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Prevalence and Pattern of Junk Food Consumption among Secondary School Students of Banganga, Nepal

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ABSTRACT

Background: Junk food is high in calories but low in essential nutrients, posing a health risk particularly during adolescence. Many low and middle income countries, like Nepal, are experiencing a nutritional shift along with a rising consumption of junk food among school-aged adolescents. Despite its known health risks, junk food remains popular among adolescent school students. This study aims to determine the prevalence of junk food, its consumption patterns and associated factors, among secondary school students of Banganga, Nepal. **Methods:** A school-based descriptive cross-sectional study was conducted among 270 secondary school students in Banganga municipality ward number 2, selected using stratified random sampling. Data were collected via a self-administrated structured questionnaire. Bivariate and multivariate logistic regression analyses were done using IBM-SPSS version 20. **Results:** The prevalence of junk food consumption among secondary school students was 74.4%. Fast food was the most consumed category (74.13%) and the most frequently consumed items were biscuit, chocolate, coke and chowmein. Sex, grade, father's occupation, living status and parent's habit of junk food consumption were significantly associated with junk food consumption at 95% of confidence interval. **Conclusion:** The high prevalence of junk food consumption among adolescents highlights an urgent need for collaborative efforts between parents, school administrations and other relevant stakeholders to promote healthier food options in school cafeterias and encourage homemade, nutritious foods.

Introduction

Foods are not only eaten to satisfy hunger or to feed the empty stomach; there is special value to them too. Adequate and balanced nourishment is vital for upholding health and quality of life. The foods that are high in calories from sugar or/and fat and possibly sodium, but with little dietary fiber, proteins, vitamins, minerals or other important forms of nutritional value, are termed as "junk food" or food with empty calories. A healthy adolescent can become a healthy adult and enjoy healthy aging, when he/she has the habit of healthy food consumption (Lassi *et al.*, 2017).

Junk food consumption is a global issue, affecting 70% of the global population notably

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high in Australia, the USA, and the UK, but also prevalent in urban areas of developing regions across Asia, Africa, the Middle East, and Latin America (Karki *et al.*, 2022, Khatri *et al.*, 2023). The prevalence of junk food consumption in south east Asian countries varies from 99% in Bhutan to 84.3% in Nepal and 54% in Srilanka (Mirhadyan *et al.*, 2020, Zahra *et al.*, 2014). It has a broad spectrum of health effects. In the short term, it can cause indigestion, tiredness and bloating. Long terms effects are poor bowel habits, which can lead to chronic conditions like irritable bowel syndrome (IBS), acidity and ulcers, obesity, diabetes mellitus, hypertension, cardiovascular diseases, dental caries, kidney disease, neurological disorders, cancer, hypoxia, asthma, behavioral problems and skin rashes (Bhaskar and Monika, 2012, Purushothaman *et al.*, 2015). In Nepal, prevalence of obesity among adolescents is rising due to their dietary patterns as most of the Nepalese students eat junk food during their mealtime and get addicted to its taste. By increasing the prevalence of obesity and several NCDs, the dark side of 'junk food' cannot be ignored, neglected or overlooked (Bohara *et al.*, 2021).

Junk food consumption is also one of the most prevalent and modifiable risk factors for overweight and obesity which is directly associated with various non- communicable diseases (NCDs) (Elbarazi and Tikamdas, 2023). Despite the growing evidence, school cafeterias are filled with various kinds of junk food (Jardim *et al.*, 2018, Upreti *et al.*, 2022). Globally, more than 1 billion people worldwide are obese; among them, 340 million are adolescents. In absence of timely and effective intervention, it is estimated that one billion people globally, including 1 in 5 women and 1 in 7 men, will be living with obesity, and 23 million people will die due to CVDs and 10.2% people will suffer from diabetes by 2030 (Options For Youth, 2024, Upreti *et al.*, 2022, Wikipedia contributors, 2023).

