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Assessment of knowledge, attitude, and factors associated with junk food consumption among medical student in Pokhara, Nepal: A cross-sectional study

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Abstract

Introduction: Junk foods are readily available, usually inexpensive, and have less nutrient value. College life is a crucial time when they are especially vulnerable to acquire unhealthy eating habits. This study aims to assess junk food consumption among medical students in Pokhara.

Methods: A cross-sectional study was conducted among 240 MBBS students of Gandaki Medical College from Nov to Dec 2023 using a self-administered questionnaire. Ethical approval was obtained. Simple random sampling was used. Chi-square test was used for the association between independent variables (age, sex of the respondent, type of family, current living status, study year, enabling environment (grocery and hotel near college and house) and junk food consumption. A p-value ≤ 0.05 was considered statistically significant.

Results: The prevalence of junk food consumption among the medical student was 223(92.9% of 240) The study surveyed 121(50.4%) of the respondents who had adequate knowledge of junk food consumption. More than half 146(60.8%) of the respondents had a low attitude toward junk food consumption. A study found that current living status ($p=0.01$), and type of family ($p=0.02$) were found to be significantly associated with junk food consumption.

Conclusion: Junk food consumption was common among undergraduate students. The living status, like currently living in rent or hostel had higher consumption of junk food compared to those respondents who live with their family.

How to cite

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Introduction

Junk foods are defined as readily available foods, usually inexpensive, and having less nutrient value. Common junk foods include fast food, carbonated drinks, chips, desserts, chocolates; etc.¹ High income, rapid urbanization, free home deliveries, mouthwatering advertisements, and international cuisines have contributed to a rising trend in increased junk food intake.^{2,3}

Health promotion is not actively implemented in medical school even though it is a subject covered in the curriculum.^{4,5} Students in university settings face a higher risk of adopting sedentary lifestyles because of the significant time they spend in lectures, studying or using computers.⁶

The World Health organization (WHO) has highlighted the influence of lifestyle on health – related quality of life.⁷ In the 18-25 age group there is more flexibility in lifestyle than ever before. Independent living arrangement can influence food preference, nutritional status and healthy eating habits, which tend to decline.^{8,9}

Many studies shows that the transition to university student is usually accompanied by an increase in behavior that tends to be sitting, a change in lifestyle and a change in physical activity as a result of psychological variables.^{10,11}

A study shows that living arrangement, screen time, taste preference is associated with the junk food consumption among the medical students.¹² Previous studies shows that low physical activity with 44(10.7%) exercising >5 times/week, inadequate fruit/vegetable intake (1-2servings/day) was reported by the medical students.¹³ The purpose of this study is to assess knowledge, attitude, and factors affecting junk food consumption among medical students.

Method

A cross-sectional institution-based study was conducted among the undergraduate students of Gandaki Medical College. Medical students who were enrolled in the first to final years of the MBBS program were included. This study was

the part of study entitled “Lifestyle-related behavior and stress among undergraduate students of Medical College, Pokhara” which was conducted from Nov to Dec 2023. Junk food consumption was the dependent variables of the study. Background characteristics included age, sex of the respondents, type of family, current living status, study year, enabling environment (grocery and hotel near college and house) knowledge of junk food consumption, and attitude toward junk food consumption.

Ethical approval was obtained from Gandaki Medical College Ethical Review Committee (Referral no: 07/080/081-F). The college principal granted administrative approval while the related program coordinator granted authorization. The participants provided written informed consent. Participants received comprehensive explanations of the study’s goal and their autonomy and confidentiality were maintained. Those students who denied taking part in the study were excluded.

The sample size for the study was performed by using the finite population proportion formula. The prevalence of junk food consumption among medical students was taken to be 50% to make sample size maximum. The allowable error was set at 5% and finite population was 500 students based on student records from the administration office of the medical college.¹⁴ Considering the prevalence, ($p=0.50$), $q=1-p$, $d=$ precision ($d=0.05$), the Sample size was 384.16 at 95% confidence level. Using the finite population formula ($N=500$), the sample size was 218. A 10% non-response rate was added i.e. $218 \times 10\% = 22$. The final sample was 240. From each batch, 48 students were selected using simple random sampling by the lottery method.

