International Research Journal of MMC (IRJMMC)
Open Access
Volume 4(2), 2023 ISSN 2717-4999 (Online) 2717-4980 (Print)

Effects of Tiffin Practices on the Health of School Students in Makawanpur District, Nepal

[*]Dr. Ram Prasad Adhikari[1], Bhashkar Chandra Adhikari[2], Ashmita Dhimal[3], Krishna Lila Khadka[4], Shriya Shrestha[5], Sushma Pudasaini[6], Sushma Neupane[7]

[1]Associate Professor, Makawanpur Multiple Campus,
[2]Lecturer, Makawanpur Multiple Campus,
Email: bhashkar.adi@gmail.com
[3]Student of B.Ed. third year, Makawanpur Multiple Campus,
Email: dhimalsangita040@gmail.com
[4]Student of B.Ed. third year, Makawanpur Multiple Campus,
Email: krishankhadka329@gmail.com
[5]Student of B.Ed. third year, Makawanpur Multiple Campus,
Email: shriya.shrestha7777@gmail.com
[6]Student of B.Ed. third year, Makawanpur Multiple Campus,
Email: sushmapudasainee2@gmail.com
[7]Student of B.Ed. third year, Makawanpur Multiple Campus,
Email: neupanesusma03@gmail.com
[*]**Corresponding Author:** adhikarirp30@gmail.com

Citation: Adhikari. R.P., Adhikari. B.C., Dhimal. A., Khadka. K.L., Shrestha. S., Pudasaini. S. & Neupane. S. (2023). Effects of tiffin practices on the health o school students in Makawanpur district, Nepal. *International Research Journal of MMC, 4*(2), 60–67. https://doi.org/10.3126/irjmmc.v4i2.56014

Abstract

The main goals of the study are to explore the existing tiffin practices among school students, and assess the effects of tiffin practices on their health. The study was conducted in 2023, among 100 students of four schools out of 65 community schools in Hetauda sub-metropolitan in Makawanpur district. Second stage cluster sampling method was adopted to select the study area and the students were selected with simple random sampling method from different grades (1-12) of the community schools of Hetauda sub-metropolitan. Semi-structured questionnaire and checklist were used to collect the data and information. Among them 66.00 % school students consumed packed food where only 21.00% of the students consumed homemade food as tiffin. Among the surveyed 64 students, 59.4% of students had faced stomachache, 29.7% students had faced vomiting, 4.7% encountered nausea and 6.3% underwent allergies. Chi-square test was employed to test the null hypothesis. Age, gender and grade were significantly associated with tiffin practices (p≤ .05). There was no significant association between packed food and health hazards (p= .347). Lack of time of the parents, imitation of the peers, taste of junk food, lack of awareness led the consumption of junk or packed food that caused various health hazards on school going children.

Keywords: Adolescent, Children, Health, School, Tiffin

1. Background of the study

Tiffin is a typical word of Indian food culture, where people take light foods as snacks at day tea-time (Wikipedia, 2022). Basically, in Nepal, children go to school in the morning time far from home by taking their meals. They feel hungry at day during the school hour.

They take some more time to return home from school. So, it is necessary to take tiffin for day time.

Parents are very busy at present time because of their job, business etc. So, they provide readymade food to their children as tiffin. Children are also attracted towards readymade food due to its taste, imitation of peers, advertisement and so on. Paudel (2021) stated that all of the adolescents had the habit of consuming packed foods regularly. Among them 42.2 percent adolescents substituted the junk foods with homemade food once a week, while 82.3 percent adolescents never brought tiffin from home.

Junk food is understood as litter food that harms the health. It has only high calories, but it lacks the nutrition. Health Direct (2021) has defined junk food as the food that has no any nutritional value. It is popular among children and the adolescents. It has a good taste that attracts them. Shakya (2004) stated that 61 percent among 818 school going children were malnourished. Among them 21.5 percent were underdeveloped and 10.4 percent were wasted. Another study of Mansur (2015) described that 30.85 percent were of low weight, 24.54 percent were underdeveloped and 10.5 percent were thin school going children in Kavre district.

Similarly, Gaurav (2014) stated that 22.9 percent were moderately underdeveloped and 17.5 percent were severely underdeveloped. Less than 10 percent were found to be moderately and severely wasted. Furthermore, Chataut (2016) described that 7.0 percent were wasted, in height for age analysis, 39.9 percent were underdeveloped in weight for age assessment, and 18.9 percent were underweighted.