Junk food consumption among the school students has been linked to negative impact on memory and alertness, which will ultimately affect the learning capacity and grade (Bohara *et al.*, 2021). A study of secondary school students in UK aged 12 to 16 found that 17.2% consumed junk food daily, and those with authoritative parents, had healthier eating habits and better mental and physical health compared to peers with other parenting styles (World Health Organization, 2024). A 2017 cross-sectional study in Rasht, Iran, involving 341 second-year high school students, found that those whose fathers had higher education and income levels consumed more junk food, with sweet snacks being the most consumed (27.3%) (Mirhadyan *et al.*, 2020). A 2021 study in Kaski district (Nepal) revealed that 60.3% of adolescents consumed junk food with higher rates in public schools (65.1%) and significant associations with factors like family structure and junk food availability (Bohara *et al.*, 2021). In this context, this study aims to examine the prevalence and patterns of junk food consumption and associated factors among secondary school students in Banganga Municipality, Nepal.

Materials and Methods

Study design and setting

A descriptive cross-sectional study assessed junk food consumption among adolescents in grades 9 and 10 in Ward No. 2 of Banganga Municipality, Kapilvastu District, Nepal. The study area included all four secondary schools - two public and two private - within the selected ward. These schools were chosen purposively as they represented the entire secondary-level educational institutions in the ward, encompassing diverse socio-demographic backgrounds.

Study population and eligibility criteria

The target population comprised students in grades 9 and 10 enrolled in the four selected schools. These grades were chosen because students typically fall within the adolescent age range of 10–19, as defined by the World Health Organization (World Health Organization, 2021). All students present on the day of data collection were eligible for participation, while those who were absent or declined to participate were excluded.

[DOI: 10.18502/jnfs.v11i1.20912]

Sample size calculation

The total population of eligible students across the four schools was 730. The sample size was calculated using Cochran's formula: $n_0=\frac{z2pq}{d^2}$, assuming a 95% confidence interval (Z=1.96), a 5% allowable error (d=0.05), and a prevalence (p) of 60.3% from a previous study on junk food consumption among adolescents in Nepal (Bohara *et al.*, 2021), the initial sample size was calculated. After adjusting for a 10% non-response rate, the final sample size was 270.

Sampling technique

A stratified random sampling technique was employed. Stratified sampling is a probability sampling method in which the population is divided into subgroups or strata - in this study, based on school type (public vs. private) - and participants are randomly selected proportionally from each stratum. This method enhances the precision of the estimates and ensures balanced representation of key subgroups.

Students were selected using class rosters as the sampling frame. The number of students selected from each school was proportional to the total number of students in grades 9 and 10 in that school. Lottery method was used to identify participants within each class.

Justification of representativeness

All four secondary schools in Ward No. 2 were included in the sampling frame, ensuring complete institutional coverage within the geographic unit. Including both public and private schools captured diversity in socioeconomic status, access to food options, and lifestyle behaviors - factors known to influence adolescent dietary habits (World Health Organization, 2021). The selected ward reflects a semi-urban population structure and includes varied economic backgrounds, the findings can be reasonably generalized to similar settings across Nepal.

