



Original Research Article

Unhealthy dietary behaviours among college going youth in Delhi

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ARTICLE INFO

Article history:

Received 25-06-2022

Accepted 05-07-2022

Available online 20-07-2022

Keywords:

Unhealthy dietary behaviours

Snack

Youth

College students

ABSTRACT

Introduction: College students are widely reported to engage in unhealthy lifestyle behaviours including unhealthy eating behaviours such as high consumption of snack foods, high consumption of fast foods and insufficient consumption of fruit and vegetable.

Materials and Methods: This study was conducted in two randomly selected colleges of Delhi. A list of all colleges located in Delhi was made from which two colleges were selected randomly. A pre-tested, structured, semi-open ended questionnaire was used to collect information.

Results: The study sample of 101 comprised of college going youth of Delhi of which 51 (50.5%) were female. The mean (\pm SD) age of respondents was 19 (\pm 0.9) years. The study found that 77.2%, 56.4% and 20.8% study participants do not eat fruits every day, do not eat vegetables every day and eat food items like French-fries etc. every day, respectively. The 38.6% study participants reported eating snacks every day between the meals. Participants who were not doing part-time job had significantly higher unhealthy dietary behaviours than participants with part-time job ($p = 0.024$).

Conclusion: The health promotion in terms of healthy dietary habits is needed among college going youth. College students should be encouraged to adopt healthy dietary habits and eat breakfast regularly.

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1. Introduction

Youth are the precious human resource for strengthening the economic, cultural and political development of the country.¹ The United Nation (UN) defines 'youth' as those persons between the ages of 15 and 24 years.² Around 16% of world's population is youth as per the United Nations.³ As per Indian census 2011, one-fifth of India's population is youth. India has the highest number of youth as compared to any other country in the world, at present.¹

Youth is the window of opportunity that sets the stage for a healthy and productive adulthood and to reduce the likelihood of health problems in later years.⁴ Entering

college from school comes with many changes in terms of academic workloads and lifestyles and youth face many challenges to adapt this new environment. Studies shown that college students live a busy life as many besides attending college and studying, work and go out with friends, which leads to a stressful lifestyle for many and they most often end up in unhealthy risk behaviours.⁵ The term 'Health Behaviour' refers to any activities that the individual might undertake while believing that they are healthy, in order to minimize the likelihood of future disease.⁶ 'Health Risk Behaviours' (HRB) are defined as social behaviours that are associated with inherent and inconstant degrees of risk to health.⁷ According to Centers for Disease Control and Prevention (CDC), USA health risk behaviours are the behaviours which have

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negative impact on health. The CDC addresses six priority health risk behaviours of youth, which many research, showed them to be the leading cause of morbidity and mortality among adult and youth. The behaviours adopted during this phase set the stage for current health status and in later years of life. These six priority health risk behaviours are: behaviours that contribute to unintentional injuries and violence (including suicide), tobacco use, alcohol and other drugs use, unhealthy dietary behaviors, physical inactivity and sexual behaviours that contribute to unintended teen pregnancy and sexually transmitted infections (STI), including human immunodeficiency virus (HIV).⁸

A healthy diet helps to protect against malnutrition in all its forms, as well as noncommunicable diseases (NCDs), including such as diabetes, heart disease, stroke and cancer. Unhealthy diet and lack of physical activity are leading global risks to health. A healthy diet includes the following:⁹ (i) Fruit, vegetables, legumes (e.g. lentils and beans), nuts and whole grains (ii) At least five portions of fruit and vegetables per day (iii) Less than 10% of total energy intake from free sugars and (iv) Less than 30% of total energy intake from fats. College students face many challenges and engage in poor dietary habits, such as high intake of fast foods and other foods high in fat, low intake of fruits, vegetables, and dairy, and erratic eating behaviors such as meal skipping. The barriers to the healthy diet among college students are:¹⁰ (i) Individual-level - Not exercising, not eating healthful food, time constraints, unhealthy snacking, convenience food, bad mood & stress, high prices, junk food and home availability. (ii) Social-level - Parental food behaviours and influence, friends' pressure and influence and low food culture. (iii) University Environment - College's dining services, availability of high-calorie food and fast food. Eating healthy meals has been linked to higher grades, better memory and alertness. The food rich in fibre, protein, and healthy fats such as eggs, yogurt, apples and oatmeal keep the body feeling full longer, providing enough energy to focus and stay alert throughout the entire day. Healthy eating habits provide good sleep, keep mental health good, helps in weight management and faster information processing.¹¹

