Perception and factors influencing junk food consumption among school children of Pokhara

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ABSTRACT

Introduction: The main problem with junk foods is that they're low in satiation, that is, people don't feel as full when they eat them, which can lead to overeating. Another problem is that junk food tends to replace other more nutritious foods. In our diet over the time, urbanization and recent development in the foods industries have led to the notable increase in junk food production making them readily available, accessible and affordable. The main objective of this study was to understand the perception and identify factors influencing junk food consumption among school level children of Pokhara.

Methods: A cross sectional analytical study was conducted among 220 students of 12 different private schools of Pokhara of grade 4-9. Systematic random sampling technique was done to select the required samples and data was collected using self-adminstered questionnaire and personal interviews.

Results: Majority (81%) of the students considered junk food consumption to be unhealthy. About half of the students were unaware of the nutritive value, quality of the food, ingredients, preservatives used and negative consequences of junk foods. There is a significant difference between the grade of the students and the average frequency of junk food use per week. The average consumption of junk food increases as the grades of students increases.($X^2 = 53.025$, $P \leq 0.01$).

Conclusion: Consumption of junk food was notably high due to various enabling factors such as addictive taste, changing lifestyle, propagandist advertising and instant availability. Grade and sex of the students were found to be significant predictors in over consuming junk foods.

Keywords: *Junk foods, School students, Fast foods*

INTRODUCTION

Junk food is a derisive slang term for food that is of little nutritional value and often high in fat, sugar, salt, and calories. Junk foods typically contain high levels of calories from sugar or fat with little protein, vitamins or minerals. Foods commonly considered junk foods include salted snack foods, gum, candy, sweet desserts, fried fast food, and sugary carbonated beverages.[1] Depending on the ingredients and preparation methods, many of the food items such as hamburgers, pizza, and tacos can be considered either healthy or junk food. The processed items usually fall under the junk food category.[2] In addition to this, urbanization and recent industrialization in the food industry led the tremendous dependence on the junk food. Junk food is now readily available and made accessible due to its cheap prices. Flavor enhancer preservatives and attractive modern packaging on the junk food products results its' over consumptions among the children. According to the World Health Organization (WHO) over 340 million children and adolescents aged 5-19 were overweight or obese in 2016. While every continent has to face up to the health consequences and economic repercussions of this preventable catastrophe,

Asia is arguably facing the greatest challenge. Overweight and obesity rates are rising faster in South East Asia than anywhere else in the world.[3] The increased trend of western lifestyle, high fat, high sugar and refined carbohydrates and low fiber diets by consuming packed foods, canned juices and soft drinks is the four major modifiable determinant of chronic disease. A study by Paul Johnson and Paul Kenny at the Scripps Research Institute in 2008 suggested that junk food consumption alters brain activity in a manner similar to addictive drugs like cocaine and heroin.[4]

In the context of Nepal, almost one-fourth of the total population is comprised of adolescents.[5] Of them, 54.2%, over half of the adolescents have low knowledge of proper food and its consequences; thus, the majority of them were at risk of eating junk food.[6] In addition, the consumption of junk food varied by age; it was found that the higher proportion of junk food

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was in early adolescents (93%) as compared to late adolescents (89%).[7] This difference in the consumption of junk food is determined by the taste and availability and by home and environmental factors.[8] According to the report of Adolescent Nutrition Survey in Nepal 2014, an overwhelming majority of adolescents (94%) reported that they usually eat junk or processed food. The proportion is slightly higher for early adolescents (93%) compared to late adolescents (89%). 22% of the junk food users reported that they consume it daily. The daily consumption of junk or processed food was higher among late adolescents (25%) compared to early adolescents (20%). Similarly, 92% of adolescents reported that they consume at least once a week.[9]Theobjective of this study was to assess the perception and factors influencing the consumption of junk foods among school students of Pokhara.