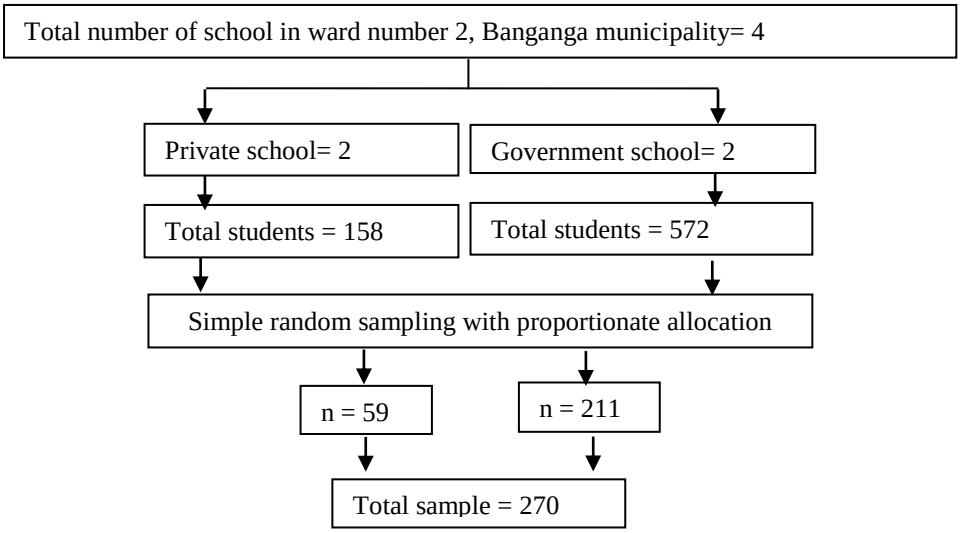

Figure 1. Flow diagram of sampling**.**

Data was collected from December 2023 to January 2024 through a researcher-developed questionnaire. The questionnaire was structured through an extensive review of existing literature on adolescent dietary behavior and junk food consumption in Nepal and similar contexts (Bohara *et al.*, 2021, Karki *et al.*, 2022, Khatri *et al.*, 2023). multiple strategies were employed to ensure its validity. Content validity was established by consulting experts in public health, adolescent nutrition, and school health, who assessed the appropriateness and comprehensiveness of the questionnaire items. A pilot test was conducted among a group representing 10% of the study sample from a similar population to evaluate the clarity, cultural relevance, and interpretability of

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the questions. Based on the feedback, necessary modifications were made to enhance clarity and appropriateness.

Construct validity was supported by aligning the instrument with the Theory of Planned Behavior, which guided the selection of items related to attitudes, subjective norms, and perceived behavioral control regarding junk food consumption. Criterion-related validity was further assessed by comparing selected responses with patterns reported in previous validated studies conducted in Nepal, showing good agreement.

To ensure reliability, the questionnaire was pretested, and its internal consistency was maintained by refining ambiguous or overlapping items. A forward and backward translation process between English and Nepali was applied by bilingual experts to ensure semantic and contextual accuracy. The final tool was a self-administered questionnaire covering key domains, including socio-demographic characteristics, junk food consumption patterns, influencing factors, parental influence, and knowledge regarding health impacts. These steps collectively ensured that the instrument was both valid and reliable for assessing junk food consumption among adolescents in the study setting.

This study defines junk food as salty snacks (lays, potato chips, spicy chips, Kurkure, cheese balls, biscuits), sweets (cakes, cookies, chocolates, ice cream), sweetened drinks (Frooti, Coke, Fanta, Sprite, canned juices), and fast food (mo:mo, chow mein, chatpat, panipuri/fulki, samosa, chat, instant noodles, spicy noodles, pizza, burgers, French fries). A junk food consumer is a student who consumed any of these items in the last 24 hours, measuring how many students did so. In this study, an adolescent was classified as a junk food consumer if they reported consuming at least one item from a predefined list of junk foods (e.g., biscuits, chocolates, instant noodles, sugary beverages, chips) within the recall period. This operational definition is consistent with approaches used in national surveys such as the Nepal Demographic and Health Survey (NDHS) 2022, which assessed dietary behavior using recall-based questions where any reported consumption of ultra-processed or unhealthy food items was considered dietary exposure, regardless of portion size (Pandey *et al.*, 2025). Similarly, surveillance studies on adolescent nutrition often categorize individuals based on the presence or absence of such food items in the diet, recognizing that even infrequent consumption can indicate exposure to unhealthy food environments and a shift in dietary patterns (Popkin *et al.*, 2020).

Although consuming a single chocolate or biscuit may not significantly contribute to the daily caloric intake, such foods are often considered dietary markers of poor eating habits. They can influence habit formation and displace healthier food options, especially among adolescents whose long-term behaviors are still developing (Khatri *et al.*, 2023). Previous school-based studies in Nepal have adopted a similar binary classification to assess exposure to junk food, reinforcing the use of this method for early identification of dietary risk behaviors (Bohara *et al.*, 2021, Karki *et al.*, 2022). Therefore, this classification provides a useful and contextually relevant measure for identifying adolescents at risk of adopting unhealthy dietary practices.

In this study, a cut-off score of 6 out of 7 (≈ 85.7%) was selected to denote "satisfactory" knowledge of junk food's meaning and health impacts based on both educational measurement principles and empirical evidence. First, mastery learning theory traditionally defines an 80% threshold as indicative of sufficient comprehension and skill acquisition (Bloom, 1968). Second, validation in nutrition education research supports using a high cut-off to ensure that respondents possess not just partial, but substantial understanding of key concepts; for example, Gupta and Singh classified scores ≥ 80% as "adequate" nutrition knowledge in adolescents, which aligned with better dietary behaviors (Gupta and Singh, 2020). Finally, expert consensus among three public health nutritionists affirmed that correctly answering at least six of seven items reflects the minimal competency needed for adolescents to make informed dietary choices in this context.