The selected students were asked to be gathered in a private hall during lunch time. A self-administered questionnaire was given to the participants following 10 minutes orientation about the purpose of the study and the questionnaire used. Once the participants had completed the questionnaire, it was collected back. The total time taken by students to fill the questionnaire was 20 minutes. We did not find any incomplete questionnaire. The dependent

variable was junk food consumption. It was classified into four categories; energy-dense food/packed food/ Instant noodles and sugary items. Junk food consumption was measured by high as three or more than three times consumption per week based on the previous study.^{15,16}

Background characteristics included age, sex of the respondent, type of family, current living status, study year, enabling environment (grocery and hotel near college and house) knowledge of junk food consumption, and attitude toward junk food consumption. The majority of questionnaire responses were pre-coded.

The IBM SPSS software version 22.0 was used to enter the data as well as to conduct the statistical analysis. Both descriptive and summarizing statistics were computed. Frequency and percentage were computed for categorical data. All inferential analyses were conducted at a 5% level of significance. A chi-square test was applied to show the association of independent variables with the outcome variable.

Result

Among the study population of medical students (n=240), overall prevalence of junk food consumption was 93%, Figure 1.

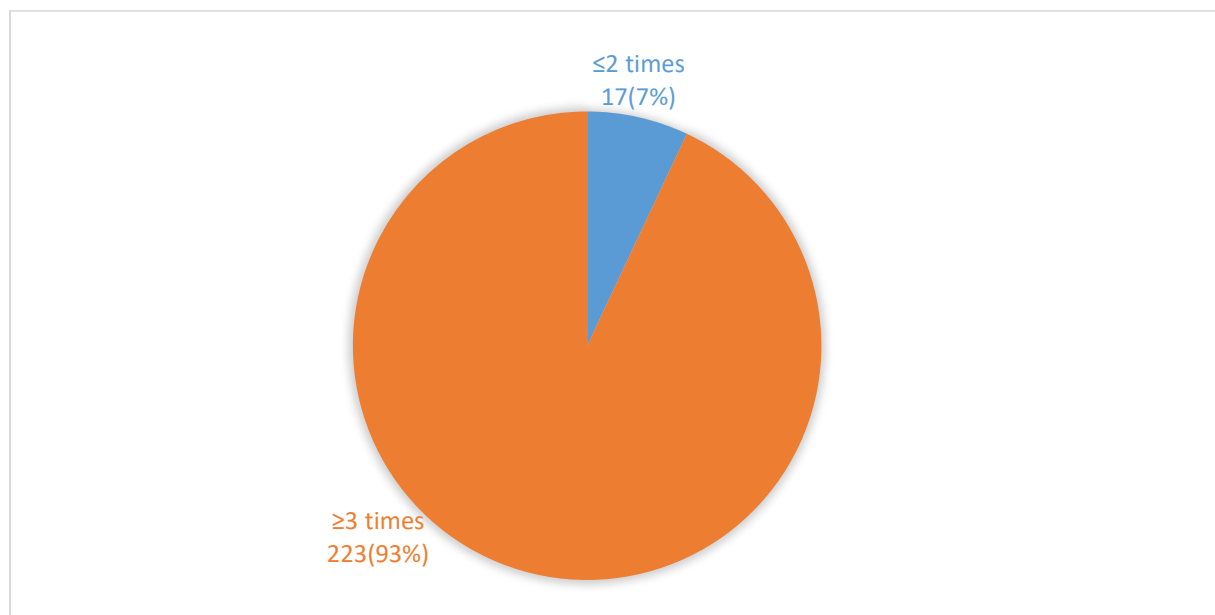


Figure 1. Prevalence of junk food consumption among medical students, n=240

Among participants, 149(62.1%) were in the age group above >20 years. More than half 57.9% of the respondents were males. More than half of the respondents 162(67.5%) belonged to the Brahmin/Chhetri. Most of the respondents 202(84.2%) were of Hindu religion. Most of the respondents 201(83.8%) were living without family. Among the respondents who lived without family, 123(60.9%) were living in rented house. Among respondents, 238(95.8%) had grocery shops near their residences. The majority of the respondents 223(92.9%), 217(90.4%), reported that they had a hotel restaurant, grocery shop near residents, Table 1.

Living status (p=0.01) and type of family (p=0.02) were found to be significantly associated with junk food consumption, Table2.

