Original Research Paper

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Prevalence Of Fast Food Intake Among Adolescent School Students In Imphal West, Manipur

Medical Science

KEYWORDS : fast food, students, adolescents, prevalence.

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ABSTRACT

Fast foods are main agents responsible for many diseases and disorders like obesity, which is likely to cause cardiovascular diseases later on. This cross sectional study was conducted in ten higher secondary schools in Imphal to determine the prevalence of fast food consumption using questionnaire method. Stratified two - stage cluster sampling with probability proportionate to size was used to select a representative sample of 708 students. Data were analyzed using descriptive statistics such as mean (SD) and percentages. Chi square test was used for test of significance. P value of <0.05 was taken as statistically significant. Prevalence of regular fast food consumption was found to be 36% among the students and more among class XI (p=0.01) and overweight/obese students (p=0.04). Non-regular fast food consumer tend to check for the nutritive value of the food compared to the regular fast food consumer (p=0.02).

Introduction

Consumption of fast food by adolescents is no longer confined to the developed countries, it has spread to developing countries as well (Munmun & Shatabdi, 2013). Regular eating of fast food can increase the risk of obesity because of having a high energy density with the presence of high levels of fat and sugar in the meal, and correspondingly low level of fibres and protein (Jaworowska et al., 2013; Kremmdya et al., 2008; El Ansari, Stock, & Mikolajczyk, 2012). The shift from healthy, homemade food to more convenient, longer lasting fast foods combined with sedentary lifestyles has resulted in global fattening and related health complications (Popkin, 2001; Yadav & Krishnan, 2008). Hence this study was undertaken to determine the prevalence of fast food intake among the adolescent school students and to assess the relationship between fast food intake with selected socio-demographic variables such as age, sex, BMI etc

Methods

This cross sectional study was conducted among class XI and XII students in Imphal West district of Manipur from 20 October to 14 November, 2014. Those who refuse to participate and absent on the day of visit were excluded. Sample size was calculated based on the formula: $4PQ/L^2$, where, prevalence (P) of fast food intake was 33% (Raj, Senjam, & Singh, 2013), absolute allowable error (L) taken as 5% at 95% confidence level and a design effect of 2, the estimated sample size comes to 708. Stratified two - stage cluster sampling with probability proportionate to size was used to select a representative sample. For this study clusters identified were institutions providing higher secondary education. Details of schools and students enrolled in each school were collected from Council of Higher Secondary Education, Manipur. The schools were first stratified into government and private schools. 63.3% of the students were studying in 26 private schools and 36.7% were studying in 18 government schools. Four government schools and six private schools were selected randomly by lottery method based on probability proportionate to size. In the second stage 60% of students were selected from six private schools and 40% from four government schools by population proportion to size within each cluster. A self administered questionnaire was used for data collection. The questionnaire consisted of background characteristics and questions on fast food consumption.

Operational definition: Those who consume fast food two or more than two times a week was considered as regular fast food consumers. Body mass index (kg/m^2) was classified based on the NIH and Asian adaptations of WHO criteria: underweight (<18.5), normal (18.5-22.9), overweight (23-24.9), obesity (>25).

Statistical analyses: Data collected was analyzed using SPSS (IBM) version 20. Descriptive statistics like mean, standard deviation and percentages were used to summarize the data. Chi square test was used for testing the significance between the proportions such as fast food consumption and BMI etc. P-value of <0.05 was taken as statistically significant.

Approval was obtained from the institutional ethics committee Regional Institute of Medical Sciences, Imphal. Written consent was obtained from the principals of the participating schools. Informed verbal consent was taken from the participants before the survey.

Results

Of 708 students, majority of them were girls (64%). Three-fourth (73.4%) of them belonged to 16-17 years and age ranges from 15 to 19 years. Half of them studied in class XI (52.5%) and majority of them studied in private school (62.1%). Most of the respondent's father were self employed (51.1%), govt employed (29.4%), private employed (19.5%). 13.3% of the students were overweight/obese at the time of our survey (Table 1).