[DOI: 10.18502/jnfs.v11i1.20912]

Together, these theoretical, literature-based and empirical justifications validate the use of a ≥ 6/7 cut-off for defining satisfactory knowledge in our adolescent population.

Data analysis

Data were entered and analyzed using IBM-SPSS version 20 using descriptive, bivariate, and multivariate statistics. A multivariable logistic regression identified factors associated with junk food consumption. The strength of associations was shown with adjusted odds ratios (AOR) and 95% confidence intervals (CI), with significance declared at a P-value of 0.05.

Ethical considerations

Data collection was done after obtaining ethical approval from Chitwan Medical College Institutional Review Committee (Ref: CMC-IRC/080/081-057) and permission from Banganga municipality. Informed consent from participants, parental permission and permission from school administrations were taken prior to data collection, ensuring participant privacy and confidentiality.

Results

Table 1 represents the socio-demographic characteristics among secondary school students of Banganga municipality-2. The study's participants had a median age of 15, with 53.7% being male and 57.4% in grade 10, predominantly from government schools (68.9%). The majority was Brahmin (48.5%) and Hindu (93.7%), with most parents being literate; 55.46% of fathers and 50% of mothers had completed secondary education. Fathers were mainly in foreign employment (34.4%) and agriculture (26.3%), while mothers were mostly homemakers (59.3%); 88.1% of participants lived with their families. Among 270 participants, 201 participants consumed junk food. The prevalence of junk food consumption was 74.4% among secondary school students.

Table 2 represents the pattern of junk food consumption among the participants who consumed junk foods in last 24 hours. Among the 201 junk food consumers, 56.71% consumed salty foods, with 57.9% eating biscuits. Additionally, 62.68% ate sweets, mainly chocolates (80.95%), and 30.85% drank sweetened drinks, primarily coke (44.26%); fast food was the most consumed category (74.13%), including chow-mein (45.87%) and samosas (34.46%). Most participants consumed junk food once a day (68.65%), usually at home (71.64%), often while using their phone (37.31%), traveling (20.9%), or watching TV/laptop (16.92%).

Table 1. Demographic characteristics of students.

Variables	n (%)
Age	
Early adolescence (10-13)	15 (5.6)
Middle adolescence (14-15)	167 (61.9)
Late adolescence (16-19)	88 (32.6)
Sex	
Male	145 (53.7)
Female	125 (46.3)
Grade	
Nine	115 (42.6)
Ten	155 (57.4)
Type of school	
Government	186 (68.9)
Private	84 (31.1)
Ethnicity	
Tharu	33 (12.2)
Brahmin	131 (48.5)
Chhetri	46 (17.0)
Magar	51 (18.9)
Others	9 (3.3)
Type of family	
Nuclear	181 (67.0)
Extended	89 (33.0)
Religion followed	
Hindu	253 (93.7)
Buddhist	13 (4.8)
Christian	1 (0.4)
Other	3 (1.1)
Educational status of father	
Literate	247 (91.5)
Illiterate	23 (8.5)
If Literate, what level?	
Just literate	20 (8.0)
Basic Primary level	70 (28.3)
Secondary level	137 (55.4)
Bachelor and above	20 (8.0)
Educational status of mother	
Literate	236 (87.4)
Illiterate	34 (12.6)
If mother literate, what level?	
Just literate	28 (11.8)
Basic primary	78 (33.0)
Secondary level	118 (50.0)
Bachelor and above	12 (5.0)

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Occupation of the father	
Agriculture	71 (26.3)
Business	50 (18.5)
Service	24 (8.9)
Foreign employment	93 (34.4)
Other	32 (11.9)
Occupation of the mother	
Homemaker	160 (59.3)
Agriculture	50 (18.5)
Business	14 (5.2)
Service	22 (8.1)
Foreign employment	10 (3.7)
Other	14 (5.2)
Living status	
With family	238 (88.1)
In hostel	24 (8.9)
Alone	1 (0.4)
Other	7 (2.6)

Most participants could access junk food within 15 minutes from home (94.52%) and school (92.54%), with less than one-third (29.85%) bringing it to school. Junk and healthy food were available in most school cafeterias (73.63%), with peer influence (76.4%), advertisement (73.9%), and low price (71.4%) being major external factors promoting junk food consumption; taste (76.12%) and hunger (58.71%) were primary internal reasons for preference, and the majority received money from their mother (56.71%).