In this model, out of 7 variables including knowledge and attitude toward junk food consumption, current living status had a significant independent influence on junk food consumption. The respondents who lived without family were 4.178 times (UOR 4.178, 95% CI (1.483-11.772) consumed 3 or more than 3 times junk food compared to those who lived with their families, Table 3.

Table1. Socio-demographic, enabling environment, knowledge and attitude of medical students surveyed for junk food consumption, n=240

Variables	n (%)
Sociodemographic characteristics	
Age of the respondent	
18-20 years	91(37.9)
>20 years	149(62.1)
Sex of the respondent	
Male	139(57.9)
Female	101(42.1)
Ethnicity of the respondent	
Brahmin/Chhetri	162(67.5)
Other	78(32.5)
Religion of the respondent	
Hindu	202(84.2)
Other	38(15.8)
Current living status	
With family	39(16.3)
Without family	201(83.8)
If without family (201)	
In hostel	79(39.1)
Rent	123(60.9)
Enabling environment	
Grocery shop near resident	
Yes	230(95.8)
No	10(4.2)
Hotel/ restaurant near resident	
Yes	223(92.9)
No	17(7.1)
Grocery shop near college	
Yes	217(90.4)
No	23(9.6)
Hotel/restaurant near the college	
Yes	229(95.4)
No	11(4.6)
Knowledge and attitude	
Knowledge	
Adequate	121(50.4)
Poor	119(49.6)
Attitude	
High	94(39.2)
Low	146(60.8)

Table 2. Association of sociodemographic characteristics and enabling environment with junk food consumption, n=240

Variables	Junk food consumption		χ^2	p-value
	≤ 2 servings n(%)	≥ 3 servings n(%)		
Sociodemographic characteristics				
Age y				
18-20	8(8.8)	83(91.2)	0.65	0.445
>20	9(6.0)	140(94.0)		
Sex				
Male	8(5.8)	131(94.2)	0.885	0.446
Female	9 (8.9)	92(91.1)		
Ethnicity				
Brahmin/Chhetri	11(6.8)	151(93.2)	0.065	1.00
Other	6(7.7)	72(92.3)		
Religion				
Hindu	7(17.9)	32(82.1)	8.353	0.01
Other	10(5.0)	191(95.0)		
Current living status				
With family	6(7.6)	73(92.4)	1.92	0.19
Without family	4(3.3)	119(96.7)		
If without family				
In hostel	7(4.3)	155(95.7)	5.779	0.02
Rent	10(12.8)	68(87.2)		
Enabling environment				
Grocery shop near residence				
Yes	7(5.9)	112(94.1)	0.517	0.616
No	10(8.3)	111(91.7)		
Hotel/ restaurant near residence				
Yes	11(7.5)	135(92.5)	0.115	0.802
No	6(6.4)	88(93.6)		

Discussion

The prevalence of junk food consumption was high (92.9%) among the medical students. This finding was similar to the study which was carried out in Saudi Arabia.¹⁷ This result is also similar to the study in Bangladesh which that that 98.5% of the respondents consumed junk food.¹⁸ Easy availability of junk food, and time constraints may have encouraged the respondents to consume the junk foods.

The study showed that 50.4% of the respondents had adequate knowledge of junk food consumption. This result is similar to the study that was carried out in Dharwad district, Karnataka, India which showed that 60.0% of the respondents had adequate knowledge of junk food consumption.¹⁹ This result is in contrast to the findings which was carried out among higher-level students in Kathmandu which showed that only 19.1% had adequate

knowledge regarding the harmful effects of junk food consumption.²⁰ Level of knowledge was not significantly associated with junk food consumption ($p=0.616$). This result is in contrast to the study which was done in Chengalpattu district, India which showed that those with adequate knowledge were more likely to use fast food delivery services.²¹

Attitude was not significantly associated with junk food consumption ($p=0.802$). Respondents who had low attitudes were 17% less likely to consume junk food i.e. 3 or more than 3 times than those respondents who had high attitudes. This finding was consistent with the findings from Iran.²²

Age was not significantly associated with junk food consumption but the age group more than 20 years consumed more junk food, i.e. 3 or more than 3 times than the age group 18-20 years. This contrasts with the findings which was

done in Turkey which showed that the younger age group consumes more regular junk food than the higher age group.²³

While analyzing the gender differences, sex was not significantly associated with junk food consumption ($p=0.350$). The result shows that males consume junk food 1.60 times (i.e. 3 or more than 3 servings) than the female respondents. This finding is similar to the study done in Turkey which found that men start junk food consumption at an early age compared to females.²³ However, the result of another study from Pokhara, Nepal found that females respondents consume more junk food than males.²⁴ This may be because in present study male respondents are more in number compared to females and most of them were residing in rent and hostels.

