ORIGINAL RESEARCH ARTICLE
pISSN 0976 3325 | eISSN 2229 6816
Open Access Article
www.njcmindia.org
DOI: 10.5455/njcm.20200805092740

Eating Behavior of Nursing Students at Tertiary Care Teaching Institute in Uttarakhand: A Cross-Sectional Analytical Study

Srishti Bhatt[1], Vaneet Kaur[1], Sukhman[1], Usha Devi[1], Sonika[1], Shweta Deswal[1], Simran[1], Shweta Gautam[1], Shruti Joshi[1], Shiv Kumar Mudgal[2], Suresh K Sharma[3]

Financial Support: None declared
Conflict of Interest: None declared

How to cite this article:
Bhatt S, Kaur V, Sukhman, Devi U, Sonika, Deswal S, Simran, Gautam S, Joshi S, Mudgal SK, Sharma SK. Eating Behavior of Nursing Students at Tertiary Care Teaching Institute in Uttarakhand: A Cross-Sectional Analytical Study. Natl J Community Med 2020;11(8):324-329

Author's Affiliation:
[1]UG Nursing Student; [2]Nursing Tutor; [3]Professor & Principal, College of Nursing, All India Institute of Medical Sciences, Rishikesh, Uttarakhand

Correspondence
Prof. Suresh K Sharma
sk.aiims17@gmail.com

Date of Submission: 05-08-2020
Date of Acceptance: 17-08-2020
Date of Publication: 31-08-2020

ABSTRACT

Introduction: Promoting healthy lifestyle is among young nurses is necessary to promote overall health. Present study aimed to assess the dietary pattern among nursing students and also to determine the association of dietary patterns with their demographic and eating habits variables.

Methods: Present study was conducted among 112 nursing students who were selected through proportionate stratified random sampling technique from a tertiary care teaching institute in Uttarakhand. Data regarding students' dietary pattern was collected through a self-structured Likert scale on unhealthy dietary pattern and healthy supplementation pattern. Descriptive and inferential statistics were used for data analysis using SPSS.

Results: Study results have shown that mean and standard deviation for unhealthy dietary pattern and healthy supplementation pattern were 24.58±7.61 and 34.85±8.64 respectively. Using ANOVA, significant association was observed for students' eating habits (meal regularity, main meal of the day and frequency of eating outside) with unhealthy dietary pattern and healthy supplementation pattern at $p<0.05$.

Conclusion: Nursing students can serve as an important link to spread community awareness about the benefits of healthy eating which can promote health and well-being in community at large.

Keywords: Nursing, dietary habits, healthy supplementation, unhealthy practices

INTRODUCTION

Globally, most important issues related to health are poor nutrition and obesity**.** Poor nutrition and obesity are not only associated with chronic diseases but also have a great impact on health care expenses**.** There are number of predisposing factors of obesity including genetic, physical inactivity and poor dietary habits.[1]Poor nutrition or improper dietary habits not only contribute to obesity but also acts as an independent predictor for developing diabetes, coronary artery disease and some types of cancer.[2]

The transition from school to college is a crucial time because students in this period struggle with various issues such as adapting to new social environment, dietary pattern, and changes in their lifestyle.[3] During this age, they are more prone to develop and sustain poor dietary pattern, use of substances, and unhealthy lifestyle, etc.[4] Findings from a study conducted among budding healthcare professionals showed that even though they are well aware regarding the importance of developing and sustaining healthy lifestyle such as balanced diet, proper sleep, adequate weight and physical activities but most of them did not practice the recommended guidelines for healthy lifestyle.[5] Practice of healthy lifestyle is necessary for maintaining good health. Healthy dietary habits, practice of daily exercise, avoidance of substances were reported as

having definite benefits in physical, social, psychological and academic performance.[4, 5]

Nursing is a stressful profession and students who entered in nursing college tend to develop unhealthy lifestyle behavior.[6,7] Poor dietary habits, inadequate exercise habits and disturbed sleeping pattern by nursing professionals cannot be ignored. Lifestyle behavior especially dietary habits, exercise routine and substance abuse by university students have gained an increased attention in developing countries like India because lifestyle is an element, which has a significant impact on overall quality of life.[8] Dietary pattern of young adults or health care professionals has become an interesting research area around the world.