The junk food has various adverse effects on health. The study of Chowdhury (2017) showed that among boys, 42 percent and among girls, 55 percent were underdeveloped and averages of 48 percent children were malnourished in the form of impaired growth. Among them, 39.62 percent of children were underweighted where boys were 28.30 percent and girls were 50.94 percent. Similarly, Patel (2016) stated that 9 percent of both boys and girls had the weaker body parts, whereas 9 percent of the boys and 6 percent of the girls were at the risk of being over weighted ($p > 0.05$). Similarly, 10 percent boys and 7 percent girls were underdeveloped and 31 percent boys and 21 percent girls had subnormal height ($p < 0.05$).

The existing studies have shown that there is high prevalence of the use of junk food among school students and they have been suffering from different types of health hazards. The main goals of the study are to explore the existing tiffin practices among school going children and, to assess the effects of tiffin practices on their health. And the study has the hypothesis that there is no significant association between packed food and the health hazards.

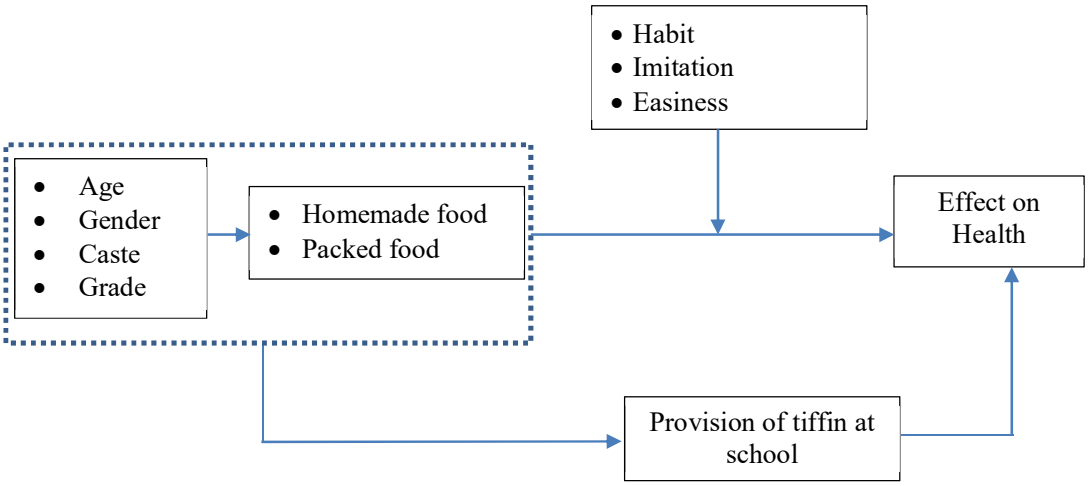
The study is helpful to formulate the policy and plan to the local government as well as schools to minimize the use of packed food and encourage the use of homemade food as tiffin.

2. Conceptual Framework

Conceptual framework shows the probable relationship between the variables that define the appropriate goals of the research, its process and the roadmap to draw the conclusion (Swaen, 2022). In this conceptual framework, independent variables consist of age, gender, caste and grade as well as homemade and packed food. Likewise, habit, imitation and easiness are the moderating variables. Provision of tiffin at school is an extraneous variable and the effect on health is dependent variable.

International Research Journal of MMC (IRJMMC)
Open Access
Volume 4(2), 2023 ISSN 2717-4999 (Online) 2717-4980 (Print)

Figure 1: *Conceptual Framework*



3. Methods and Materials

The second stage cluster sampling technique was applied to select the area of study and simple random sampling technique was used to select the required number of the students. Overall, 100 students aged 6- 22 years from class 1-12 of 4 schools were taken as sample out of 65 community schools to study the tiffin practices and the effects of packed or junk food on health. The study was conducted in 2023. Semi-structured questionnaire and checklist were administered to collect data and information. Tables, charts and graphs were prepared and Chi-square test was used to analyze the data.

4. Result and Discussion

Most of the School students consumed packed food because of easiness to get and rest consumed roti, makai-bhatmas, haluwa, khir, chiura-tarkari, bhuja, etc. as homemade food. The Table 1 below shows the types of food consumed by the school students on the basis of age.