Current living status was significantly associated with junk food consumption ($p=0.007$). The respondents who were currently living without family (rent, hostel) consumed more junk food than those who were living with family. This finding is consistent with study conducted among the medical students in Tunisia²⁵ and Bangladesh²⁶ students.

In our study ethnicity and religion were dichotomized for the ease of analyses, which may be considered a limitation. Most of the medical respondents were living in hostel and rented house, probably had busy academic schedule, more craving for junk food and lacked family environment resulting in more consumption of junk food.

Conclusion

Junk food consumption was common among the medical students. Those respondents who lived in rent or hostel consumed more junk food compared to those living with their families. Despite their knowledge, the consumption of junk food was notably high among medical student probably because of time constraints, easy availability of junk food, advertisements, etc.

Author contribution

Concept design: SP, BP, SB; Literature search: SP
Data collection: SP, BP; Data analysis: SP, SB;
Draft manuscript: All; Final manuscript and accountability: All

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Conflict of interest

None

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Supplementary material

The data and supplementary material that support the findings of this study are available from the corresponding author upon reasonable request

References

1. Mandoura N, Al-Raddadi R, Abdulrashid O, Shah HB, Kassab SM, Hawari AR, et al. Factors associated with consuming junk food among Saudi adult in Jeddah City. 2017 Dec;9(12). DOI PubMed Google Scholar Full Text
2. Laxer RE, Janssen I. The proportion of excessive fast-food consumption attributable to the neighbourhood food environment among youth living within 1 km of their school. *Applied Physiology, Nutrition, and Metabolism*. 2014;39(4):480-6. DOI PubMed Google Scholar Full Text
3. Phillips SM, Bandini LG, Naumova EN, Cyr H, Colclough S, Dietz WH, Must A. Energy-dense snack food intake in adolescence: longitudinal relationship to weight and fatness. 2004 Mar;12(3):461-72. DOI PubMed Google Scholar Full Text
4. Chouhan S. Analysing health promoting life styles of medical students in Bhopal, Madhya Pradesh, India by HPLP-II. *Int J Community Med Public Health*. 2017 Jan;4(1):195-9. DOI Google Scholar Full Text
5. Senjam S, Singh A. Health promoting behavior among college students in Chandigarh, India.