Research has shown that the enhancement of a healthy dietary behavior can be achieved by sensitizing and educating youths regarding importance of nutrition.[9] Therefore, for promoting healthy lifestyle, nursing students are important target population as they are the future health care providers and it is the high time to catch an opportunity to investigate the unhealthy dietary pattern and healthy supplementation pattern of nursing students and sensitize them regarding this current and crucial health related issue.[10] However, there is also scarcity of relevant data regarding dietary pattern of nursing students in India especially in the state of Uttarakhand and this has necessitated to conduct this study with the aim of assessing the dietary pattern among nursing students and also to determine the association of dietary patterns with their demographic and eating habits variables.

MATERIAL AND METHODS

This was a cross-sectional analytical study conducted among nursing students in a tertiary care teaching institute in Uttarakhand. The study was done in month of June, 2019 with an aim to assess the dietary pattern of nursing students and also to determine the association of dietary pattern with their demographic profile and eating habits. The sample size was estimated with consideration 5% precision, 95% confidence interval and 5% drop out rate. We use formula $N/1+Ne^2$ where N=280 and at 95% confidence level e=0.05.[11] Calculated sample size was 164 and all the participants were selected through proportionate stratified sampling technique. Some of the participants did not return the questionnaire and few of the questionnaires were incomplete. Hence, a total of 112 participants were included in final analysis.

Data were collected using socio-demographic profile questionnaire and self-structured Likert scale (unhealthy dietary pattern and healthy supplementation pattern). Demographic characteristics includes 12 questions related to participants' demographic data and eating habits was assessed by 8 questions such as type of eating habits, main meal of the day, meal regularity, reason for skipping meals, skipped meals substitute, practice of fast and frequency of eating outside the mess. Family's monthly income was assessed on the basis of Kuppuswamy scale.[12] Self-structured likert-scale was used to assess participants' unhealthy dietary pattern and healthy supplementation pattern. There were total 20 items in total i.e. 10 items to assess unhealthy dietary pattern and 10 items to assess healthy supplementation pattern. Participants' were asked to report their eating habits or dietary pattern over the past 3 months. Scoring was done on the basis of likert scale rating from 0 to 6 where positive items were scored like 'never' was marked as 6, 'rarely' as 5, 'occasionally' as 4, 'once a month' as 3, 'two to three times in a week' as 2 and 'daily' as 1. Each item was given minimum score of 0 and maximum score of 6; reverse scoring was done for negative items. Therefore, possible range of score was 0 to 60.

Content validity of tools was done by seven experts in nursing fields and experts have shown 100% agreement for selection of items. Internal consistency of tools was calculated by using Cronbach's alpha and it was found to be 0.82 and 0.80 for unhealthy dietary pattern and healthy supplementation pattern scales respectively. This indicated that tools were reliable. Study was approved by institutional ethical committee. Study participants were informed about the purpose of the study and their rights to withdraw from research at any time. Every participant was assured of anonymity and confidentiality of their information. Data were collected after getting informed consent from each participant. A formal permission was taken from the concerned authority before data collection.

Data were analyzed by using descriptive and inferential statistics with IBM Statistical Package of the Social Science (IBM SPSS, version 21) as per the study objectives. Frequency, percentage, mean and standard deviation were used to participants' characteristics, eating habits and dietary pattern. One-way ANOVA was used to determine the association between participants' characteristics and dietary pattern.

RESULTS

The data in Table 1 encapsulates the frequency and percentage of nursing students by their socio-demographic characteristics. The data showed that 70.5% nursing students were within the age group of 20-22 years and majority of participants (85.7%)

were Hindus. Almost all (97.3%) participants were unmarried. More than half of participants 78.6% were from nuclear family. A little less than half participants' fathers held professional degrees (24.1%) and nearly one fourth (11.6% and 29.5%) participants' mothers held professional and academic degree or above respectively. Dietary habits of the nursing students reported that around 41.1% were vegetarian followed by 39.3% non-vegetarian. Dinner and breakfast was considered as main meal by majority 83.9% of the study participants. Practice of fast was reported by nursing students as occasionally (50.9%) and not at all (42%).