Table 1: *Types of Food Consumed by School Students on the Basis of Age*

		Homemade food or Packed food				Chi-square Value	p-value
Age		Home-made food	Packed food	Both homemade and packed	Total		
6	Count	0	6	0	6		
	% within Age	0.0%	100.0%	0.0%	100.0%		
7	Count	0	7	0	7	72.742	.000
	% within Age	0.0%	100.0%	0.0%	100.0%		
8	Count	0	10	0	10		
	% within Age	0.0%	100.0%	0.0%	100.0%		
9	Count	0	1	1	2		
	% within Age	0.0%	50.0%	50.0%	100.0%		
10	Count	3	22	0	25		
	% within Age	12.0%	88.0%	0.0%	100.0%		
11	Count	0	1	0	1		
	% within Age	0.0%	100.0%	0.0%	100.0%		
12	Count	0	7	0	7		
	% within Age	0.0%	100.0%	0.0%	100.0%		

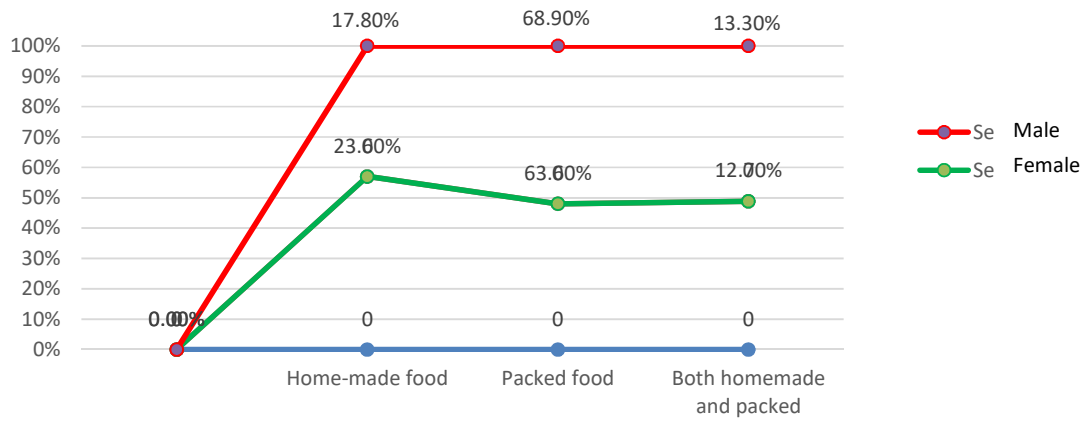
International Research Journal of MMC (IRJMMC)
Open Access
Volume 4(2), 2023 ISSN 2717-4999 (Online) 2717-4980 (Print)

13	Count	2	1	3	6
	% within Age	33.3%	16.7%	50.0%	100.0%
14	Count	2	1	2	5
	% within Age	40.0%	20.0%	40.0%	100.0%
15	Count	5	2	1	8
	% within Age	62.5%	25.0%	12.5%	100.0%
16	Count	3	7	2	12
	% within Age	25.0%	58.3%	16.7%	100.0%
17	Count	3	1	2	6
	% within Age	50.0%	16.7%	33.3%	100.0%
18	Count	1	0	1	2
	% within Age	50.0%	0.0%	50.0%	100.0%
19	Count	2	0	0	2
	% within Age	100.0%	0.0%	0.0%	100.0%
22	Count	0	0	1	1
	% within Age	0.0%	0.0%	100.0%	100.0%
Total	Count	21	66	13	100
	% within Age	21.0%	66.0%	13.0%	100.0%

Majority of school going children consumed packed food (66.00%) as compared to homemade food. Among them more (22 out of 100) numbers of students aged 10 consumed the packed food. There was significant association between age of students and the types of food consumed as tiffin (p value is 0.000, in Chire-square). The study of Bohora (2021) showed that the junk food consumption of students of public school was higher (65.1%) than those of private school (56.3%)

The Figure 3 below shows the types of food consumed by the students at school in tiffin time on the basis of gender.

Figure 2: *Types of Tiffin Used on the Basis of Gender*



International Research Journal of MMC (IRJMMC)
Open Access
Volume 4(2), 2023 ISSN 2717-4999 (Online) 2717-4980 (Print)

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.515[a]	2	.773
Likelihood Ratio	.520	2	.771
Linear-by-Linear Association	.307	1	.580
N of Valid Cases	100		

Majority of the students used packed food where the number of male students using packed food was higher than female. There was no significant association between tiffin used and the gender of respondents (p value is 0.773 in Chi-square). Sapkota (2017) claimed that a greater number of boys (79.6%) consumed junk food than the girls (53.5%). Majority of the respondents (90.1%) consumed junk foods for taste and the rest consumed for faster (44.4%), unavailability of other things to eat (29.6%) in tiffin time.