- Indian Journal of Community Health. 2012Mar 31;24(1):58-62. [Google Scholar Full Text](#)
6. Cotten E, Prapavessis H. Increasing nonsedentary behaviors in university students using text messages: Randomized controlled trial. 2016 Aug 19;4(3). [DOI PubMed Google Scholar Full Text](#)
 7. Karimi N, Saadat-Gharin S, Tol A, Sadeghi R, Yaseri M, Mohebbi B. A problem-based learning health literacy intervention program on improving health-promoting behaviors among girl students. *J Educ Health Promot.* 2019 Dec 31;8:251. [DOI PubMed Google Scholar Full Text](#)
 8. Mandic D, Bjegovic-Mikanovic V, Vukovic D, Djikanovic B, Stamenkovic Z, Lalic NM. Successful promotion of physical activity among students of medicine through motivational interview and Web-based intervention. 2020 Jul8;8:e9495. [DOI PubMed Google Scholar Full Text](#)
 9. Molendijk M, Molero P, Sánchez-Pedreño FO, Van der Does W, Martínez-González MA. Diet quality and depression risk: a systematic review and dose-response meta-analysis of prospective studies. *Journal of affective disorders.* 2018 Jan 15;226:346-54. [DOI PubMed Google Scholar Full Text](#)
 10. Crombie AP, Ilich JZ, Dutton GR, Panton LB, Abood DA. The freshman weight gain phenomenon revisited. *Nutrition reviews.* 2009;67(2):83-94. [DOI PubMed Google Scholar Full Text](#)
 11. Vella-Zarb RA, Elgar FJ. The 'freshman 5': a meta-analysis of weight gain in the freshman year of college. *Journal of American College Health.* 2009 Sep 30;58(2):161-6. [DOI PubMed Google Scholar Full Text](#)
 12. Deepali A, Prakash C. A study on junk food consumption of 1st-year MBBS students aged 19–21 years of batch 2021–22 at Sri Siddhartha Medical College and Hospital, Tumakuru. *National Journal of Physiology, Pharmacy and Pharmacology.* 2023 Aug 1;13(8):1765. [DOI Google Scholar Full Text](#)
 13. Nepal S, Atreya A, Adhikari K, Acharya B, Menezes RG, Sapkota LP. Health risk behaviors among medical and nursing students of Lumbini Medical College, Nepal: A cross-sectional study. *Health Sci Rep.* 2024 Oct 16;7(10):e70140. [DOI PubMed Google Scholar Full Text](#)
 14. Medical Education Commission. MBBS seat allocation for different college. 2023. [Link](#)
 15. Naing L, Winn TB, Rusli BN. Practical issues in calculating the sample size for prevalence studies. *Archives of orofacial Sciences.* 2006;1:9-14. [Google Scholar Full Text](#)
 16. Arslan N, Aslan Ceylan J, Hatipoğlu A. The relationship of fast food consumption with sociodemographic factors, body mass index and dietary habits among university students. *Nutrition & Food Science.* 2023 Jan 2;53(1):112-23. [DOI Google Scholar Full Text](#)
 17. Habib A, Al Alyani M, Hussain I. Prevalence, Determinants and Consequences of Fast-Food Consumption among college students in Abha-Aseir. [Google Scholar Full Text](#)
 18. Bipasha MS, Goon S. Fast food preferences and food habits among students of private universities in Bangladesh. *South East Asia Journal of Public Health.* 2013;3(1):61-4. [DOI Google Scholar Full Text](#)
 19. Borgis S, Kandakur MB, Bharati P. Knowledge level regarding junk food consumption among school children in Dharwad District, Karnataka. *EPRA Int. J. Multidiscip. Res.(IJMR).* 2020;6:158-61. [DOI Google Scholar Full Text](#)
 20. Subedi S, Nayaju S, Subedi S, Acharya A, Pandey A. Knowledge and practice on junk food consumption among higher level students at selected educational institutions of Kathmandu, Nepal. *Int J Res-Granthaalayah.* 2020;8(12):306-14. [DOI Google Scholar Full Text](#)
 21. Kokilaa GL, Gowthamkarthic R, Wali A, Agadi S. Perception and practice of junk food consumption among undergraduate students in a medical university in Chengalpattu District". *World Nutrition.* 2023 Sep 30;14(3):27-35. [DOI Google Scholar Full Text](#)
 22. Didarloo A, Khalili S, Aghapour AA, Moghaddam-Tabrizi F, Mousavi SM. Determining intention, fast food consumption and their related factors among university students by using a behavior change theory. *BMC Public Health.* 2022 Feb 15;22(1):314. [DOI PubMed Google Scholar Full Text](#)
 23. Arslan N, Aslan Ceylan J, Hatipoğlu A. The relationship of fast food consumption with sociodemographic factors, body mass index and dietary habits among university students. *Nutrition & Food Science.* 2023 Jan 2;53(1):112-23. [DOI Google Scholar Full Text](#)
 24. Pahari S, Baral N. Perception and factors influencing junk food consumption among school children of Pokhara. *Journal of Health and Allied Sciences.* 2020 Oct 7;10(2):68-72. [DOI Google Scholar Full Text](#)
 25. Ayed HB, Yaich S, Hmida MB, Trigui M, Jemaa MB, Jedidi J, et al. Prevalence, determinants and outcomes of general and abdominal obesity in medical students. *Obesity medicine.* 2019 Mar 1;13:39-44. [DOI PubMed Google Scholar Full Text](#)

26. Banik R, Naher S, Pervez S, Hossain MM. Fast food consumption and obesity among urban college going adolescents in Bangladesh: a cross-

sectional study. *Obesity Medicine*. 2020 Mar 1;17:100161. DOI PubMed Google Scholar Full Text

Questionnaire/tools

Code No.:

Consent form

Namaskar, I am Sanju Banstola from Gandaki Medical College conducting research on "Lifestyle related behavior and stress among undergraduate student of medical college, Pokhara." Therefore, I would like to request you to fill the questionnaire form. I would like to assure you that the information we ask will be used for the study purpose only. Personal information and anonymity of the participants will be protected when the survey results are published. Your participation in the study will be only once. 20 minutes will be taken to fill the form. There is no any kind of financial or other incentive to the respondent for the participation in the study. Participation in the survey is completely voluntary. If you feel any kind of inconvenience, you can stop at any time.