Table 2. Pattern of junk food consumption among students.

Variables	**n (%)**
Salty foods	
Yes	114 (56.71)
No	87 (43.28)
If yes, (n= 114)	
Cheese ball	18 (15.79)
Potato chips	25 (21.93)
Kurkure	39 (34.21)
Spicy chips	11 (9.60)
Lays	18 (15.79)
Biscuits	66 (57.90)
Dalmod	42 (36.84)
Sweets	
Yes	126 (62.68)
No	75 (37.32)
If yes, (n= 126)	
Chocolate	102 (80.95)
Cookies	9 (4.40)
Cake	14 (11.11)
Ice cream	30 (23.80)
Sweetened drinks	
Yes	62 (30.85)
No	139 (69.15)
If yes, (n= 62)	
Frooti	22 (36.10)
Sprite	18 (29.50)
Coke	27 (44.26)
Canned juice	5 (8.20)
Fanta	6 (9.83)
Fast food	
Yes	149 (74.13)
No	52 (25.87)
If yes, (n= 149)	
Chow mien	67 (45.87)
Fulki/panipuri	25 (16.89)
Mo:mo	35 (17.41)
Chatpat	42 (28.37)
Samosa	51 (34.46)
Burger	3 (2.03)
Instant noodles	29 (19.60)
French fries	3 (2.03)
Spicy noodles	21 (14.19)
Pizza	1 (0.68)
Chat	7 (4.73)
Times consumed	
Once	138 (68.65)
Twice	27 (13.43)
Thrice	19 (9.45)
More than 3 times	17 (8.45)
Time preferred	
Morning	6 (2.99)
Day	142 (70.65)
Evening	45 (22.39)
Night	8 (3.98)
Consumed place last time	
School	40 (19.90)
Home	144 (71.64)
Park	12 (5.97)
Other	5 (2.49)
Company of junk food consumption	
Friends	78 (38.80)
Family	40 (19.90)
Alone	80 (39.80)
Other	3 (1.49)
Condition of junk food consumption	
At the time of study	20 (9.95)
Watching TV/Laptop	34 (16.92)
While using phone	75 (37.31)
Travelling	42 (20.9)
Other	30 (14.93)

Table 3 highlights parental factors influencing junk food consumption among secondary school students. More than half of the parents (52.96%) allow junk food at home, while 47.78% encourage healthy eating and 51.48% discuss the importance

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of healthy food. Additionally, 56.67% of parents avoid junk food themselves, motivating 52.29% of students to avoid it, and 45.19% are slightly motivated to avoid junk food due to their parents' involvement in food choices.

Table 3. Influencing factors of junk food consumption among secondary school students of Banganga municipality-2, Kapilvastu, Nepal (n= 201).

Variables	Category	n (%)
Approximate distance to purchase junk food from house	Less than 15 min	190 (94.52)
	15 min-30 min	6 (2.96)
	30 min-1 hour	2 (1.00)
	More than 1 hour	3 (1.50)
Approximate distance to purchase junk food from school	Less than 15 min	186 (92.54)
	15 min-30 min	13 (6.47)
	30 min-1 hour	2 (1.00)
Bring and eat junk food in school	Yes	60 (29.85)
	No	141 (70.15)
Kind of food available in school cafeteria	Only junk food	29 (14.43)
	Healthy foods	24 (11.94)
	Both	148 (73.63)
Presence of external factor to consume junk food	Yes	188 (93.53)
	No	13 (6.48)
If yes, external factor that promotes to consume junk food¥¥ (n= 188)	Peer influence	155 (76.40)
	Advertisement	150 (73.90)
	Cheap/ low price	145 (71.40)
	Appearance of food/ Attractive	128 (63.10)
	Quick/fast	106 (52.20)
	Easily available	97 (47.80)
	Other	20 (12.43)
Reason behind preference on junk food consumption	Taste	153 (76.12)
	Hunger	118 (58.71)
	Emotional pleasure	32 (15.92)
	Boredom	26 (12.94)
	Others	8 (3.98)
Person providing money to buy junk foods last time	Mother	114 (56.71)
	Father	61 (30.35)
	Grandfather	22 (10.95)
	Brother/sister	44 (21.89)
	Relatives	41 (20.40)
	Grandmother	20 (9.95)
	Uncle/Aunt	18 (8.95)

Table 4 highlights parental factors influencing junk food consumption among secondary school students. More than half of the parents (52.96%) allow junk food at home, while 47.78% encourage healthy eating and 51.48% discuss the importance of healthy food. Additionally, 56.67% of parents avoid junk food themselves, motivating 52.29% of students to avoid it, and 45.19% are slightly motivated to avoid junk food due to their parents' involvement in food choices.

