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## Analysis of habit of fast food eating among school going adolescent students

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### Abstract

A study of habit of fast food eating among school going adolescents and parental advice and its relation with their nutritional status in epidemiological analytic observational. Subjects: 300 adolescents' 15-19 years of age, studying in 11 and 12 classes and included both boys and girls. A single observer interviewed each student and gathered the information regarding their eating habits. Findings established with the sample for creating a climate of mutual trusts and cooperation. It was recorded on a pre-tested open and closed ended performa. Nutritional status was assessed by BMI. The adolescents for the purpose of analysis were broadly grouped in two groups. Group I (those having normal BMI ranging 18.5 to 25) and group II (Malnourished i.e. those having BMI <18.5 to >25). Group II adolescents were further divided into group IIa (Underweight, BMI<18.5) and group IIb is (Over weight and obese BMI >25). Main aim of study is to explain the fast food eating practices in adolescents is important analytic parameter for upcoming mental, physical, social and emotional growth.

**Keywords:** fast food and adolescent students

### Introduction

Adolescence is a crucial and dynamic time for young people as they begin to develop their capacity for empathy abstract thinking & future time perspective. It is a time when the closeness & dependency on parents and older family members begins to give way to intense relationship with peers group and other adults. Almost all the children had strong liking for fast fast foods, fried foods and sweet snacks (Schmidt *et al.*, 2005) <sup>[1]</sup>. Chowmein, maggi, samosa, ice-cream (mainly ice candies), chocolate and toffees formed the popular snack items for adolescent (Veerecken *et al.*, 2010 and Pock *et al.*, 2015) <sup>[4-5]</sup>.

This finding is consistent with some other studies done on adolescents. Another study reported that 60% of snacks consumed by teenagers are high in fat and low in nutritional quality (Bowman *et al.*, 2004 and Bamji *et al.*, 2009) <sup>[2-3]</sup>. Procuring food items available in school was common, only 29.3% never bought anything in school.

### Methods

The study was earned out on 300 adolescents between 15-19 years of age, studying in 11 and 12 classes and included both boys and girls drawn from randomly selected schools of rural and urban area of Darbhanga district of north Bihar.

Permission to conduct the study in their school was taken from the school principal of +2 Karpuri Thakur School, Chipliya, Darbhanga, +2 Govt. High School, Kolhanta Potari, BKD Boys High School (Zila School), Darbhanga and +2 Sarvaday High School Darbhanga. Informed consent of the students was also taken before including them into the study. A single observer interviewed each student and gathered the information regarding their eating habits. It was recorded on a pre-tested open and closed ended performa. The adolescent was then subjected for a thorough general and systemic examination findings recorded. They shall be convinced that full secrecy would be maintained. After Selection of the sample test have to be administrated to them allowing sufficient time.

### Sample Size Estimation

Assuming prevalence of malnutrition as 25% the sample size was calculated as follows.

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The sample size for study was calculated by using qualitative method applying the formula, which is written as below.

$$n = \frac{4PQ}{(20\% \text{ of } P)^2}$$

Where,

P = Prevalence

Q = 100-P

n = No. of sample

Percentage of malnutrition is 25% among adolescents (so P = 25%).

### Selection of the schools

A list of all these schools (government) recognized by district schools authority of Darbhanga was prepared. Four of mentioned schools whose principal agreed for being a part of this study were chosen randomly.

### Performa

Performa for the study comprised of information about the adolescent's name, age, sex, religion and class and school type. Question related to the eating habits likes and dislikes of foods (specially fast food), use of drug, knowledge about balanced diet interference regarding their diet by their parents.

### Pre-testing

The preforma was initially tested on 75 adolescent of one school and problems were rectified based on this final preforma was made.

### Recording of observation

Students of one class (not having exclusion criteria) were briefed about the objectives of the study and assured confidentiality regarding their preforma by the single observer. The adolescents themselves filled all questionnaires. A single observer was present their to clarify if the adolescent faced any problem in filling the preforma.

### Assessment of the nutritional status

A physical examination on all the children was conducted this included height, weight, and subsequently BMI was also calculated.

**Weight (in kg):** Spring type of balance was used for this purpose. The adolescents were weighed in minimal clothings. The weighing scale was checked for zero error each time the subject is weighed.

**Height (in cm):** Height was recorded of stadiometer fitted against the wall. Child without shoes and socks was to stand with feet parallel on even flat platform, arm hanging on this sides, buttocks and heels touching against the wall. The head was held comfortable, erect, with lower border of the orbit of the eye in the same horizontal plane as the external canal of the ear (Frankfort) plane. The head piece of the measuring device which should gently lowered to make contact with the top of the head. The height was recorded in centimeter

**BMI (kg/mt):** BMI was calculated by weight [kg/height(m)]. For statistical purposes BMI ranges divided into two groups- Group I normal (18.5 to 25), group II malnutrition (<18.5 and >25). Group II was further divided into-group IIa underweight (<18.5) and IIb overweight (>25).

