Original Research Article

Junk food consumption among school-age adolescents in Kanakasundari rural municipality, Jumla

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ABSTRACT

Background: Junk foods typically contain high calories from sugar or fat with little protein, vitamins, or minerals. This study was conducted to determine the consumption and prevalence of junk food consumed among school-age adolescents. The main aims of this study were to find out the junk food consumption among school-age adolescents (5-18) in Kanakasundari rural municipality.
Methods: This was analytical cross-sectional research. The total sample size for the study was 280. Purposive sampling was used to select the schools and census was used to select the students from the schools. A self-administered semi-structured questionnaire in Nepali version was used to collect the data and the collected data were entered and analysed in SPSS using simple statistical methods.
Results: Among the 280 respondents, the mean age was 15.17 years. The consumption of junk food among adolescents was 45 percent among males and 55 percent among females. Religion (p=0.011) and type of family (p=0.034) were significantly associated with junk food consumption. The participants following Hindu religion were 3.43 times more likely to be consume junk food (COR=3.430, 95% CI=1.256-9.366) as compared to non-Hindu. Participants residing in joint family were less likely to consume junk food (COR=0.490, 95% CI=0.252-0.954) as compared to nuclear family.
Conclusions: Majority of children consumed junk food regularly; the majority preferred it for taste and some were influenced by advertisements. There is a great need to maintain healthy eating habits among adolescents to decrease the health risk associated with frequent junk food.

Keywords: Adolescents, Jumla, Junk food

INTRODUCTION

The term 'junk food' was coined as slang in the public interest in 1972 by Michael Jacobson, Director of the Centre for Science, Washington DC. Junk food is energy dense food with a high amount of refined sugar, white flour, trans-fat, polyunsaturated fat, numerous additives, low nutrient value and salt in terms of vitamin, mineral and fiber materials. Food like noodles, chips, soft drinks, chocolate, etc. are junk foods.[1-3] Foods commonly considered junk foods include salted snack foods, candy, gum, sweet, sugary carbonated beverages and fried fast food. Depending on the components and preparation methods, many food items such as burgers, tacos and pizza can be considered either healthy or junk food. The processed items usually fall under the junk food category.[4-6] The common opinion about junk food and its consumption is negative it happens to be a nonconformist in any good diet plan due to lack of nutritional value and high-calorie content.[7,8] But over the years, several studies have observed that consumers are choosing junk food in several instances.[9,10] As adolescents, significant changes

in their appearance, social behavior, puberty, mood, and mental state expose them to high-risk health behaviors, including inappropriate nutritional habits.[11,12] Refusing to eat breakfast, low consumption of fruits, high consumption of fast food and non-nutritious snakes, low quality and quantity of eating outdoors meals, and variable dietary patterns are common habits that cause problems such as obesity in adolescents.[13-15]

In Nepal, 24.1% of people are adolescents, accounting for around a quarter of the total population. One study in Nepal showed that the prevalence of overweight among adolescent students is 12.2%. A study among adolescents in Nepal revealed that 15.5% preferred junk food as influenced by TV advertisements, 31.7% because of peer influence.[8] Adolescent can easily change their habit varying on the environment, so they are called the nutritionally vulnerable group. Intake of low nutritional food push adolescents at high risk of chronic disease and NCD, which can affect long-term health.[16,17] Among 142 school adolescent concerning patterns of consumed junk food all respondents (100%) consumed 'chat-pat' and noodles, panipuri (97.2%), doughnuts (93%), chocolates (92.3%), biscuits (95.8%), ice cream (65.5%) and cold drinks (65.5%). Only 54.2% of respondents were aware of the risks associated with poor eating habits.[2] The main aims of this study to find out the junk food consumption among school-age adolescents (5-18) in Kanaka Sundari rural municipality.

METHODS

Study design

A cross-sectional analytical study was conducted from December 2021 to June 2022 among 280 students of 3 different secondary schools in Kanaka Sundari rural municipality, Jumla.

Sample size

The sample size was calculated using the formula for the finite population, i.e. sample size (n) = $(z^2pq)/d^2$. The sample size was computed to be 280.

Study area and population

The study was conducted in the secondary schools of Kanakasundari rural municipality, Jumla. At the time of data collection, all school students were considered as a respondent population in grades 9 and 10 of selected schools in Kanakasundari Gaunpalika.

Sampling technique

Three schools were chosen using purposive sampling from a list of total schools of Kanakasundari rural municipality, Jumla. After the selection of schools, all the students studying in grades 9 and 10 were included in the study.