There were very few i.e. 2.7% who ate outside on daily basis while around 29.5% ate occasionally (Table 1).

Table 1: Demographic Characteristics of the Nursing Students (n=112)

Socio-demographic Variable	Frequency (%)	Dietary Pattern	Frequency (%)
Age		**Eating Pattern**	
17-19	25 (22.3)	Vegetarian	46 (41.1)
20-22	79 (70.5)	Eggitarian	22 (19.6)
23-25	08 (7.1)	Non Vegetarian	44 (39.3)
Academic Year		**Three Meal Status**	
1st Year	43 (38.4)	Yes	95 (84.8)
2nd Year	23 (20.5)	No	17 (15.2)
3rd Year	23 (20.5)	**Main Meal of the Day**	
4th Year	23 (20.5)	Dinner & Breakfast	94 (83.9)
Religion		Breakfast	07 (6.3)
Hindu	96 (85.7)	Lunch	05 (4.5)
Sikh	07 (6.3)	Dinner	04 (3.6)
Muslim	04 (3.6)	Breakfast & Lunch	01 (0.9)
Others (Christian, Buddhist)	05 (4.5)	Lunch & Dinner	01 (0.9)
Marital Status		**Meal Regularity****	
Unmarried	109 (97.3)	3 Meals Regularly	84 (75)
Married	03 (2.7)	Skipping meal with substitute	21 (18.8)
Type of Family		Skipping without substitute	07 (6.3)
Joint	22 (19.3)	**Reason for skipping meals****	
Nuclear	88 (78.6)	Food not Tasty	21 (18.8)
Extended	02 (1.8)	Shortage of time	04 (3.6)
Father's Education		Health factors	02 (1.8)
Professional Degree	27 (24.1)	Others (Laziness)	01 (0.9)
Academic Degree & Above	30 (26.8)	**Substitute for Skipped Meals****	
Senior Secondary	38 (33.9)	Junk Food	13 (11.6)
Secondary Level	14 (12.5)	Beverages	02 (1.8)
Primary School	02 (1.8)	Snacks*	15 (13.4)
Illiterate	01 (0.9)	Fruits/Juices	15 (13.4)
Mother's Education		Others (Khoya, Panjiri)	01 (0.9)
Professional Degree	13 (11.6)	**Practice of Fast**	
Academic Degree & Above	33 (29.5)	Not at all	47 (42)
Senior Secondary	24 (21.4)	Twice a week	02 (1.8)
Secondary Level	19 (17)	Weekly	06 (5.4)
Primary School	14 (12.5)	Occasionally	57 (50.9)
Illiterate	09 (8)	**How often you eat outside**	
Family Monthly Income (Kuppuswamy scale[12])		Daily	03 (2.7)
Rs 44,418 or above	44 (39.3)	Weekly	37 (33)
Rs 22,209-44,417	40 (35.7)	Monthly	20 (17.9)
Rs 16,657-22,208	12 (10.7)	Occasionally	33 (29.5)
Rs 11,104-16,656	09 (8)	Rarely	19 (17)
Rs 6,663-11,103	03 (2.7)		
Rs 2,243-6,662	04 (3.6)		
Less than 2,242	00 (00)		

*Home-made preparation like namkin, biscuits, dry fruits; ** Multiple response questions

Table 2: Mean and standard deviation of dietary pattern scores N=112

Dietary Pattern	Possible Range of Scores	Minimum Score	Maximum Score	Mean ± SD
Unhealthy Dietary Pattern	0-60	8	46	24.58±7.61
Healthy Supplementation Pattern	0-60	9	52	34.85±8.64

Table 3: Association between unhealthy dietary patterns and healthy supplementation with demographic variables among nursing students (n=112)