## Results and Discussion

The study was carried out on 300 adolescents 15-19 years of age, studying in 11 and 12 classes and included both boys and girls drawn from randomly selected four government schools of rural & urban area of Darbhanga district.

Permission to the conduct the study in their school was taken from the principal of the school. Informed consent of the students was also taken before including them into the study. A single observer regarding his/her eating habits, the information was recorded and gathered on a pre-designed, pre-tested open and closed ended performa interviewed each student. The adolescent was then subjected thorough general and systemic and examination findings recorded. They shall be convinced that full secrecy would be maintained.

Table 1 depicts sex vs. fast food habits and use of soft drinks. Females were fond of eating fast food 193/300 (61.7%) as compared to males 167/287 (58.2%). Difference was not found to be statistically significant (P value 0.385).

**Table 1:** Fast food eating habits and use of soft drinks

Sex	Fast Food eating habits	Use of Soft Drinks		Total
		No	Yes	
Female	No	100	10	110
		90.8%	9.2%	100.0%
	Yes	24	169	193
		12.4%	87.6%	100.0%
<b>Total</b>	133	167	300	
		42.5%	57.5%	100.0%
Male	No	110	10	120
		91.7%	8.3%	100.0%
	Yes	9	158	167
		5.4%	94.6%	100.0%
<b>Total</b>	119	168	287	
		41.5%	58.5%	100.0%

Further study of consumption of soft drinks in adolescents revealed 167/350 (57.5%) females and 168/285 (58.3%) males often took soft drinks. Difference was not found to be statistically significant (P value 0.75).

Table 2 depicts BMI vs. fast food eating habits and use of soft drinks. Adolescents who took both fast food and soft drinks were more likely to be malnourished (group II) 239/310(71.1%), as compared to those who did not take both the things 30/219 (13.7%) in group II.

**Table 2:** Fast food eating habits and use of soft drinks vs. BMI

Fast food eating habits	Use of Soft Drinks	Group I			Total
		I	IIa	IIb	
Female	No	189	22	8	219
		86.3%	10.0%	3.7%	100.0%
	Yes	21			21
		100.0%			100.0%
<b>Total</b>	210	10	1	33	
		87.5%	9.2%	3.3%	100.0%
Male	No	22	10	1	33
		66.7%	30.3%	3.0%	100.0%
	Yes	73	201	26	300
		26.9%	62.1%	11.0%	100.0%
<b>Total</b>	110	163	27	300	
		30.6%	59.2%	10.3%	100.0%

Out of 73.1% who took both fast food and soft drinks 62.1% and 11.0% were in group IIa and group IIb subsequently. Differences were found to be statistically significant (P value <0.01).

Table 3 shows that 40.2% of the parents often interfered in the

eating habits of the adolescents. Interference was more with the females (137/300) 43.8% as compared to males (104/287) 36.2%.

**Table 3:** Interference in eating by parents BMI

Sex	Parental Interference	Group I		Group II		Total
		I	IIa	IIb		
Female	No	59	94	23	176	
		33.5%	53.4%	13.1%	100.0%	
	Yes	119	15	3	177	
		86.9%	10.9%	2.2%	100.0%	
	<b>Total</b>	178	99	23	300	
		56.9%	34.8%	8.3%	100.0%	
Male	No	50	117	16	183	
		27.3%	63.9%	8.7%	100.0%	
	Yes	92	9	3	104	
		88.5%	8.7%	2.9%	100.0%	
	<b>Total</b>	142	126	19	287	
		49.5%	43.9%	6.6%	100.0%	

Further analysis of interference in eating by parents vs. BMI revealed that in 300 adolescent in whom parents did not interfere 250/300(65.6%) were in group II and 109/300 (25.4%) in group I. On the other hand among 241 adolescent in which parents interference was there 30/241 (12.4%) were in group II and 211/241 (87.6%) in group I. Difference was found to be statistically significant (P value <0.01). Majority in the group II had under nutrition (group IIa).

### Conclusion

In our study we studied the missed meals in terms habit of eating fast food and taking soft drinks amongst the adolescents. The observation shown in Table 1, 2, and 3 shows that adolescents who took both fast food and soft drinks were more likely to be malnourished (group II) 239/300(71.1%), as compared to those who did not take both the things 30/219 (13.7%) in group II. Difference was found to be statistically significant (P value <0.01)

Incidence of malnutrition was significantly less (12.4%) in adolescent's interfered by their parents as compared to 69.6% of those where parents was not interfering. Difference was found to be statistically significant (P value <0.01). Because of the poor knowledge on the part of young regarding nutritional requirement of the students, nutritional and educational programmes should be started in each school.

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