Do you have any question about this study? If no, do you agree to give consent for the study?

Yes, I agree to participate.

No, I do not agree to participate.

Name (optional).....

Signature

Date.....

Section A: General Information and Knowledge and attitude on physical activity and Junk Food

S.N	Socio-demographic information	
1.	Age of the respondent (complete years)	
2.	Sex of the respondent	a. Male b. Female
3.	Year	a. 1 st b. 2 nd c. 3 rd d. 4 th e. 5 th
4.	Caste/Ethnicity	
5.	Religion	
6.	Current living status	a. With family b. without family
	If, without family	a. In hostel b. Rent
7.	Type of family	a. Nuclear b. Joint c. Extended
8.	Number of family members
9.	Main occupation of the household	a. Agriculture b. Service c. Foreign employment d. Labor e. Other (specify).....
10.	Average monthly income (in NRs)
11.	Time spent in class/day (in minute)	
12.	Time spent in self-study/day (in min)	
Enabling environment		
13.	Availability of park near home	a. Yes b. No
	If yes, time taken to reach there by walking	
14.	Availability of cycle able road	a. Yes b. No
	If yes, time taken to reach there by walking (in minute)	
15.	Availability of walking road	a. Yes b. No
	If yes, time taken to reach there by walking (in minute)	
16.	Availability of playground at college	a. Yes b. No (if no, skip to question 17)
	If yes, do you participate in sports/game?	a. Yes b. No

	If yes, in which game do you participate?	a. Football Badminton	b. Volleyball	c. Basketball	d. Table Tennis	e. Badminton	f. Other.....
17.	Grocery shop near resident	a. Yes b. No					
	If yes, time taken to reach there by walking (in minute)						
18.	Hotel/restaurant near resident	a. Yes b. No					
	If yes, time taken to reach there by walking (in minute)						
19.	Grocery shop near college	a. Yes b. NO					
	If yes, time taken to reach there by walking (in minute)						
20.	Hotel/restaurant near college	a. Yes b. No					
	If yes, time taken to reach there (in minute)						
Knowledge and awareness on Physical Activity							
21.	Have you seen, heard or read about physical activity recommendations?	a. Yes b. No c. I don't know					
22.	What is the recommended minimum amount of moderate-intensity aerobic physical activity per week based on the present physical activity recommendations?	a. 1 h 30min b. 2 h 30min c. 3-hour d. 20min per day 3 days/week e. 30min per day 5 days per week f. 30min per day 7 days per week g. 60min per day 7 days per week h. none of the previous options i. I don't know					
23.	What is the recommended minimum amount of muscular strength and endurance type of activity per week based on the present physical activity recommendations?	a. once per week b. 2 times per week c. 3 times per week d. 4 times per week e. 5 times per week f. none of the previous options g. I don't know					
knowledge junk food consumption							
24.	Junk food consumption lead to extra weight gain	a. Yes b. No c. I don't know					
25.	Frequent consumption of junk food increases the risk of NCDs	a. Yes b. No c. I don't know					
26.	Junk food consumption strongly associated with insulin resistance and T2DM	a. Yes b. No c. I don't know					
27.	Junk food leads the risk of heart failure	a. Yes b. No c. I don't know					
28.	Junk food is the main cause of obesity	a. Yes b. No c. I don't know					
29.	Junk food is carcinogenic for kidney and esophagus	a. Yes b. No c. I don't know					
Attitude towards junk food consumption							
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
30.	Junk food is tasty						
31.	Junk food is enjoyable						
32.	Junk food is for healthy people						
33.	If someone does enough exercise, he/she can eat whatever they like						

Section B: International Physical Activity Questionnaire (Self-Administered Format)

The questions will ask you about the time you spent being physically active in the **last 7 days**. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport. Think about all the **vigorous** and **moderate** activities that you did in the **last 7 days**. **Vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal.