Table 1. Socio-demographic characteristics of the students (n=708)

Characteristics	Number	Percentage
Age group (in years)		
Mean(SD)	16.8(0.8)	
<16	26	3.7

16-17	520	73.4
18-19	162	22.9
Gender		
Boys	255	36.0
Girls	453	64.0
Type of school		
Public	268	37.9
Private	440	62.1
Class		
XI	372	52.5
XII	336	47.5
Father's occupation		
Self-employed	362	51.1
Government employed	208	29.4
Private	138	19.5
Body mass index		
Underweight	245	34.6
Normal	369	52.1
Overweight/obese	94	13.3

Around one fourth of the students gave noodles and momo as their favourite fast food items followed by fried chicken, burger, pakoras/bora, pizza and samosa. Majority of the students usually had fast food with their friends (70.5%) followed by family members (22%) and 7.8% of them had alone. Most of the students had fast food because of taste (78.5%) followed by convenience (17.1%) and change in lifestyle (4.4%). Three fourth (75.3%) spent on average less than Rs 200 per meal on fast food. 64.5% students sometimes read the nutrient information label of packaged food item while buying. More than one-fourth students skip breakfast ≥ 3 times a week. Prevalence of fast food intake among the students was 36% (Table 2).

Table 2. Characteristics related to fast food intake

Variables	Number	Percentage
Favourite fast food		
Noodles	191	27.0
Momo	166	23.5
Fried chicken	150	21.1
Burger	80	11.3
Pakoras/Bora	50	7.1
Pizza	41	5.8
Samosa	30	4.2
Usually have fast food (With whom)		
Friends	497	70.2
Family	156	22.0
Alone	55	7.8
Usually have fast food (Place)		
Fast food centre/ restaurants/shops	441	62.8
School canteen	228	32.2
Home	39	5.0
Reasons for liking fast food		
Taste	556	78.5
Convenience	121	17.1
Change in life style	31	4.4
Average amount spent per meal (Rs)		
<200	533	75.3
200-400	105	14.8
>400	70	9.9
Prevalence of fast food intake		
	255	36.0

There was no significant association between fast food consumption and sex of participants. Significant association was found between regular fast food consumption with class and BMI of the students. Regular fast food consumption was more among class XI students and those who are overweight/obese. Checking for the nutritive value of the food when buying a packaged food was found to be significantly low among the regular fast food consumers (p=0.02) (Table 3).

Table 3. Association of regular fast food intake with selected variables

Variables	Regular fast food intake n(%)		P-value*
	Yes	No	
Class			
XI	151(40.6)	221(59.4)	0.01
XII	104(31.0)	232(69.0)	
Body mass index			
Underweight	89(36.3)	156(63.7)	0.04
Normal weight	132(33.5)	262(66.5)	
Overweight/ Obese	34(49.3)	35(50.7)	
Read nutrient information label before buying packaged food			
Always	110(60.8)	71(39.2)	0.02
Sometimes	322(66.7)	161(33.3)	
Never	21(47.7)	23(52.3)	

*p<0.05 is taken as statistically significant

Discussion

In our study, the prevalence of regular fast food consumption was 36% which is comparable to a study (Anderson et al., 2011) but slightly higher than a study conducted in Chandigarh where the prevalence was 33% among students aged 17-20 years (Raj, Senjam, & Singh, 2013). 13.9% of the students were overweight/obese which was lower than the other previous studies ((Raj, Senjam, & Singh, 2013; Anderson et al., 2011) where they reported 33% of the students were overweight/obese. In the present study, 78.5% gave taste as the predominant reason for choosing fast food which was comparable to a study (Vinay Gopal et al., 2012). In our study, 45.7% were of the opinion that fast food items are unhealthy which was lower than the study conducted in Vellore (Vinay Gopal et al., 2012) where they

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reported 85%. In this study, 70.5% usually had fast food with friend which was comparable to a study conducted in Mumbai (Kumar & Sankaranarayanan, 2014). Overweight/ obesity among students was significantly associated with fast food intake and was comparable with a study conducted in Riyadh City (Almuhanna et al., 2014) which was consistent with the present study.

Conclusion

Prevalence of fast food consumption among the students was 36%. Fast food intake was more among class XI students and those who are overweight/obese. Further studies should be conducted to rule out predisposing factors associated with regular fast food intake and also to find out knowledge about fast food in this age group.

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