Table 2: *Types of Food Consumed on the Basis of Caste*

		Homemade food or Packed food				Chi-square value	p-value
Caste		Home-made food	Packed food	Both homemade and packed	Total		
Brahmin	Count	8	33	8	49	17.167	.009
	% within Caste	16.3%	67.3%	16.3%	100.0%		
Chhetri	Count	3	20	0	23		
	% within Caste	13.0%	87.0%	0.0%	100.0%		
Dalit	Count	3	0	2	5		
	% within Caste	60.0%	0.0%	40.0%	100.0%		
Janajati	Count	7	13	3	23		
	% within Caste	30.4%	56.5%	13.0%	100.0%		
Total	Count	21	66	13	100		
	% within Caste	21.0%	66.0%	13.0%	100.0%		

Chhetri used packed food higher than other castes (87.0%). There was significant association between the types of food consumed and the caste of students (p value is 0.009). Khan (2016) explained that consumption of packed food causes underweight (80%) and overweight (2%) among adolescent students. Kamble (2016) said that the children were consuming cereals, pulses and fat-based foods excessively than the fruits that causes overweight.

International Research Journal of MMC (IRJMMC)
Volume 4(2), 2023 ISSN 2717-4999 (Online) 2717-4980 (Print)
Open Access

Table 3: *Types of Food Consumed on the Basis of Grade*

Grade		Homemade food or Packed food				Chi-square Value	p-value
		Home-made food	Packed food	Both homemade and packed	Total		
	Count	0	1	0	1	61.195	.000
	% within Grade	0.0%	100.0%	0.0%	100.0%		
2	Count	0	20	0	20		
	% within Grade	0.0%	100.0%	0.0%	100.0%		
3	Count	0	2	0	2		
	% within Grade	0.0%	100.0%	0.0%	100.0%		
4	Count	1	22	1	24		
	% within Grade	4.2%	91.7%	4.2%	100.0%		
5	Count	2	0	0	2		
	% within Grade	100.0%	0.0%	0.0%	100.0%		
6	Count	0	8	0	8		
	% within Grade	0.0%	100.0%	0.0%	100.0%		
7	Count	1	0	0	1		
	% within Grade	100.0%	0.0%	0.0%	100.0%		
8	Count	1	1	2	4		
	% within Grade	25.0%	25.0%	50.0%	100.0%		
9	Count	11	10	7	28		
	% within Grade	39.3%	35.7%	25.0%	100.0%		
10	Count	1	1	1	3		
	% within Grade	33.3%	33.3%	33.3%	100.0%		
12	Count	4	1	2	7		
	% within Grade	57.1%	14.3%	28.6%	100.0%		
Total	Count	21	66	13	100		
	% within Grade	21.0%	66.0%	13.0%	100.0%		

Class Four students used packed food more (91.7%) than others. There was association between the types of food consumed and the grade (Class) of the students (p value is 0.000). The study of Sharma (2022) found that all of the respondents consumed junk food. Among them 60.7 percent of the respondents liked to consume junk food at afternoon and 2.8 percent of the respondents like to consume junk food at night.

International Research Journal of MMC (IRJMMC)
Open Access
Volume 4(2), 2023 ISSN 2717-4999 (Online) 2717-4980 (Print)

Table 4: *Packed Food Used and the Effects on Health*

Types of packed food consumed		Types of effect				Total	Chi-square value	p – value
		Stomach Ache	Vomiting	Nausea	Allergy			
Noodles	Count	19	13	2	2	36	10.046	.347
	% within Types of packed food consumed	52.8%	36.1%	5.6%	5.6%	100.0%		
Biscuit	Count	10	4	1	1	16		
	% within Types of packed food consumed	62.5%	25.0%	6.3%	6.3%	100.0%		
Chips	Count	1	0	0	1	2		
	% within Types of packed food consumed	50.0%	0.0%	0.0%	50.0%	100.0%		
Kurkure	Count	8	2	0	0	10		
	% within Types of packed food consumed	80.0%	20.0%	0.0%	0.0%	100.0%		
Total	Count	38	19	3	4	64		
	% within Types of packed food consumed	59.4%	29.7%	4.7%	6.3%	100.0%		

The students facing stomach ache and vomiting were higher in number (59.4% and 29.7% respectively). The null hypothesis was accepted (p value is .347 in Chi-square). There was no association between the consumption of packed or junk food and the health of school children. But Swain (2016) stated that the use of junk or packed food caused underweight among 34.16 percent, overweight among 30.83 percent, fatty 7.5 percent and normal school students were 27.5 percent. Similarly, 6-12 years of school children had various health related problems like dental caries (53.33%), skin problems (11.66%), paleness (10.00%), koilonychias (6.66%), loss of hair (5.83%), conjunctival xerosis (4.16%) and bitos spot (3.33%). Bashkar (2012) and Sheena (2020)also claimed that the junk or packed food had various harmful effects like heart disease, obesity and diabetes sometimes skin cancer.