Part 1: job-related physical activity		
1. Do you currently have a job or do any unpaid work outside your home?	a. Yes b. No	If no, Skip to part 2
2. During the last 7 days , on how many days did you do vigorous physical activities like heavy lifting, digging, heavy construction, or climbing up stairs as part of your work ? Think about only those physical activities that you did for at least 10 minutes at a time.	____ days/week <input type="checkbox"/> No vigorous job-related physical activity	If no, skip to question 4
3. How much time did you usually spend on one of those days doing vigorous physical activities as part of your work?	____ hours/day ____ minutes/day	
4. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days , on how many days did you do moderate physical activities like carrying light loads as part of your work ? Please do not include walking.	____ days/week No moderate job-related physical activity	If no skip to question 6
5. How much time did you usually spend on one of those days doing moderate physical activities as part of your work?	____ hours/day ____ minutes/day	
6. During the last 7 days, on how many days did you walk for at least 10 minutes at a time as part of your work? Please do not count any walking you did to travel to or from work.	____ days/week No job-related walking	If no, Skip to part 2
7. How much time did you usually spend on one of those days walking as part of your work?	____ hours/day ____ minutes /day	
Part 2: transportation physical activity		
These questions are about how you traveled from place to place, including to places like work, stores, movies, and so on		
8. During the last 7 days , on how many days did you travel in a motor vehicle like a train, bus, car, or tram?	____ day/week No travelling in motor vehicle	If no, skip to question 10
9. How much time did you usually spend on one of those days traveling in a train, bus, car, tram, or other kind of motor vehicle?	____ hours/day ____ minutes /day	
Now think only about the bicycling and walking you might have done to travel to and from work, to do errands, or to go from place to place.		
10. During the last 7 days , on how many days did you bicycle for at least 10 minutes at a time to go from place to place ?	____ day/week No bicycling from place to place	If no, skip to question 12
11. How much time did you usually spend on one of those days to bicycle from place to place?	____ hours/day ____ minutes /day	
12. During the last 7 days , on how many days did you walk for at least 10 minutes at a time to go from place to place ?	____ day/week No walking place to place	If no, skip to part 3
13. How much time did you usually spend on one of those days walking from place to place?	____ hours/day ____ minutes /day	
Part 3: housework, house maintenance, and caring for family		
This section is about some of the physical activities you might have done in the last 7 days in and around your home, like housework, gardening, yard work, general maintenance work, and caring for your family.		
14. Think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days , on how many days did you do vigorous physical activities like heavy lifting, chopping wood, shoveling snow, or digging in the garden or yard ?	____ day/week No vigorous activity in garden or yard	If no, skip to question 16
15. How much time did you usually spend on one of those days doing vigorous physical activities in the garden or yard?	____ hours/day ____ minutes /day	
16. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days , on how many days did you do moderate activities like carrying light loads, sweeping, washing windows, and raking in the garden or yard ?	____ day/week No moderate activity in garden or yard	If no, skip to question 18

17. How much time did you usually spend on one of those days doing moderate physical activities in the garden or yard?	____ hours/day ____ minutes /day	
18. Once again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days , on how many days did you do moderate activities like carrying light loads, washing windows, scrubbing floors and sweeping inside your home ?	__ day/week No moderate activity inside home	If no skip to part 4
19. How much time did you usually spend on one of those days doing moderate physical activities inside your home?	____ hours/day ____ minutes /day	
Part 4: recreation, sport, and leisure-time physical activity		
This section is about all the physical activities that you did in the last 7 days solely for recreation, sport, exercise or leisure. Please do not include any activities you have already mentioned)		
20. Not counting any walking you have already mentioned, during the last 7 days , on how many days did you walk for at least 10 minutes at a time in your leisure time ?	__ day/week No walking in leisure time	If no, skip to question 22
21. How much time did you usually spend on one of those days walking in your leisure time?	____ hours/day ____ minutes /day	
22. Think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days , on how many days did you do vigorous physical activities like aerobics, running, fast bicycling, or fast swimming in your leisure time ?	__ day/week No vigorous activity in leisure time	If no, skip to question 24
23. How much time did you usually spend on one of those days doing vigorous physical activities in your leisure time?	____ hours/day ____ minutes /day	
24. Again, think about only those physical activities that you did for at least 10 minutes at a time. During the last 7 days , on how many days did you do moderate physical activities like bicycling at a regular pace, swimming at a regular pace, and doubles tennis in your leisure time ?	__ day/week No moderate activity in leisure time	If no skip to part 5
25. How much time did you usually spend on one of those days doing moderate physical activities in your leisure time?	____ hours/day ____ minutes /day	
Part 5: time spent sitting		
Last questions are about the time you spend sitting while at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading or sitting or lying down to watch television. Do not include any time spent sitting in a motor vehicle that you have already told me about		
26. During the last 7 days , how much time did you usually spend sitting on a weekday ?	____ hours/day ____ minutes /day	
27. During the last 7 days , how much time did you usually spend sitting on a weekend day ?	____ hours/day ____ minutes /day	