Data collection tools

A structured questionnaire was used as a data collection tool. Self-administration of the questionnaire was done to collect data among the students of grades 9 and 10 with permission from their parents and school administration. The questionnaire was pretested and validated before the final data collection. The tool was initially developed in the English version and translated into the Nepali language.[18]

Data management and analysis

Data entry, management, and analysis were done in SPSS version 16. The questionnaire for the survey was constructed taking references from various research papers. A Chi-square test was applied to identify socio-demographic factors associated with junk food consumption. Odds ratio at 95% CI were calculated. P-value less than <0.05 was considered statistically significant. Descriptive findings were expressed as frequencies, percentages, and mean and the important results of the study were presented in the form of tables.[19]

RESULTS

Socio-demographic characteristics

As shown in Table 1, the majority (61.8%) of the participants were of age group 13-15 years. Females constituted the majority of the study population i.e. 55%. The mean age of respondents was 15.17 (SD 1.001) years. Among the participants, more than half (57.9%) were from grade 9. The majority of respondents were Brahmin/Chhetri (74.3%) and the rest were Janajati (25.7%). The majorities (93.6%) followed Hindu followed by non-Hindu (6.4%). The majority of the participants resided in joint family (51.1%). Almost all (99.3%) of the participants were living with parents (Table 2).

Socio-economic characteristics

Nearly two-third of the participants' fathers were literate (66.1%), and more than two-third of the participants mothers were illiterate (68.2%). The occupation of more than two-quarters of the participants' family was agriculture (75.4%). More than three-quarters had family income less than Nrs.15000 (Table 2).

Characteristics of junk food knowledge

Majority of the participants knew about Junk food (92.5%). Most of the participants had adequate level of knowledge regarding junk food (86.4%). The majority of participants were influenced by advertisement (87.5%). Among the total participants, the sources of information for junk food were friends (37.1%), followed by Radio/TV (22.9%), family members (21.2%), and social media (15.9%), respectively (Table 3).

Characteristics of junk food practice

Table 4 shows the junk food practice of the students. Majority of the participants consumed junk food (84.3%) and very few respondents didn't consume junk food (15.7%). The choice of noodles was higher (65.4%), followed by other types. More than half of the participants consumed junk food 1-2 times per week (55.4%), followed by 3 to 4 times per week (17.9%). Of the participants who consumed junk food, half of them consumed it because of better taste (53.2%) followed by peer pressure (23.2%). Most of the participants (85.4%) spent less than Nrs.100 per day for junk food. Most of the participants (88.2%) consumed junk food in day time. According to more than half (52.1%) of the participants, the school did not allow junk food but according to majority (88.6%) junk food was available in the schools' canteen. More than two-third (69.8%) of the participants had abdominal pain/ diarrhea followed by jaundice 10.4%, headache (12.3%), and gastric (7.5%) (Table 4).

Table 1: Frequency of respondents by socio-demographic characteristics.

Characteristics (n=280)	Male (n=126)		Female (n=154)		Total (%)
	Frequency	Percentage	Frequency	Percentage	
Age group (year)					
13-15	74	58.7	99	64.3	61.8
16-18	52	41.3	55	35.7	38.2
Mean: 15.17 median: 15.00 and standard deviation: 1.001					
Grade					
9	73	57.9	89	57.8	57.9
10	53	42.1	65	42.2	42.1
Caste					
Brahmin/Chhetri	90	71.4	118	76.6	74.3
Janjati	36	28.6	36	23.4	25.7
Religion					
Hindu	113	89.7	149	96.8	93.6
Non-Hindu	13	10.3	5	3.2	6.4
Type of family					
Nuclear	59	46.8	78	50.6	49
Joint	67	53.2	76	49.4	51
Living status					
Parents	126	100	152	98.7	99.3
Relatives	0	0	2	1.3	0.7

Table 2: Frequency of respondents by socio-economic characteristics.

Characteristics (n=280)	Male (n=126)		Female (n=154)		Total (%)
	Frequency	Percentage	Frequency	Percentage	
Family occupation					
Agriculture	92	73.0	125	81.2	77.5
Private/company	27	21.4	18	11.7	16.1
Government employee	7	5.6	11	7.1	6.4
Father education					
Illiterate	45	35.7	50	32.5	33.9
Literate	81	64.3	104	67.5	66.1
Mother education					
Illiterate	81	64.3	110	71.4	68.2
Literate	45	35.7	44	28.6	31.8
Family income					
<15000	26	20.6	34	22.1	21.4
>15000	100	79.4	120	77.9	78.6

Table 3: respondent heard about junk food.

Characteristics (n=280)	Male		Female		Total %
	Frequency	Percentage	Frequency	Percentage	
Know about junk food					
Yes	115	91.3	144	93.5	92.5
No	11	8.7	10	6.5	7.5
Level of knowledge of junk food					
Adequate	106	84.1	136	88.3	86.4
Inadequate	20	15.9	18	11.7	13.6
Influence by advertisement					
Yes	109	86.5	136	88.3	87.5
No	17	13.5	8	11.7	12.5
If Yes, source of information (n=245)					
Friends	42	38.5	49	36.0	37.1
Family member	24	22.0	28	20.6	21.2
Radio/TV	24	22.0	32	23.5	22.9
Social media	16	14.7	23	16.9	15.9
Newspaper	3	2.8	4	2.9	2.9

Table 4: Frequency of respondents mostly frequently consumes junk food and its effect.

