% of adolescents once in a week and 14% were taking once in two weeks. Majority of the samples (49%) consumed puffs once in a week and 14% consumed once in two weeks. Burger was consumed by 41.3% of adolescents once in a week whereas 21.7% consumed once in two weeks. Pizza was consumed by 39% of adolescents once in a week whereas 16.7% of them consumed once in two weeks. Noodles was consumed by 47.3% of adolescents once in a week whereas 18% of them consumed once in two weeks. Ice cream was consumed by 40% of adolescents once in a week whereas 22.7% consumed once in two weeks. Soft drinks was consumed by 43% of adolescents once in a week whereas 17.3% of them consumed once in two weeks.

**Assessment of the food items consumed in common by adolescents**

**Table 2: Frequency and Percentage of food items consumed in common by adolescents**

Food items taken in Common	F	%
<b>Fried food taken in common</b>		
Vadai	78	26.0
Potato chips	141	47.0
Fish fry	55	18.3
Chicken fry	25	8.3
Any other	1	0.3
Total	300	100.0
<b>Non vegetarian food taken in common</b>		
Don't eat	78	26.0
Chicken	135	45.0
Mutton	60	20.0
Fish	24	8.0
Any other	3	1.0
Total	300	100.0

Conted...

<b>Sweet commonly taken</b>		
Chocolate	93	31.0
Biscuits	117	39.0
Ice creams	71	23.7
Cake	18	6.0
Any other	1	0.3
Total	300	100.0
<b>Soft drink taken</b>		
Don't drink	90	30.0
Coke/Pepsi like drinks	149	49.7
Bottled sweetened fruit juices	44	14.7
Any other	17	5.7
Total	300	100.0

Table 2 reveals that out of 300 adolescents, with regard to fried food, majority (47%) of the adolescents consumed potato chips and 26% consumed vadai in common. Regarding Non vegetarian food taken in common, 45% consumed chicken and 20% consumed mutton. Regarding sweet, 31% consumed chocolate, 39% consumed biscuits and 23.7% consumed ice cream in common. Regarding soft drink taken in common, 49.7 % consumed coke/pepsi and 14.7% consumed bottled sweetened fruit juices.

**Association of consumption of unhealthy food items with the age of adolescents:**

There is a statistically significant association found between the type of food and its frequency of consumption with the age of adolescents at 0.05 level of significance. There is a statistically significant association between fried food taken in common (P= 0.046); non vegetarian food taken in common (P= 0.041); frequency of taking ice creams (P= 0.021); frequency of taking chocolates (P= 0.008); frequency of taking burger (P= 0.042) and frequency of taking parata (P= 0.038) with age in years.

The age of the samples ranged from 13 to 18 years. Potato chips are consumed by majority (47%) of the samples from all ages. Chicken (45%) is more preferred and consumed by the majority of the samples in all ages over Mutton (20%). Majority of the 13 to 15 years teen agers consumed Ice creams once in a week whereas 16 to 18 years consumed once in two weeks. Majority of the samples (39%) from all ages consumed biscuits daily followed by chocolates (31%). Majority of the samples in all ages that is 13 to 16 years consumed Parata, Pizza, Samosa, Puffs and Burger once in a week.

**Association of consumption of unhealthy food items with the gender:** There is a statistically significant association found on selected variables with the gender at 0.05 level of significance. There is a statistically significant association found between frequency of taking non vegetarian item ( $p = 0.005$ ); frequency of taking fried rice ( $p=0.033$ ); frequency of taking soft drinks ( $p=0.046$ ) with the gender. For consumption of other foods like pizza, burger, chocolates, ice creams, parata, puffs, samosa etc there was no significant association found between male and female gender.

### Discussion

The present findings highlight the unhealthy eating habits among adolescents residing in Chennai city, India. This unhealthy dietary intake may increase the risk of nutrient inadequacy and weight gain among nutritionally vulnerable Indian adolescents. Considering the likely tracking of food behaviours into adulthood, there is an immediate need to modify such behaviours during this pubertal phase, thus, enabling adolescents to develop healthy food practices for their adulthood (Gupta S, et al., 2014)<sup>9</sup>.

As a consequence of food globalization, the consumption of energy-dense and nutrient-poor foods and sugar-sweetened beverages has increased substantially, particularly, in urban regions. This overconsumption is quite evident in the present study as nearly three quarters of the sample consumed three or more servings of energy-dense snacks and about half of the respondents consumed three or more servings of energy-dense beverages & majority of the samples (39%) from all ages consumed biscuits daily followed by chocolates (31%). Majority of the samples in all ages that is 13 to 16 years consumed parata, pizza, samosa, puffs and burger once in a week. This study findings were supported by Singh et al., (2006)<sup>10</sup> who found that about one third (32.1%) of secondary school students ( $n = 510$ ; aged 12–18 years) in New Delhi area consumed fast food (e.g. burgers, pizzas, fried foods etc.) three or more times per week.

The study findings were supported by Vaida N., (2013)<sup>11</sup> who reported that eating of fast foods among the adolescents who belong to a high society had a mean unit value of 3.78 with the standard deviation of 1.17. Consumption of fast foods is more among girls than in boys with the mean value of 3.64 with the standard

deviation of 1.32. Naeen et al., (2014)<sup>12</sup> reported that average amount of daily intake of meat & fats, were  $3.5 \pm 1.2$ ,  $6.2 \pm 2.4$ , respectively.

Therefore, in order to encourage healthy eating among adolescents, Indian schools should perhaps incorporate the concepts of food literacy into its academic curriculum as food literacy has the potential of increasing the healthy eating habits of teenagers. Effective school canteen policies should be implemented as an additional way to improve the dietary habits of adolescents. Healthy school canteen policies have been successful in improving the availability, accessibility, variety and affordability of healthy food choices in canteens thus supporting students in consuming nutritious foods (Vidgen HA, et al., 2014)<sup>13</sup>.

### Conclusion

Malnutrition includes over nutrition and under-nutrition and in today's scenario the adolescents eat lot of calorie rich junk foods ignoring its nutritive value and also suffering from micronutrient deficiency. The present study confirms the high prevalence of unhealthy eating habits among adolescence. This study finding highlighted the need to design effective nutrition promotion strategies to encourage healthy eating habits in adolescents. The following are the recommendations for parents and schools made to promote healthy eating habits of adolescents.

### Recommendations

Based on the findings of the present study, following recommendations emerge:

- Having a written canteen policy in all schools
- Creating food literacy by teaching the importance of consumption of balanced diet and ill effects of junk food
- Regulating food availability in schools, restricting access to sugary soft drinks and increasing fruit and vegetable options.
- To arrange for nutrition counselling to bridge the gap between knowledge and practice.
- Adopting easy-to-understand nutritional information about food products, particularly those targeted at children and adolescents.

**Conflict of Interest:** Nil

**Source of Funding:** Self

**Ethical Considerations:** Informed consent was obtained from the samples' parents.

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