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Fast food consumption and breakfast skipping of adolescent girls from different income groups in Patna (Bihar)

KUMKUM KUMARI

Adolescence is one of the most challenging periods in human development. Dietary habits of childhood also get transformed during this phase of life. Irregular meals and alternative dietary patterns characterise the food habits of adolescents. Various studies have shown that adolescents are more prone to nutritional problems due to their unhealthy food habit. In the present study 300 college and high school going girls students in Patna were selected and examined to understand their eating behaviour using 24-hour dietary recall method. Eating behaviour of these girls was also examined vis-a-vis their family income. The study revealed that majority of the adolescent girls had shown more inclination towards fast food. However, the choice of fast food items varied among different income categories. Skipping of morning breakfast and evening snacks was more frequent among the adolescent girls with slight variation across different income groups. Thus, consumption of fast food and frequency of meals among adolescent girls were found to vary according to socio-economic status of their families. There is a need to provide nutrition education and inculcate better food habits to improve nutritional status of the adolescent girls. Educational institutions as well as parents may help in promoting positive health behaviour among these girls.

INTRODUCTION

Adolescence is a unique period in life because it is a time of intense physical, psychosocial and cognitive development (WHO, 2006). The relatively uniform growth of childhood is suddenly altered by an increase in growth velocity during adolescence thereby contributing to more than 20 per cent of total stature and 40-50 per cent of body weight (Stang and Story, 2005 and Rao *et al.*, 2006). The physiological changes create an increased demand for nutrients and make adolescents nutritionally vulnerable. Primarily, requirements for calories dramatically increase due to physical growth and increased activities since this age is known to be highly active and energetic (Story *et al.*, 2002).

Dietary habits followed from childhood get changed during adolescence. Irregular meals, snacking, eating away from home and following alternative dietary patterns characterise the food habits of adolescents. Unhealthy dietary behaviour and food habits such as omitting breakfast, preference for fast foods and frequent snacking are already prevalent among adolescents, even among those who are not overweight (Brugman *et al.*, 1997). The popularity of fast food among adolescents presents a serious nutritional problem, as negative eating habits adopted early in life tend to persist throughout adulthood (Levi *et al.*, 2006). The objectives of the prresent study is as follows: to understand the eating behaviour pattern of adolescent girls belonging to different income groups and to find out the frequency of fast food consumption and breakfast skipping of adolescent girls among different income groups.

METHODOLOGY

A study was carried out in Patna (Bihar), on 300 adolescent girls aged between 12 to 18 years. The data were collected using random sampling method from 9 government colleges and 6 government girls' schools within the jurisdiction of Patna

━━━━●ADDRESS FOR CORRESPONDENCE●━━━━

KUMKUM KUMARI, P.G. Department of Home Science, J.D. Women's College, PATNA (BIHAR) INDIA
E-mail: drkumkumsharma29@rediffmail.com

Municipal area. 20 adolescent girls each were randomly selected from each of these identified colleges and schools. An interview schedule was used for obtaining information. Dietary adequacy of the subject was assessed by 24 hours recall method and food frequency questionnaire and by collecting information on eating habits such as frequency of fast-food, skipping breakfast and meals. Food frequency questionnaire was used to find the frequency of consumption of various food items. Daily meal intake was designed to assess intakes at breakfast, lunch, dinner and snacks (both morning and afternoon snacks).

