

KNOWLEDGE REGARDING JUNK FOOD AND IT'S HEALTH EFFECT AMONG ADOLESCENTS IN GOVERNMENT SCHOOLS OF HETAUDA

Sushma Mainali¹, Srijana Chaudhary¹

¹Birgunj Nursing Campus, Birgunj, Institute of Medicine, Tribhuvan University, Nepal

Correspondence: Srijana Chaudhary, Assistant Lecturer, Birgunj Nursing Campus, Institute of Medicine, Tribhuvan University, Parsa, Nepal

Email: sirudyan1@gmail.com, Phone: 9845184678

ABSTRACT

Background: Junk food and its effect has become major public health concern. There is a rapid increment in the intake of junk food in Nepal as a result the effect of junk food has shown many negative consequences on Nepalese people mostly adolescents due to which they are prone to have many non-communicable diseases and mental illnesses. This study aimed to assess the knowledge regarding the effect of junk food on health among adolescents.

Methods: A descriptive cross-sectional study was conducted among 230 adolescents studying in government schools. Adolescents were selected by probability proportionate stratified random sampling technique. A Structured self-administered questionnaire was used to collect data from Dec 23, 2022, to Jan 5, 2023. Data were entered into SPSS 16 version and were analyzed by using descriptive and inferential statistics.

Findings: The findings of the study revealed that 3.9% had adequate knowledge regarding the health effect of junk food on health. There was significant association of the level of knowledge on junk food consumption with residence (p-value is 0.01), religion (p-value is 0.01), ethnicity (p-value is 0.01), and type of family (p-value is 0.01).

Conclusions: The study concluded that adolescents have inadequate knowledge regarding the health effects of junk food. Their knowledge tends to vary according to residence, religion, ethnicity and family types. Therefore, there is a need to plan and implement interventions to enhance knowledge of the health effects of junk food among adolescents.

Keywords: Adolescents, health effect, junk food and knowledge

INTRODUCTION

"Junk food" officially meant all those foods, mostly industrial and highly processed, characterized by a reduced nutritional value and by a high presence of calories, cholesterol, saturated fats, refined white sugar, salt, and white flour, as well as additives, dyes and chemical preservatives.¹ About 84.8 million adults eat fast food daily and males consume more than females i.e. 38% and 35.4% respectively.² Globally, the obesity rate in children and adolescents has increased from less than 1% in 1975 to 6% in girls and 8% in boys in 2016, and 213 million were overweight in 2016.³

Junk food and its effect have become major public health concerns globally, due to its noxious effect on human health. Some of its effects are obesity, depression, loss of memory and learning problems, worsened appetite and digestion problems, inadequate growth and development, and non-communicable diseases like heart attack, stroke, type 2 Diabetes Mellitus, etc.⁴

There is a direct link between advertising and the intake of unhealthy food and drinks in various settings like schools. Children and adolescents are easily attracted to junk food which leads to negative consequences for their health like obesity again leads to non-communicable diseases.⁵ In a study conducted in Belagavi City India, among 60 adolescents 55(91.66%) had inadequate knowledge, and 5(8.33%) had moderately adequate knowledge, and none of them had adequate knowledge.⁶

Nepal has played a vital role in reducing stunting from 57% to 36% from 1996 to 2016 but the country is still not on the path to meet the WHO stunting target or sustainable development goal target i.e. 24% by 2025.⁴ A study conducted in Kathmandu valley shows 50% of adolescents and children prefer junk food because of its taste preference, easily available, cheap, and less time-consuming. Marketing and Advertising play a vital role of almost 80% in attracting youngsters.⁷ There is a rapid increment in the intake of junk food in Nepal nowadays; as a result, the effect of junk food has shown

many negative consequences on Nepalese people mostly adolescents due to which they are prone to many Non-communicable diseases and mental illness. Therefore, the researcher felt the need to research this topic.

METHODS

A descriptive cross-sectional research design was used in this study which was carried out in the secondary-level government school of Hetauda-5, 8, and 15. The selected school was Shree Baljyoti Secondary School, Shree Chandrodaya Secondary School, and Shree Janjagriti Secondary School respectively.

The study was conducted after approval of research proposal from the research management cell of Birgunj Nursing Campus. Prior to data collection written consent was taken from respondents and confidentiality was maintained.