METHODS

A cross sectional analytical study was conducted from November 2013 to February 2014 among 220 students of 12 different private schools of Pokhara. The sample size of 220 was calculated by using the sample size calculation formula for the finite population. The students studying in grade 4 to 9 were included in the study in order to analyze the perception and factors influencing the use of junk foods. Twelve schools were chosen by drawing out lottery from a list of total schools of Pokhara. After selecting the schools, students from grade 4 to 9 were chosen using systematic random sampling using their attendance register. A structured questionnaire form was used as a data collection tool. Self-administration of the questionnaire forms was done for collecting data among the students of grade 7 to 9 and personal interview was done with the students of 4th, 5th and 6th grade students after taking permission from their parents and school administration. This type of data collection is effective in such research studies where respondent population groups vary according to age as cited by Sudmanet al.[10] Data entry, management and analysis was done in SPSSv.17. The research was conducted after taking approval from the institutional review committee of Eternal University, Himachal Pradesh, India. Informed consent was taken from the school administration as well as from students. Consent was taken from the parents of those children who were below 18 years of age. Freedom was provided to every student to quit the study at any point of time. The privacy of the information was maintained and used only for our study. The questionnaire for the survey was constructed taking reference of various research papers. A Chi-square test was applied to identify socio-demographic factors associated with junk food consumption.

RESULTS

The mean age of students was found to be 12.96 years. The main 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%. The maximum percentages of students (60.9%) were from Ethnic group Brahmin/Chhettri followed by Janajati 35% and Dalits 4.1%. The majority of the family was nuclear family. Among 220 respondents, the maximum student's father (72.7%) have an education qualification SLC and above. Only 5.5% of the fathers were uneducated. Also, maternal education, 65% were SLC and above and only 5% were uneducated. Remaining 20.9% were secondary pass and 9.1% were primary pass as shown in table 1.

Table 1: Distribution of respondents by socio demographics (n=220)

Socio-demographic characteristic		Frequency (n=220)	Percentage (%)
Age of students	<12years	32	14.54
	12-14 years	75	34.09
	>14years	113	51.37
Gender	Male	93	42.27
	Female	127	57.73
Grade of students	Four	37	16.82
	Five	8	3.64
	Six	28	12.73
	Seven	35	15.91
	Eight	80	36.36
	Nine	32	14.55
Main source of family income	Agriculture	15	6.8
	Business	134	60.9
	Government Services	28	12.7
	Private services	35	15.9
	Daily Wages	3	1.4
	Foreign services	5	2.3
Family type	Nuclear	138	62.7
	Joint	82	37.3
Caste	Brahmin/Chhetri	132	60
	Dalit	11	5
	Janajati	77	35

In response to preferred junk food, the highest share was for chocolates(48.2%) followed by snacks(27.7%), fast food(15.5%) and soft drinks(8.6%). With regard to the factors

influencing the choice of junk food consumption, 80.5% stated that the use of junk food was due to its taste followed by time(16.4%), influence of advertisements(13.6%) and changing lifestyle(6.4%). The highest percentage of students(36.8%) stated that they took junk food more than 3 times per week in an average followed by twice(24.5%), once(23.6%) and thrice(15%). Out of 220 students, 178 stated that junk food was not healthy and only 42 stated it as healthy food for the body. One hundred eighty students out of 220 liked to eat homemade food instead of junk food but the main reason behind the use of junk food was the lack of time to prepare food at home as replied by 35% of the respondents. 33.6% told that junk food was tastier than homemade food so is more preferred . 6.4% of the respondents told they atejunk food as the wish of their parents and the remaining 6.8% responded many other reasons for junk food use such as easy availability, cheaper products in the market, freedom from cooking tensions, etc. Regarding the perception of junk food, about 81% of the participants thought that junk foods were unhealthy for consumption. The information was summarized in table 2.