More than two third of participants (77.8%) were having unsatisfactory level of knowledge, and remaining participants (22.2%) were having satisfactory level of knowledge.

Table 5 presents the association between junk food consumption and various study variables. Initial analysis revealed significant relationships with several socio-demographic characteristics,

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including the student's sex, grade level, father's occupation, living situation, and parental junk food consumption habits. However, when these variables were further assessed using multivariable logistic regression analysis, only sex, grade, and living status emerged as independent predictors of junk food consumption. Male students were more than twice as likely to consume junk food compared to their female counterparts (AOR=2.13; 95% CI: 1.12–4.04). Similarly, students in grade ten had nearly 2.7 times greater odds of junk food consumption compared with those in grade nine (AOR=2.73; 95% CI: 0.20–0.69). Additionally, students living with their families were significantly more likely—over five times—to consume junk food compared to those living away from their families (AOR = 5.34; 95% CI: 2.28–12.55).

Table 4. Parental factors of junk food consumption among secondary school students of Banganga municipality-2, Kapilvastu, Nepal (n= 270).

Variables	n (%)
Parents letting junk food at home	
Yes	143 (52.96)
No	127 (47.04)
Parental approach	
Strict about it	58 (21.48)
Permissive	56 (20.74)
Neglectful	27 (10.00)
Encouraging for healthy foods	129 (47.78)
Parents talk about the importance of healthy food choice	
Never	12 (4.44)
Rarely	22 (8.14)
Sometimes	97 (35.93)
Often	139 (51.48)
Parents eat junk food	
Yes	117 (43.33)
No	153 (56.67)
If no, motivation to avoid junk food from parents	
Not at all	33 (21.56)
Slightly motivated	80 (52.29)
Very motivated	40 (26.14)
Parent's involvement in food choice	
Not at all	76 (28.15)
Slightly motivated	122 (45.19)
Very motivated	72 (26.67)

Although the father's occupation and parental habit of consuming junk food showed significant associations in the bivariate analysis, they did not remain significant in the multivariable model.

Variables with a p-value less than 0.20 in the initial bivariate analysis were included in the multivariable logistic regression model to identify independent predictors. AOR along with their 95% CI were reported. Statistical significance was determined using the Wald chi-square (χ^2) test, with a p-value of less than 0.05 considered significant.

Discussion

The study revealed a 74.4% prevalence of junk food consumption among students, similar to rates in Egypt (81.3%) and Jumla (84.3%), but higher than Kaski's (60.3%). Variations may stem from different data collection techniques and methods as seven-day recall method was used in the study conducted in Egypt and Kaski. Purposive sampling technique was used in the study conducted in Jumla (Bohara *et al.*, 2021, Zahra *et al.*, 2014). The high prevalence of junk food consumption among secondary school students highlights a growing public health concern. In this study, most junk food consumers preferred fast food, notably chowmein (45.87%), contrasting with findings in Chitwan (100% noodles consumption) and Jumla (65.4% noodles consumption), possibly due to varying school cafeteria food options (Zahra *et al.*, 2014). In this study, 62.68% of junk food consumers favored sweets, particularly chocolate (80.95%), differing from Iran's study (27.3% sweet snack consumption) and Chitwan's findings (92.3% sweet consumption), likely due to variations in categorization methods, with Iran using five categories and Chitwan using nine categories (Mirhadyan *et al.*, 2020). In this study, 56.73% of junk food consumers consumed salty foods, with 80.95% favoring biscuits, mirroring Chitwan's findings (95.8% biscuit consumption). Additionally, 30.85% consumed sweetened drinks, with Coke being the top choice among 44.26% of consumers, akin to a study in Tamil Nadu, India, where 65.5% of students were Coke consumers.