Information on socio-economic status was based on the schedule adopted by HUDCO regional office, Patna (2007). The schedule according to HUDCO is as follows:
– Low income group (LIG) having a monthly income of Rs. 3301 - 7300
– Middle income group (MIG) having a monthly income of Rs. 7301 - 14500
– High income group (HIG) having a monthly income of Rs. 14501 - above

OBSERVATIONS AND ASSESSMENT

Results of the study are discussed in the following pages thereby frequency of fast food consumption and meal

Table 1. Frequency of fast food consumption of adolescent girls according to different income group

Food	Food frequency	Low income group		Middle income group		High income group		Total	
		No.	%	No.	%	No.	%	No.	%
Maggi/ Choumin	Daily	4	6.35	14	17.50	19	12.10	37	12.33
	2-4 times per week	4	6.35	16	20.00	18	11.46	38	12.67
	weekly	6	9.52	10	12.50	11	7.01	27	9.00
	sometimes	34	53.97	34	42.50	87	55.41	155	51.67
	never	15	23.81	6	7.50	22	14.01	43	14.33
Chat	Daily	2	3.17	6	7.50	15	9.55	23	7.67
	2-4 times per week	8	12.70	18	22.50	18	11.46	44	14.67
	weekly	10	15.87	4	5.00	16	10.19	30	10.00
	sometimes	37	58.73	50	62.50	106	67.52	193	64.33
	never	6	9.52	2	2.50	2	1.27	10	3.33
Samosa	Daily	2	3.17	4	5.00	17	10.38	23	7.67
	2-4 times in a week	12	19.05	20	25.00	16	10.19	48	16.00
	weekly	14	22.22	4	5.00	27	17.20	45	15.00
	sometimes	33	52.38	52	65.00	93	59.24	178	59.33
	never	2	3.17	0	0	4	2.55	6	2.00
Fokacha	Daily	10	15.87	12	15.00	17	10.83	39	13.00
	2-4 times per week	12	19.05	10	12.50	10	6.37	32	10.67
	weekly	8	12.70	12	15.00	29	18.47	49	16.33
	sometimes	33	52.38	42	52.50	91	57.96	166	55.33
	never	0	0	4	5.00	10	6.37	14	4.67
Coffee	Daily	3	4.76	10	12.50	23	14.65	36	12.00
	2-4 times per week	6	9.52	4	5.00	6	3.82	16	5.33
	weekly	6	9.52	0	0	4	2.55	10	3.33
	sometimes	22	34.92	50	62.50	92	58.60	164	54.67
	never	26	41.27	16	20	32	20.38	74	24.67
Tea	Daily	42	66.67	44	55.00	70	44.59	156	52.00
	2-4 times per week	2	3.17	0	0	6	3.82	8	2.67
	weekly	0	0	6	7.50	4	2.55	10	3.33
	sometimes	15	23.81	20	25.00	32	20.38	67	22.33
	never	4	6.35	10	12.50	45	28.66	59	19.66
Cold drink	Daily	4	6.35	10	12.50	20	12.73	34	11.33
	2-4 times per week	4	6.35	10	12.50	8	5.10	22	7.33
	weekly	4	6.35	2	2.50	8	5.10	14	4.67
	sometimes	24	38.10	38	47.50	92	58.60	154	51.33
	never	27	42.86	20	25	29	18.47	76	25.33
Ice cream	Daily	18	28.57	52	65.00	68	43.31	148	49.33
	2-4 times per week	10	15.87	4	5.00	6	3.82	20	6.67
	weekly	2	3.17	2	2.50	14	8.92	18	6.00
	sometimes	19	30.16	16	20.00	55	35.03	90	30.00
	never	4	6.35	6	7.50	14	8.92	24	8.00

consumption of adolescent girls. The analysed against income levels of their families.

The frequency of fast food consumption of the adolescent girls by different income groups is given in Table 1. Today fast food is a popular choice among adolescent girls. The consumption of fast food intake is different between low, middle and high income groups. It is inferred from the table that the consumption of chat, samosa, coffe and cold drink on daily basis was more common among girls from high income group than low and middle income groups but tea and fokacha were daily consumed more in low income group because of low cost of tea and fokacha. Maggi, choumin and ice cream were mostly daily consumed in the middle income group. There was not much of a difference in the daily consumption of chat, coffee and cold drink among middle and high income groups.

It was also observed that majority of the adolescent girls were inclined towards fast foods i.e. maggi, choumin, chat and fokacha. It was found that adolescent girls spent a lot of money on these foods resulting in high risk for several life style diseases.