Table 2:Knowledge and practice of junk food

Knowledge and Practice of Junk Food		Frequency (n=220)	Percentage (%)
Preferred junk food	Fast Food	34	15.5
	Snacks	61	27.7
	Soft Drinks	19	8.6
	Chocolates	106	48.2
Factor influencing choice of junk food	Lack of Time	36	16.4
	Taste	177	80.5
	Changing Life style	14	6.4
	Influence of advertisement	30	13.6
Knowledge on chemicals present in junk food	Yes	152	69.09
	No	68	30.91
Average Frequency of Junk Food Consumption	Once	52	23.6
	Twice	54	24.5
	Thrice	33	15
	More than thrice	81	36.8
Reason for Junk Food use	Parent's wish	14	6.4
	Taste Better	74	33.6
	Lack of Time	77	35
	Peer Influence	15	6.8
Perception towards Junk Food	Healthy	42	19.09
	Unhealthy	178	80.91

As shown in the Table 3 there was association between the grade of the students and the average frequency of junk food use per week. The data shows the average consumption of junk food increases as the grade of students increases. (X^2=53.025, P $\leq$0.01)

Table 3: Association between Grade and average frequency of junk food use per week

		Frequency				Total	$(X^2)^{\#}$	d.f.	p -value
		Once	Twice	Thrice	>Thrice				
Grade	Four	16	7	8	6	37			
	Five	0	2	4	2	8			
	Six	10	11	5	2	28			
	Seven	11	10	4	10	35	53.025	15	<0.01*
	Eight	13	18	6	43	80			
	Nine	2	6	6	18	32			
Total		52	54	33	81	220			

*Statistically significant at 0.01 level of significance.
#The value of Fisher Freeman Halton Test value was taken as expected cell counts below 5 was observed in more than 25% of the cells

The Table 4 shows the cross tabulation between the sex of the students and the preferred junk food the students use. It indicates that there wasa statistical association between the gender of the students and the preferred choice of junk foods. (X^2=26.311, P $\leq$0.01).

Table 4: Association between sex of students and preference to junk food

		Preferred Junk Food				Total	Chi-square(X^2)	d.f.	p-value
		Fast food	Snacks	Soft Drinks	Chocolates				
Sex	Male	22	29	14	28	93			
	Female	12	32	5	78	127	26.311	3	<0.01*
	Total	34	61	19	106	220			

*Statistically significant at 0.01 level of significance

DISCUSSION

The findings of the current study showed that 80.91% of the respondents perceive junk food as unhealthy and only 19.09% perceive it as healthy foods. The finding is more or less consistent to that done by Vinay Gopal et al which showed 85% of the adolescents perceive junk foods as unhealthy.[11]Children usually get addicted to the food containing sweetening agents and food preservatives that are addictive to nature so they deny eating homemade foods and skip their meals as well.[12] This study showed that students preferred junk food for taste, fast availability and peer influences which were also shown in the study done by Bake[13] and Joseph et al.[14] In the present study, advertisement is found to be one of the major influencing factors (13.6%) for junk food consumption among children. Similar findings were shown by the study done in Chitwan, Nepal by Sapkota et al where 15.5% and of the secondary level students consumed junk foods as influenced by TV advertisements. Furthermore, the study also supports our findings of peer influence and taste as the main contributing factors for the high consumption of junk foods.[15]While analyzing the gender difference on variation of junk food consumption, it was found that higher number of females consuming junk foods than males. The result is consistent with the findings of the research by Sequeira et al that states the conclusions that the tendency of replacing regular meals with junk food was more with female students.[16]Similar findings were indicated by Bargiota et al Girls and younger adolescents ate a home prepared snack at school more often than boys and the older adolescents ($p < 0.05$ and $p < 0.001$ respectively).[17]

CONCLUSION

The students were aware of the junk food and its negative consequences upon health. Despite their knowledge, the consumption of junk food was notably high. Various enabling factors(addictive taste, changing lifestyle, propagandist advertising) and need factors (instant availability, cheap) were found to be influential. The association between sex and preferred junk food use is found to be significant. Similarly,

a significant difference between the grade of students and the average frequency of junk food use per week was observed.

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