5. Conclusion

Tiffin for the school going children is very essential. But the types of food items the students consume should be hygienic. The study indicates that most of the students consumed packed food as tiffin during the school hours because of its taste, parents' negligence and imitation of the peers as well as advertisement on different medias. School students had various health hazards due to the consumption of packed foods. Packed food consuming students were more in number (66%), in which noodles consuming students were higher in number. The policymakers, school management committees, head teachers, and community leaders need to collaborate and establish a set of policies, rules, and regulations aimed at curbing the excessive consumption of unhealthy and processed foods in schools.

References

Bhaskar, R. (2012). Junk food: Impact on health. *Journal of Drug Delivery and Therapeutics, 2*(3), 67-73. doi:10.22270/jddt.v2i3.132

Bohora, S. S. (2021). Determinants of junk food consumption among adolescents in Pokhara Valley, Nepal. *Frontiers in Nutrition, 8*, 1-9. doi:https://doi.org/10.3389/fnut.2021.644650

Chataut, J. K. (2016). Assessment of nutritional status of children under five years of age in rural Nepal. *Kathmandu Univ Medical Journal, 53*(1), 73-77. Retrieved from http://www.kumj.com.np/issue/53/73-77.pdf

Chowdhury, S. A. (2017). *Nutritional status among primary school going children of 5-6 years.* Talihaor: North east university Bangladesh. Retrieved from

https://www.academia.edu/63462329/nutritional_status_among_primary_school_going_children_of_5_6_years

Gaurav K, P. I. (2014). Malnutrition Status among under - 5 children in a hill community of Nepal. *Kathmandu Univ Med J, 48*(4), 264-268. Retrieved from http://www.kumj.com.np/issue/48/264-268.pdf

Health Direct. (2021, 1). *http*. Retrieved from healthdirect.gov.au: https://www.healthdirect.gov.au/junk-food-and-your-health

Kamble, R. M. (2016). Nutritional status of selected obese school going childrenin western Maharashtra. *Food Science Research Journal, 7*(2), 226-233. doi: 10.15740/HAS/FSRJ/7.2/226-233

Khan, K. S. (2016). Body mass status among primary school going children. *International Journal of Physiotherapy, 3*(4), 505-508. Retrieved from https://www.academia.edu/63684161/Body_Mass_Status_among_Primary_School_Going_Children

Mansur DI, H. M. (2015). A study on nutritional status of rural school going children in Kavre district. *Kathmandu Univ Medical Journal, 50*(2), 146-151. Retrieved from http://www.kumj.com.np/issue/50/146-151.pdf

Patel, P. P. (2016). Assessment of nutritional status of school going children in Gujarat. *International Journal of Food and Nutritional Science, 3*(2), 378-380. Retrieved from https://www.academia.edu/63301602/Assessment_of_nutritional_status_of_school_going_children_in_Gujarat

Paudel, R. S. (2021, September). Awareness and practice of junk foods among adolescents in secondary level students. *Medical Journal of Shree Birendra Hospital, 20*(2), 104-109. doi:10.3126/mjsbh.v20i2.30309

Sapkota, S. N. (2017). Junk food consumption among secondary level students, Chitwan. *J. Nepal Paediatr. Soc., 37*(2), 147-152. doi:http://dx.doi.org/10.3126/jnps.v37i2.17081

Shakya, S. B. (2004). Nutritional status and morbidity pattern among governmental primary school children in the eastern Nepal. *Kathmandu University Medical Journal, 2*(8), 307-314. Retrieved from http://www.kumj.com.np/issue/8/307-314.pdf

Sharma, B. (2022). Junk food consumption practices among the college students in Banke district. *KMC Journal, 4*(2), 198-211. doi: https://doi.org/10.3126/kmcj.v4i2.47778

Sheena. (2020). Harmful impact of junk food on teenager's health in Haryana. *Journal of Emerging Technologies and Innovative Research, 7*(9), 495-503. Retrieved from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.jetir.org/papers/JETIR2009367.pdf

Swaen, B. T. (2022, August 2). *http*. Retrieved from scribbr.com: https://www.scribbr.com/methodology/conceptual-framework/

Swain, D. (2016). Perceptions of school teachers regarding nutritional status and dietary practices among school going childrenin selected rural school, Bhubaneswar. *International Journal of Nursing Education, 8*(3), 30-34. doi: 10.5958/0974-9357.2016.00111.2

Wikipedia. (2022, 7 4). *http*. Retrieved from en.wikipedia.org: https://en.wikipedia.org/wiki/Tiffin