Demographic Variables	Unhealthy Dietary Pattern			Healthy Supplementation		
	Score (Mean±SD)	F Value	P Value	Score (Mean±SD)	F Value	P Value
Age						
17-19	23.28±7.34	0.626	0.537	38.84±6.38	0.217	0.805
20-22	25.10±7.67			34.62±9.36		
23-25	23.50±8.28			34.12±8.04		
Academic Year						
1st Year	25.46±6.90	0.401	0.753	36.41±9.42	1.348	0.263
2nd Year	24.30±7.67			32.60±6.85		
3rd Year	24.43±8.30			35.78±8.63		
4th Year	23.34±8.40			33.26±8.49		
Religion						
Hindu	24.92±7.56	0.653	0.582	35.09±8.11	0.343	0.794
Sikh	21.85±7.38			31.71±8.67		
Muslim	21.00±9.12			35.50±18.26		
Others (Christian, Buddhist)	24.60±8.73			34.20±11.34		
Type of Family						
Joint	25.68±6.74	1.235	0.295	36.13±7.24	1.676	0.192
Nuclear	24.47±7.73			34.31±8.93		
Extended	17.00±11.31			44.50±2.12		
Father's Education						
Professional Degree	24.81±8.63			35.48±8.62		
Academic Degree & Above	26.26±7.66	2.194	0.06	34.10±7.30	0.266	0.931
Senior Secondary	22.65±7.18			35.00±9.66		
Secondary Level	27.35±4.03			34.57±9.32		
Primary School	21.00±8.48			33.00±11.31		
Illiterate	9			43		
Mother's Education						
Professional Degree	24.84±10.17			39.30±7.60		
Academic Degree & Above	26.09±6.90	1.426	0.221	35.42±6.30	1.9	0.1
Senior Secondary	24.83±8.46			34.41±8.78		
Secondary Level	24.52±5.24			36.00±9.09		
Primary School	24.28±6.49			29.85±9.78		
Illiterate	18.55±8.44			32.88±11.92		
Family Monthly Income (Kuppuswamy scale)						
Rs 44,418 or above	24.50±9.00			34.25±8.47		
Rs 22,209-44,417	25.37±6.38	0.782	0.565	35.52±8.15	0.834	0.528
Rs 16,657-22,208	22.66±7.93			36.25±10.05		
Rs 11,104-16,656	22.33±6.72			36.77±7.94		
Rs 6,663-11,103	30.66±5.50			33.33±7.50		
Rs 2,243-6,662	23.75±2.21			27.50±13.77		

***Significant (p< 0.05)**

Dietary patterns of nursing students were evaluated as unhealthy dietary pattern and healthy supplementation habits and scores were calculated out of possible range of score 0-60. Mean and standard deviation for both the assessment were analyzed as 24.58±7.61 and 34.85±8.64 respectively. (Table 2)

Association between unhealthy dietary pattern, healthy supplementation and selected demographic and eating habits variables were analyzed using ANOVA. It depicts that there was a significant association between unhealthy dietary pattern with exercise routine ,main meal of the day, meal regularity, practice of fast and how often you eat outside where calculated F value was higher than tabulated F value at p<0.05 level of significance. (Table 3& 4)

DISCUSSION

Nursing is among those professional courses that are more challenging as it demands more time and efforts and we all know that healthy food and nutrition are mandatory to maintain optimal level of functioning both physically and psychologically. Moreover, college students are more prone to unhealthy dietary practices because of sudden change in environment. Studies have reported many factors for poor dietary habits of students like limited food options[13], specific timings for meal, staying away from home, environmental changes and different social network.[13,14] Present study also highlighted on the maladaptive eating behavior of nursing students along with revelation on their current eating habits over the past few months.

Table 4: Association between unhealthy dietary patterns with eating habit variables among nursing students (N=112)