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Table 5. Association between junk food consumption and other study variables among secondary school students of Banganga municipality-2, Kapilvastu, Nepal (n= 270).

Variables	Category	Bivariate analysis			Multivariate analysis		
		COR	95% CI	P-value	AOR	95 %CI	P-value
Sex	Male Female	2.94	1.62-5.33	<0.001	2.126	1.12-4.04	<0.001
Grade	Nine Ten	2.73	0.21-0.64	<0.001	2.69	0.20-0.69	<0.001
Living status	With family Other than the family	7.56	3.41-16.74	<0.001	5.344	2.28-12.55	<0.001
Father's occupation	Foreign employment Other than foreign employment°°	1.86	1.0-3.45	0.047	1.609	0.82-3.15	0.086
Parents eat junk food	Yes No	1.89	1.07-3.34	0.026	1.584	0.85- 2.96	0.06

***AOR**: Adjusted odds ratio; **COR**: Crude odds ratio.*

Participants preferred consuming junk food during the day (70.65%), similar to findings in Chitwan (90.8%) and Jumla (88.2%), while most school cafeterias offered both junk and healthy foods (73.63%), parallel to Jumla's findings (88.9%), suggesting junk foods are allowed in schools (Zahra *et al.*, 2014).

In this study, peer influence (76.4%) was the major external factor for junk food consumption, differing from Chitwan's emphasis on quick/fast (44.4%), likely due to the fact that the majority of the mothers were homemaker in this study. Taste (76.12%) was the prime reason for junk food consumption, resembling Tamil Nadu's findings (35%), and mothers (56.71%) were the main providers of money for junk food, similar to Chitwan's results (55.6%) (Pahari and Baral, 2020, Sapkota, 2018).

Junk food consumption is significantly associated with participants' sex (AOR=2.126, 95% CI 1.12-4.04), where boys were more likely to consume junk food compared with the girls which contradicts the study in Malaysia where higher consumption was among girls (Bohara *et al.*, 2021). In Nepalese society, girls often take on more responsibilities in the kitchen. This involvement in preparing meals may lead to them consuming less junk food, as they are more likely to eat home-cooked meals instead.

The study shows a significant association between student's grade and junk food consumption (AOR=2.69, 95% CI 0.20-0.69), echoing findings from a Bohara study where junk food consumption rose with higher grades (Bohara *et al.*, 2021). The possible reason might be balancing school work, academic pressure and extracurricular activities which may leave students with limited time for proper meals, leading to a higher reliance on quick, unhealthy food options.

Junk food consumption is significantly associated with living status of the students (AOR=5.344, 95% CI 2.28-12.55), where students living with their family were more likely to consume junk foods, aligning with the findings of a study done in Egypt, where participants living with their families exhibited higher prevalence (Gketsios *et al.*, 2022); most of the student's parents let them eat junk food at home. In this study, a significant association exists between father's occupation and junk food consumption (COR=1.86, 95% CI 1-3.45), differing from Bohara's findings, possibly due to variations in primary sources of family income, with many fathers in Pokhara relying on government and private services (Bohara *et al.*, 2021).

A significant association exists between junk food consumption among school adolescents and parents' habit of junk food consumption (COR=1.89, 95% CI 1.07-3.34) similar to Greece's findings, suggesting children tend to adopt their parents' dietary habits (Gketsios *et al.*, 2022). This study highlights the growing concern of junk food

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consumption among secondary school students in Banganga Municipality, offering valuable insights that can help shape health programs and policies. However, since the data relies on student self-reporting and is limited to one area, the findings may not fully capture long-term trends or be easily applied to other regions.

Conclusion

This study revealed a high prevalence of junk food consumption among school adolescents, emphasizing the urgent need for collaborative efforts between parents and school administration to promote healthier food options in cafeterias and encourage homemade healthy choices within school premises. It is recommended to conduct further research including the nutritional status of students along with their habit of junk food consumption.

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Conflict of interests

The authors declared no conflict of interest.

Authors' contribution

Ghimire G, Poudel E, Regmi D and Kandel S designed the research; Ghimire G conducted it; Ghimire G, Poudel E and Regmi D analyzed data; Ghimire G and Poudel E wrote the paper. Ghimire G and Kandel S had primary responsibility for final content. All authors read and approved the final manuscript.

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