Thus, the results revealed that the consumption of fast food varied according to the economic status of the family.

Regular food consumption and time intervals among meals are related to biological and physiological processes among human being. It is a usual practice to plan main meal each day with other (lighter) meals at approximately four hour intervals. This is roughly the period of time taken to digest any meal completely, after which the flow of gastric juices in the stomach causes increasing sensation of hunger. In Table 2 typical differences among different income groups were identified based on the frequency of having the following meals: breakfast, lunch, afternoon breakfast and dinner. The study reveals that there was slight difference in frequency of taking regular breakfast among different income groups such as 66.7 per cent, 60 per cent and 60.5 per cent, respectively in low middle and high income groups. The table also shows that lunch was one of the most popular daily meal among all the respondents. It further shows that highest percentage i.e. 90 percent was found in middle income group and lowest i.e. 75.8 percentage in high income group. However, regular intake of evening snacks was most preferred among high income group (i.e. 41.4 %) and lowest (7.5 %) among middle income group. So far dinner is concerned the study reveals that cent per cent girls of lower income group prefer it but in high income group it is found that 91.1 per cent girls like dinner at night.

Skipping meals was found to be frequent where by 38 per cent of adolescent girls indicated that they skipped morning breakfast and 69 per cent skipped evening snack. Breakfast and lunch were the meals occasionally missed. Maintaining a slim figure were the reasons for skipping meals.

Thus, it was revealed that frequency of taking regular meal is higher in lower income group and lesser in middle income

Table 2. Frequency of meal consumption of adolescent girls according to different income group

Frequency of meal	Low income group		Middle income group		High income group		Total	
	No.	%	No.	%	No.	%	No.	%
Breakfast								
Every day	42	66.7	48	60	95	60.5	185	62
1-3 times per week	9	14.3	12	15	16	10.19	37	12.33
4-6 times per week	8	12.7	20	25	42	27	70	23.33
Never	4	6.3	0	0	4	2.5	8	2.7
Lunch								
Every day	55	87.3	72	90	119	75.8	246	82
1-3 times per week	2	3.2	0	0	14	8.8	16	5.33
4-6 times per week	6	9.5	8	10	20	12.8	34	11.33
Never	0	0	0	0	4	2.5	4	1.33
Afternoon snack								
Every day	24	38.1	6	7.5	65	41.4	95	31
1-3 times per week	22	35	34	42.5	48	30.6	104	34.7
4-6 times per week	15	23.9	34	42.5	36	23	85	28.33
Never	2	3.2	6	7.5	8	5.1	16	5.33
Dinner								
Every day	63	100	72	90	143	91.1	278	93
1-3 times per week	0	0	4	5	4	2.6	8	2.7
4-6 times per week	0	0	4	5	10	6.4	14	4.7
Never	0	0	0	0	0	0	0	0

group. It appears that girls belonging to low income group are conscious of their health but girls of middle income group prefer dieting.

Conclusion:

The results of our study show that majority of the adolescent girls inclination was towards fast foods *i.e.* maggi, choumin, chat and fokacha. The consumption of chat, samosa, coffee and cold drink on daily basis was more common in high income groups. But daily consumption of tea and fokacha was more common in low income groups. Frequency of taking regular evening snacks was preferred among high income group and lowest among middle income group. Skipping meals was found to be frequent where out of 300 adolescent girls, 38 per cent indicated that they skipped morning breakfast and 69 per cent skipped evening snack. Breakfast and lunch were the meals occasionally missed. The result showed that the consumption of fast food and taking of regular meal varied according to the economic status of the family. This suggests that providing nutrition education, better food selection in daily meal and good food habit would help in improving the nutritional status of the adolescent girls. Adolescent girls should be educated to consume enough fruits and vegetables to maintain daily vitamin, mineral and fiber requirements; and not to consume too much fat and sodium from fried and fast food.

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