Characteristics (n=280)	Male		Female		Total %
	Frequency	Percentage	Frequency	Percentage	
Consume junk food					
Yes	101	80.2	135	87.7	84.3
No	25	19.8	19	12.3	15.7
Most consume type of junk food					
Noodle	66	52.4	117	76	65.4
Biscuits	16	12.7	8	5.2	8.6
Chocolate	13	10.3	12	7.8	8.9
Potato cheeps	31	24.6	17	11	17.1
Times consumes per week					
Never	25	19.8	19	12.4	15.7
1-2 times per week	65	51.6	90	58.4	55.4
3-4 times per week	21	16.7	29	18.8	17.9
4 or more times	15	11.9	16	10.4	11
Prefer to take junk food					
Better test	59	46.1	90	58.4	53.2
Easy availability	15	11.9	10	6.5	8.9
Peer pressure	28	22.2	37	24	23.2
Curiosity	24	19	17	11	14.6
Money expenditure per day					
<50-100	105	83.4	134	87.1	85.4
150->200	21	16.6	20	12.9	14.6
Time prefers to eat junk food					
Morning	20	15.8	13	8.4	11.8
Day	106	84.2	141	91.6	88.2
Junk food allow in school					
Yes	67	53.2	67	43.5	47.9
No	59	46.8	87	56.5	52.1
Junk food available in the school canteen (n=135)					
Yes	58	86.6	62	91.2	88.9
No	9	13.4	6	8.8	11.1
Problem faced after consuming junk food					
Yes	47	37.3	59	38.3	37.9

No	79	62.7	95	61.7	62.1
Problem faced by respondents (n=106)					
Abdomen pain/diarrhoea	33	70.2	41	69.5	69.8
Headache	6	12.8	7	11.9	12.3
Gastric	3	6.4	5	8.5	7.5
Jaundice	5	10.6	6	10.2	10.4

Table 5: Association between socio-demographic and junk food consumption.

Characteristics	Junk food consumption		P value	OR (95% CI)
	Yes	**No**		
Sex of respondents				
Male	101 (80.2%)	25 (19.8%)	0.086	0.569 (0.297-1.089)
Female	135 (87.7%)	19 (12.3%)		
Age group (years)				
13-15	148 (85.5%)	25 (14.5%)	0.46	1.278 (0.666-2.454)
16-18	88 (82.2%)	19 (17.8%)		
Cast				
Brahmin/Chhetri	178 (85.6%)	30 (14.4%)	0.313	1.432 (0.711-2.885)
Janjati	58 (80.6%)	14 (19.4%)		
Religion				
Hindu	221 (84.4%)	41 (15.6%)	0.011*	3.430 (1.256-9.366)
Non-Hindu	11 (61.1%)	7 (38.9%)		
Type of family				
Nuclear	109 (79.6%)	28 (20.4%)	0.034*	0.490 (0.252-0.954)
Joint	127 (88.8%)	16 (11.4%)		
Father education				
Illiterate	81 (85.3%)	14 (14.7%)	0.747	1.120 (0.562-2.230)
Literate	155 (83.8%)	30 (16.2%)		
Mother education				
Illiterate	162 (84.8%)	29 (15.2%)	0.721	1.132 (0.573-2.238)
Literate	74 (83.1%)	15 (16.9%)		
Family income				
<15000	50 (83.3%)	10 (16.7%)	0.819	0.914 (0.423-1.976)
>15000	186 (84.5%)	34 (15.5%)		
Level of knowledge				
Adequate	202 (83.5%)	40 (16.5%)	0.772	1.140 (0.469-2.770)
Inadequate	31 (81.6%)	7 (18.4%)		

Note: *significant at <0.05

Analytical analysis

Table 5 represents the relationships between socio-demographic characteristics and junk food consumption. Religion (p=0.011) and type of family (p=0.034) were significantly associated with junk food consumption, while sex (p=0.086), age (p=0.460), caste (p=0.313), father education (p=0.747), mother education (p=0.721) family income (p=0.819) and level of knowledge (p=0.772) were not significantly associated with junk food consumption. Hindu participants were 3.43 times more likely to consume junk food (COR=3.430, 95% CI=1.256-9.366) as compared to non-Hindu. The participants with nuclear family were 51% less likely to consume junk food as compared to joint family (COR=0.490, 95% CI=0.252-0.954) compared to nuclear family (Table 5).