Eating Habit Variables	Unhealthy Dietary Pattern			Healthy Supplementation		
	Score (Mean±SD)	F Value	P Value	Score (Mean±SD)	F Value	P Value
Eating Pattern						
Vegetarian	24.95±7.52	2.338	0.101	34.89±7.89	0.186	0.83
Eggitarian	27.09±5.70			33.90±8.24		
Non Vegetarian	22.93±8.26			35.29±9.76		
Main Meal of the Day						
Dinner & Breakfast	24.31±7.46	1.746	0.131	35.56±7.86	3.889	0.003*
Breakfast	29.57±2.37			29.28±8.40		
Lunch	25.80±7.79			39.00±13.32		
Dinner	25.75±12.65			27.50±6.40		
Breakfast & Lunch	20			42		
Lunch & Dinner	8			9		
Meal Regularity**						
3 Meals Regularly	24.08±7.63	4.198	0.018*	36.22±8.44	4.509	0.013*
Skipping meal with substitute	23.95±6.59			30.52±9.02		
Skipping without substitute	32.42±6.65			31.42±4.35		
Practice of Fast						
Not at all	24.06±7.67	1.04	0.378	33.70±9.36	0.605	0.613
Twice a week	18.00±4.24			38.50±0.70		
Weekly	28.16±7.54			37.00±7.21		
Occasionally	24.85±7.60			35.45±8.30		
How often you eat outside						
Daily	25.33±15.17	5.414	0.001*	43.33±8.50	2.218	0.072
Weekly	27.91±7.77			33.70±7.62		
Monthly	26.45±6.65			35.30±8.10		
Occasionally	22.42±6.22			37.03±8.49		
Rarely	19.73±5.94			31.52±10.17		

***Significant (p< 0.05)**

Breakfast is generally considered to be the major meal of the day as it gives an energetic start and maintains energy level for body's functioning throughout the day. Present study reports an impressive findings that majority of the students (84.8%) were taking three meals per day and this is in line with a study carried out by Sharma SK et al.[9] Dinner and breakfast were considered as the main of the day by almost 83.9% which is greater to the another study findings conducted by Vibhute N[15] where 68% respondents reported breakfast as their important meal. Present study findings are contrary to a descriptive study carried out by Ackuaku- Dogbe and Abaidoo[16] among medical students which reported that overall 71.92% students skipped their breakfast.

Current study result shows that 25.1% students skipped their meal with substitute and without substitute and this finding is similar to a study done by Sharma SK et al.[9] which concluded that 32.5% study subjects skipped meal with substitute. Another study carried out among 138 students reported that 58.4% students consume fast food whenever skipping meals and around 34% out of them students skipped meal due to non-availability of homemade food and rest because of lifestyle. Contrary findings are reported in present study where 18.8% skipped meal because of tasteless food, followed by shortage of time (3.6%), health factors (1.8%) and others (0.9%).[17]

In regard to food options for snacking, only 13.4% reported that they consume packed juices as a substitute for their skipped meal while others preferred home-made fried snacks and bakery products 13.4% and around 11.6% did compensate it with junk food. A study done by Sharma et al.[18] reported high consumption that 20.5% students consumed junk food followed by snacks (20%), beverages (7%) and only very few were taking fruits (3.5%). These facts are troublesome because increase consumption of junk foods and skipping meals can cause serious health problems among medical student in future. Many researchers have reported that there is a high prevalence of developing cardio-vascular diseases[17], coronary artery diseases[18] and risk for other chronic illnesses[19] among students in health care profession.

Present study reported an interested finding regarding students unhealthy dietary pattern (mean score 24.58±7.61) but also reported that students were also consuming healthy supplementation (mean score 34.85±8.64). These contradictory findings may be because nursing students are aware about side effects of junk food and they tried to achieve nutritional demand or compensate un-

healthy eating habits through healthy supplementation. These findings are in line with another study done by Abraham S et al.[20] where students consumed junk food but at the same time they also ate fruits more frequently to maintain good nutritional status. It is really important to understand that healthy diet can never undo the harms or side-effects of function for junk food.

Study results reported statistical significant association between unhealthy dietary pattern and healthy supplementation with selected eating habit variables (meal regularity, main meal of the day and frequency of eating outside). Another similar study findings concluded that participants' characteristics have significant relationship with dietaryactivity.[21] Nursing students were involved in unhealthy eating and at the same time they are equally indulged in healthy supplementation. It is important that nursing students understand the importance of healthy eating and influence others i.e. their patients and community for practicing healthy eating in order to promote overall health and well-being.

CONCLUSION

Nursing students are into unhealthy dietary practices and being a part of health care profession it is important for them to understand the necessity of nutrition and healthy eating. Nursing students can serve as an important link to spread community awareness on benefits of healthy eating to promote health and well-being among patient and community at large.