A total of 230 adolescent were selected between the

ages 12 to 19 years of grade 9 and 10. Probability, proportionate stratified random sampling technique was used for the selection of the sample. Strata were formed based on sections of classes 9 and 10. From each stratum, the adolescents were selected by simple random sampling. A structured self-administered questionnaire was developed by the researcher based on objectives. The questionnaires consisted of 4 parts. Part I was related to socio demographic information: part II was related to junk food availability and consumption, part III was related to Knowledge regarding the effect of junk food, and part IV was related to factors of reducing junk food.

Collected data was checked for accuracy, completeness and duplication. The data was edited, coded, organized, categorized, entered and analyzed by using Statistical Package for Social Sciences (SPSS) version 16. Data was analyzed by using descriptive and Chi square test was used to measure the association between the level of knowledge and selected variables.

RESULTS

Table 1. Respondents' knowledge of junk food availability and consumption

n =230

Characteristics	Number	Percent
Consumption of junk food		
Yes	230	100
Age of beginning consumption of junk food		
3-5yr	102	44.3
6-11yrs	88	38.3
12-19yrs	40	17.4
Frequency of junk food consumption		
Rarely	133	57.8
Daily	60	26.1
2-3 times a week	37	16.1
Most preferred place for consuming junk food*		
Trip	110	47.8
Home	92	40.0
School	81	35.2
Restaurant	63	27.3
Mostly preferred types of junk food*		
Salt-containing packaging food	132	57.3
Sweet desert, candy	106	46.0
Fried fast food	74	32.1
Soft and energy drink	46	20.0
Type of food consumed in schools at lunchtime		
Homemade healthy food	135	58.7
Marketing food	95	41.3
Feelings, when unable to consume junk food*		
Irritable	97	42.1
Nothing happened	62	26.9
Aggressive	30	13.0
Fatigue	21	9.1
Restlessness	20	8.6

* Multiple responses

Table 1 shows cent percent of the respondents consume junk food and less than half (44.3%) of the respondents consuming junk food from the age of 3-5 years, 47.8% prefer consuming junk food while trip and 57.3% prefer

eating salt-containing packaging food. Likewise, more than half (59.1%) brought homemade food for the school lunch break, and 42.1 % get irritated if they can't consume junk food.

Table 2. Respondents' knowledge regarding meaning, reason, and consequences of junk food n= 230

Characteristics	Number	percent
Meaning of Junk Food *		
Food with high calories high salt and sweet containing are called junk food.	134	58.2
Fast food is called junk food.	93	40.4
Food having low nutritive value is called junk food.	58	25.2
Processed food is called junk food.	49	21.3
Awareness of junk food affecting health		
Yes	210	91.3
No	20	8.7
The reason behind consuming junk food*		
Taste preference	165	71.7
Easily accessible	53	23.0
Attractive package	31	13.5
Advertisement	20	8.7
Cheap	17	7.4
The outcome of consuming junk food on health*		
Cause poor health	205	89.1
Cause poor nutrition	42	18.2
Replace nutrition in a diet	16	6.9
Consequences of consuming junk food on health*		
Physical effect	211	91.7
Mental effect	68	29.6
Social effect	17	7.3
Economical effect	33	14.3
Physical health problems of consuming junk food*		
Obesity	160	69.5
Heart diseases	66	28.6
Cancer	65	28.2
Diabetes Mellitus	57	24.7
Anemia	57	24.7

*** Multiple responses**

More than half (58.2 %) of the respondents responded that junk food is food with high calories high salt and sweet-containing food. Almost all (91.3%) of the respondents were aware that junk food affects health and the majority (71.7 %) of respondents consumed junk food because of taste preference. Most (89.1%) of the respondents

responded eating junk food causes poor health. The majority (91.7 %) of respondents responded consuming junk food can cause physical effects and 69.5 % of the respondents responded consuming junk food may cause physical problems like obesity (Table 2).

Table 3. Respondents' knowledge regarding health effects of junk food**n= 230**

Characteristics	Number	percent
Junk food causes oral problem		
Yes	191	83.0
No	39	17.0
Oral-related problems*		
Cavities	159	69.1
Gum diseases	76	33.0
Bad breath	62	26.9
Erode the tooth enamel	47	20.4
Tooth loss	28	12.1
Faced indigestion problem after consuming junk food		
Yes	129	56.1
No	101	43.9
Indigestion problems that are faced*		
Heartburn	71	30.8
Bloating	63	27.4
Acid reflux	26	11.3
Constipation	15	6.5
Awareness of junk food affecting mental health		
Yes	129	56.1
No	101	43.9
Mental-related health problems*		
Mental fatigue	91	39.5
Anxiety	51	22.1
Dementia	46	20.0
Depression	38	16.5
Awareness of junk food causing behavioral problems		
Yes	130	56.5
No	100	43.5
Behaviors problems *		
Mood swings	76	33.0
Low self-confidence	43	18.6
Hyperactivity	28	12.1
Poor concentration	26	11.3
Aggressiveness	13	5.6
Obesity affects self-body image		
Yes	189	82.2
No	41	17.8
Low confidence level due to self-body image		
Yes	120	52.2
No	110	47.8
Awareness of junk food causing an economic burden		
Yes	160	69.6
No	70	30.4