DISCUSSION

The study was a cross-sectional study with the primary purpose to determine junk food consumption among school adolescents in Kanaka Sundari rural municipality, Jumla. Data was collected by a self-administered questionnaire. The questionnaire used in the study was prepared based on previous studies and was pre-tested before collecting data.

In the current study, among 280 respondents, the majority were of age group of 13-15 (61.8%). Females constituted the majority of the study population i.e., 55%. The mean

age of respondents was 15.17 (SD=1.001) years. The majority of the participants studied in class 9 (57.9%). The majority of respondents were Brahmin/Chhetri (74.3%). The majority of the participants (93.6%) followed Hindu religion. More than half of the participants resided in joint family (51.1%). Almost all (99.3%) were living with parents. Similarly, one study was carried out in Chitwan, Nepal, where out of 142 respondents, 46.5% were male, 53.5% were female, and the majority (85.9%) was Hindu. The study was carried out in Pokhara, Nepal, where out of a total 220 respondents; the maximum percentages of students (60.9%) were from the ethnic group Brahmin/Chhettri followed by janajati 35% and Dalits 4.1%. The majority students lived in nuclear family.[2,4]

In the current study, among total 280 participants, the majority (66.1%) of participants' father was literate and more than two-third (68.2%) of the participants' mother were illiterate. The occupation of more than three-quarters (75.4%) of the parents of the participants was worked in agriculture. More than three-quarters of the participant's family income was less than NRs.15000 (78.6%). Similarly, one study was carried out in Chitwan, Nepal, where out of 142 respondents only 5.6% of their parents were illiterate. Again, regarding the education status of the father majority (33.8%) had studied up to the secondary level and the majority (38.0%) of the mothers could only read and write. In another study carried out in Pokhara Nepal, the primary source of family income was found to be business with 60.9% share followed by private services 15.9%, government service 12.7%, agriculture 6.8%, foreign employment 2.3% and daily wages 1.4%.[2,4]

In the current study, most respondents knew about junk food (92.5%). Most of the respondents were an adequate level of knowledge of junk food (86.4%). The majority of respondents were influenced to consume junk food by advertisement (87.5%). Among the total participants, the sources of information for junk food were friends (37.1%) followed by radio/TV (22.9%), family members (21.2%), and social media (15.9%) respectively. Similarly, one study carried out in Kathmandu valley Nepal, regarding knowledge of students more than half (65.5%) of them had good knowledge about junk food and its harmful effect, whereas the rest 34.5% had poor knowledge. In the same study, half of the students (51%) were influenced by advertisement and promotion. More than half of the students (61%) were influenced by friends for consuming junk food whereas 38.9% were never influenced.[16]

More than half of the participants consumed junk food 1-2 times per week (55.4%). Of the participants who consumed junk food, half of them consumed it because of better taste (53.2%). Most of the participants (85.4%) spent less than Nrs.100 per day for junk food. Most of the participants (88.2%) consumed junk food in day time. According to more than half (52.1%) of the participants, the school did not allow junk food but according to

majority (88.6%) junk food was available in the schools' canteen. More than two-third (69.8%) of the participants had abdominal pain/ diarrhea. Similarly, in one study carried out in Chitwan, Nepal, majority of the participants consumed junk food (91.5%) in school and (8.5%) consumed junk food at home. More than one-third (42.3%) consumed junk food twice a day. The majority (90.1%) consumed junk food as it tastes better, (44.4%) consumed it as it is faster, (7%) consumed junk food due to peer influence. More than one-third (35.9%) consumed chat-pat, 33.1% frequently consumed noodles, 13.4% frequently consumed biscuits, 7% consumed pani-puri, 5.6% consumed doughnuts and 4.9% frequently consumed chocolates. Regarding awareness regarding major health risks associated with junk food consumption, most (54.2%) understood what they mean and 1.4% were unaware if there were any health risks associated with junk food consumption.[2]

A current study shows the relationship between socio-demographic characteristics and junk food consumption. Religion (p=0.011) and type of family (p=0.034) were significantly associated with junk food consumption, while sex (p=0.086), age (p=0.460), caste (p=0.313), father education (p=0.747), mother education (p=0.721) family income (p=0.819) and level of knowledge (p=0.772) were not significantly associated with junk food consumption. A study conducted in Chitwan Nepal concluded that the gender of the students and the preferred choice of junk foods were statistically significant with junk food consumption (χ^2=26.311, p≤0.01).[4]

CONCLUSION

Most of the school students consumed junk food (84.3%) regularly; the majority preferred it for taste and some were influenced by advertisements. However, only half of them were aware of the health risks associated with poor eating habits. Thus, there is a great need to maintain healthy eating habits among adolescents to decrease the health risk associated with frequent junk food.

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