Section C: Junk Food Consumption

Junk Food Item	Never	1-2 days/week	3-4 days/week	5-6 days/week	Once a day	Twice a day	Twice a day	3 or more a day
energy dense food								
Noodles								
packed food								
sugary item								
why you prefer junk food	a. Feel satisfied b. easy to eat & dispose c. tasty palatable d. Readily Wallace e. cost price f. other (specify).....							
What time of a day do you eat junk food	a. Morning b. Day c. Night							

Note: energy dense food includes potato chips, snack crackers, sweets, chocolate, biscuits, cakes, cereal bars, ice-cream. **Packed food** includes Un-me, Kurkure, Cheese ball. And **sugary item** includes coke/Fanta/sprite, Real/fruity, Red bull.

Section D: Pittsburgh Sleep Quality Index

The following questions relate to your usual sleep habits during the past month only. Your answer should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all the questions.

1. During the past month, what time have you usually gone to bed at night? (Bed time)	
2. During the past month, how long (in minutes) has it usually takes you to fall asleep each night?	
3. During the past month, what time have you usually gotten up in the morning? (Getting up time)	
4. During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed.) (Hours of sleep per night)	
For each of the remaining questions, check the one best response. Please answer all questions	
5. During the past month, how often have you had trouble sleeping because you: Please (√) in any one option; never (0), less than once a week (1), Once or twice a week (2); 3 to 5 nights/days (3); almost every day/night (4)	
	0 1 2 3 4
a) Cannot get to sleep within 30 minutes	
b) Wake up in the middle of the night or early morning	
c) Have to get up to use the bathroom	
d) Cannot breathe comfortably	
e) Cough or snore loudly	
f) Feel too cold	
g) Feel too hot	
h) Had bad dreams	
i) Have pain	
Other reason(s), please describe.....	
How often during the past month have you had trouble sleeping because of this?	
6. During the past month, how would you rate your sleep quality overall?	a. Very good b. Fairly good c. Fairly bad d. Very bad
Please (√) in any one option never (0), less than once a week (1), Once or twice a week (2); 3 to 5 nights/days (3); almost every day/night (4)	0 1 2 3 4
7. During the past month, how often have you taken medicine to help you sleep (prescribed or "over the counter")?	
8. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?	
9. During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?	
10. Do you have a bed partner or room-mate? a. Yes b. No	
If you have a room-mate or bed partner, ask him/her how often in the past month you have had...	
a) Loud snoring	
b) Long pauses between breaths while asleep	
c) Legs twitching or jerking while you sleep	
d) Episodes of disorientation or confusion during sleep	
e) Other restlessness while you sleep; please describe.....	

Section E: Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by tick (√) *how often* you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

	0	1	2	3	4
1. In the last month, how often have you been upset because of something that happened unexpectedly?					
2. In the last month, how often have you felt that you were unable to control the important things in your life?					
3. In the last month, how often have you felt nervous and "stressed"?					
4. In the last month, how often have you felt confident about your ability to handle your personal problems?					
5. In the last month, how often have you felt that things were going your way?					
6. In the last month, how often have you found that you could not cope with all the things that you had to do?					
7. In the last month, how often have you been able to control irritations in your life?					
8. In the last month, how often have you felt that you were on top of things?					
9. In the last month, how often have you been angered because of things that were outside of your control?					
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					