*** Multiple responses**

Among 230 respondents, 83% of the respondents responded junk food causes oral problems, 69.1 % responded about cavities and a few (12.1 %) responded about tooth loss. More than half (56.1%) of the respondents responded that they had faced indigestion

problems due to junk food consumption, whereas 30.8% responded to heartburn. More than half (56.1%) of the respondents were aware that consuming junk food affects mental health whereas 39.5% responded about mental fatigue and 56.6% of respondents responded junk food

causes behavioral problems whereas 33.0% responded about mood swings, most (82.2%) of the respondent responded obesity affects the self-body image and the

majority (69.6%) of the respondents responded it causes an economic burden (Table 3).

Table 4. Knowledge regarding factors of reducing junk food

n=230

Characteristics	Number	Percent
Parent's Role to reduce consumption of junk food*		
Serving adequate portions of healthy food.	148	64.3
Limiting junk food bringing at home.	125	54.3
Be a role model. Eat healthy family meals together.	118	51.3
Avoid using junk food as a reward.	75	32.6
Avoid stores that sell unhealthy foods.	59	25.6
Role of School to reduce junk food*		
Banned selling junk food on school premises.	176	76.5
Raise awareness programs by school health nurses on a healthy diet.	111	48.2
Implement health programs related to reducing junk food.	95	41.3
Provide a mid-day meal program.	79	34.3
Role of the State to reduce junk food*		
Implement health programs related to reducing junk food.	133	57.8
Banning advertisements for junk food.	119	51.7
Increasing high tax on junk food.	99	43.0
Including a healthy eating manual for educational institutes.	91	39.5
Self-role in reducing consumption of junk food*		
Eat a regular meal so you don't get hungry.	130	56.5
Create a meal schedule or diet plan.	117	50.8
Buy less junk food.	113	49.1
Drink plenty of water.	101	43.9

* *Multiple responses*

A majority (64.3 %) of the respondents agreed parents should serve adequate portions of healthy food, and 76.5 % of respondents agreed on banning selling junk food on school premises. Likewise, more than half (57.8 %) of the respondents agreed that state should implement health-related program and more than half (56.5%) of the respondents agreed on eating a regular meal (Table 4).

Table 5. Level of knowledge regarding the effect of junk food on health

n=23

Level of knowledge	Number	Percent
Inadequate ($\leq 50\%$ score)	172	74.8
Moderate (51 -75% score)	49	21.3
Adequate ($>75\%$ score)	9	3.9
Total	230	100

Among 230 respondents, the majority of the respondents 74.8 % had inadequate knowledge, 21.3% had moderate and very few 3.9 had adequate knowledge regarding the effect of junk food on health. The highest score is 50 and

the lowest score is 9 (Table 5).

Table 6. Association between level of knowledge regarding health effects of junk food and selected variables

n=230

Variables	Inadequate Knowledge no.	Adequate Knowledge no.	Chi square	p value
Residence				
Rural	92	14	15.038	0.01
Urban	80	44		
Religion				
Hinduism	105	48	9.181	0.01
Others	67	10		
Ethnicity				
Janjati	55	29	6.077	0.01
Others	117	29		
Family types				
Nuclear	62	32	6.565	0.01
Joint	110	26		

p-value significant at < 0.05

There is a significant association between the level of knowledge on junk food consumption with residence (p-value is 0.01), religion (p-value is 0.01), ethnicity (p-value is 0.01), and type of family (p-value is 0.01) (Table 6).

Table 7. Respondents' source of information about junk food **n=230**

Variables *	Number	Percent
Mass media	165	71.7
Website	114	49.5
Friends	89	38.6
Family	60	26.0
Comic magazine	28	12.1

*** Multiple responses**

Table 7 represents the source of information about junk food among respondents where the majority (71.7 %) of the respondents had sources of information from mass media.