REFERENCES

1. Deshpande S, Basil MD, Basil DZ. Factors Influencing Healthy Eating Habits Among College Students: An Application of the Health Belief Model. Health Marketing Quarterly. 2009; 26(2):145-64.
2. Nicklas, T. A., Baranowski, T., Baranowski, J. C., Cullen, C., Rittenberry, L., & Olvera, N. (2001). Family and child-care provider influences on preschool children's fruit, juice, and vegetable consumption. Nutrition Reviews, 59,224–235.
3. Driskell JA, Meckna BR, Scales NE. Difference exist in the eating habits of university men and women at fast food restaurants. Nutrition Research. 2006; 26(10):524-30.
4. zzBrynat R, Dundes L. Fast food perception: A pilot study of college students in Spain and United State. Apetite.2008; 51(2):327-30.
5. Augustine LF, Poojara RH. Prevalence of obesity, weight perceptions and weight control practices among urban college going girls. Indian Journal of Community Medicine 2003; 28(4):187-190.
6. Kaur S, Sachdev HPS, Dwivedi SN et al. Prevelance of overweight and obesity amongst school children in Delhi, India. Asia Pac J Clin Nutr. 2008; 17(4):592-96.
7. Alghamdi E, Farrash M, Bakarman M, Mukhtar A. Dietary Habits of University Students Living at Home or at University Dorm: ACross-Sectional Study in Saudi Arabia. Global Journal of Health Science. 2018; 10(10):50.
8. El-Gilany A-H AF, Abdel-Haddy DM, Damanawy RE. Consumption and Knowledge of fast/junk food among medical students. TAF Preventive medicine bulletin. 2016; 15(5):440-45.
9. Sharma SK, Mudgal SK, Thakur K, Gaur R, Aggarwal P. Lifestyle behavior of budding health care professionals: A cross-sectional descriptive study. J Family Med Prim Care 2020; 9:3525-31.
10. Papadaki A, Hondros G, A Scott J, Kapsokefalou M. Eating habits of university students living at, or away from home in Greece. Appetite 2007; 49(1):169-76.
11. Sharma SK, Mudgal SK, Thakur K, Gaur R. How to calculate sample size for observational and experimental nursing research studies? Natl J Physiol Pharm Pharmacol 2020; 10(1):1-8.
12. Wani RT. Socioeconimic status scales-modified Kuppuswamy and Udai Pareekh's scale updated for 2019. J Family Med Prim Care 2019; 8: 1846-9.
13. Brown O, O'Connor L, Savaiano D. Mobile MyPlate: A pilot study using text messaging to provide nutrition education and promote better dietary choices in college students. J Am Coll Health.2017;62:320-27
14. Das B, Evans E. Understanding weight management perceptions in first- year college students using the health belief model. J Am Coll Health. 2014; 62:488-97.
15. Vibhute N, Baad R, Belgaumi U, Kadashetti V, Bommanavar S, Kamate W. Dietary habits amongst medical students: An institution-based study. Journal of Family Medicine and Primary Care. 2018;7(6):1464
16. Ackuaku-Dogbe E, Abaidoo B. Breakfast eating habits among medical students. Ghana Med J.2014; 48:66–70.
17. Purohit G, Shah T, Harsoda JM, Prevalence of obesity in Medical students and its correlation with cardiovascular risk factors: Emergency Alarm for Today ?, Kathmandu University Med Journal. Oct-Dec 2015; 13(52):341-345.
18. Sharma SK, Kaur J, Kaur J, Kaur J, Kaur K. A descriptive study on dietary pattern and bio physical profile among nursing students. Nursing and Midwifery Research Journal, vol-5, No.2, April2009.
19. Badiger S, Kini S, Kumar N. Dietary patterns among students of health sciences and its association with morbidity in a private medical university of coastal Karnataka: a cross sectional study. Int J Community Med Public Health. 2017Aug; 4(8):2870-74.
20. Abraham S, Noriega Brooke R, Shin JY. College students eating habits and knowledge of nutritional requirements. J Nutr Hum Health. 2018;2(1):13-17
21. Salma KJ, Wafaa AA, Zainab A. A study of eating habits among female nursing students in the university of Babylon/Iraq. Journal of Contemporary Medical Sciences. 2016;2(4):141-147.