DISCUSSION

In this study, 3.9% have adequate knowledge, the majority of the respondents (74.8%) have inadequate knowledge and 21.3 % have moderate knowledge about the effect of junk food on health whereas a similar study was conducted in India, which revealed 26.25% of respondent had adequate knowledge, 31.87 % of respondent had inadequate knowledge, and 41.88% had moderate knowledge about the effect of junk food on health.⁸

The present study shows that 71.7 % of respondents consume junk food because of taste preference. A similar study conducted in India, reveals 76% of respondents consume junk food because of taste preference.¹⁰

The present study shows that 36.9 % of respondents consume salty snacks and 29.6% consume sweet-containing food whereas the study conducted in Kaski, Nepal shows more than half (58.7%) consume salty snacks followed by sweets 57.5%.⁴

The present study shows the most common source of information about junk food was mass media (71.7%) which is similar to the study conducted in Kathmandu where the adolescents got information from mass media 67.9%.⁷

A study conducted in Nepal showed a significant association with the level of knowledge on junk food consumption in terms of gender, ethnicity, type of

family, father's education, mother's education, father's occupation, and mother's occupation whereas the present study shows association with the level of knowledge on junk food consumption in term of residence (p value=0.01), religion(p-value =0.00), ethnicity (p-value =0.01), and family types(p value=0.01).⁹

The present study shows there is a significant association between the effect of junk food consumption with socio-demographic variables i.e. with family types (p-value = 0.01) which supports a similar study conducted in Nepal.⁴

CONCLUSIONS

The findings of the study conclude that majority of the adolescents tend to have inadequate knowledge of the effect of junk food on health, and the majority of respondents consume junk food due to its taste preference and most of the adolescents got influenced by mass media for the consumption of junk food and the level of knowledge on junk food consumption tends to vary according to the residence, religion, ethnicity, and family types.

ACKNOWLEDGMENTS

The researcher would like to acknowledge Tribhuvan University , Birgunj Nursing Campus, and Principals of Shree Baljyoti Secondary School, Shree Chandrodaya Secondary School, and Shree Janjagriti Secondary School and adolescents for their cooperative and valuable response.

CONFLICT OF INTEREST

None

REFERENCES

1. Innocentis DI. Birth of the term junk food. 2022. Retrieved from <https://www.tum.it/en/blog/birth-and-history-of-the-term-junk-food>
2. Fast food statistics. 2022. Retrieved from <https://thebarbecuelab.com/fast-food/>
3. Garwood P, Chaib F, Borgan C. Tenfold increase in childhood and adolescent obesity in four decades: new study by Imperial College London and WHO. *Saudi Med J*. 2017 Nov;38(11):1162–3. PMID: PMC5767627
4. Bohara SS, Thapa K, Bhatt LD, Dhama SS, Wagle S. Determinants of junk food consumption among adolescents in Pokhara Valley, Nepal. *Frontiers in Nutrition*, 2021; 8, 644650.
5. Ghofranipour F, Tavousi M. Effect of Health Education on the Knowledge, Attitude, and Practice of Fast Food Consumption among Primary Students. *Health Education and Health*

- Promotion*, 2018; 6(2), 47-52.
6. Shanthini U S, Hubballi J G. Assess the knowledge regarding the consumption of junk food among adolescents at selected colleges of Belagavi City. *IP Journal of Paediatric and Nursing Science*. 2021; 2, 10-71.
 7. Chalise B. Junk food prevention education package intervention and its effect on behavioral intention among students of kagesworimanohara municipality, Kathmandu district, Nepal. *MOJ Public Health*, 2018; 7(3), 123-7.
 8. Khongrangjem T, Dsouza SM, Prabhu P, Dhange VB, Pari V, Ahirwar SK, Sumit K. A study to assess the knowledge and practice of fast food consumption among Pre-University students in Udupi Taluk, Karnataka, India. *Clinical Epidemiology and Global Health*, 2018; 6(4), 172-175.
 9. Zahra J, Ford T, Jodrell D. Cross-sectional survey of daily junk food consumption, irregular eating, mental and physical health and parenting style of British secondary school children. *Child Care Health Dev*. 2014 Jul;40(4):481-91. doi: 10.1111/cch.12068. Epub 2013 Apr 18. PMID: 23594136.
 10. Saranya P, Shanifa N, Shilpa ST, Umarani J, Shetty AP. Adolescents' knowledge regarding the effects of fast food on health. *International Journal of Current Medical Research*. 2016; 65(35), 65.