This study was carried out with the purpose of finding out the prevalence of various health risk behaviours among the college going youth in Delhi. It also sought to study the association, if any, of the health risk behaviors with various socio-demographic characteristics of the subjects. In this paper, the findings concerning unhealthy dietary behaviours among the college going youth are presented.

2. Materials and Methods

The study was the cross-sectional analysis of the study population. The study subjects were college going youth aged 18-24 years enrolled in colleges located in Delhi.

The study, being a doctoral thesis research, was reviewed and approved by the institutional ethics committee. The study was conducted in two randomly selected colleges of Delhi. A list of all colleges located in Delhi was made from which two colleges were selected randomly. Permission was obtained from the Head of the Institution of each selected colleges. A list of all the classes was obtained for each of the selected colleges. A combined list of all the classes was made. Classes were randomly drawn from this list using a table of random numbers, till the minimum required number of students had been interviewed. All students in the selected class, present on the day of interview, were eligible for participation.

Prior to initiation of interview, the nature and purpose of the study was explained and students were assured about the confidentiality of the collected data. Sufficient time was spent to explain the importance of the study and doubts, if any, was clarified. The students were also be informed that participation in the study was voluntary. Written informed consent were obtained. Both English and Hindi versions of the questionnaires were made available to the students and based on their language preference one was finally administered. The participants were requested to provide correct and complete information in the questionnaire.

A pre-tested, structured, semi-open ended questionnaire was used to collect information regarding socio-demographic details (age, sex, academic year, living condition, father and mother education, family type, marital status etc.) and health risk behaviours: alcohol and other drug use, behaviours that contribute to unintentional injuries and violence (including suicide), tobacco use, unhealthy dietary behaviours, physical inactivity and sexual behaviours that contribute to unintended teen pregnancy and sexually transmitted infections, including HIV. The instrument has been prepared through a review of validated instruments in use globally for understanding youth risk behaviours, including in India. The questionnaire of youth risk behaviour surveillance used for collecting data on unintentional injuries and violence including suicide, unhealthy dietary behaviours, tobacco use, alcohol and other drugs use and sexual behaviours,¹² International Physical Activity Questionnaire - Short Form used for collecting data on physical activity,¹³ PHQ-4: the four-item patient health questionnaire for anxiety and depression. Total score is determined by adding together the scores of each of the 4 items, and total score ≥ 3 for first 2 questions suggests anxiety and total score ≥ 3 for last 2 questions suggests depression.¹⁴

An Asset score had been designed which was taken as surrogate for socio-economic status (SES). It included the number of cars (0-3+), house (0-3+), bike/scooter/scooty (0-3+), air conditioner (0-3+), computer/laptop (0-3+) and washing machine (0-3+). Asset score was calculated by summing the number of assets owned by family. Asset

score was used to dichotomize the SES as 'Higher' and 'Lower' with median being used as cut-off. Data was entered in MS Excel and analysed with SPSS software version 20.0. Descriptive statistics were calculated for socio-demographic variables: mean & standard deviation for quantitative variables and frequency and percentage for qualitative variables. The statistical tests of significance to be applied for testing associations between variables of interest included chi square test for qualitative variables (Fisher's exact test, if required), and independent sample t test for quantitative variables.

3. Results

This study provides insight into the prevalence of the unhealthy dietary behaviours among the college going youth in Delhi. The study was conducted among 101 participants, aged 18 – 24 years enrolled in colleges located in Delhi. The mean age of the participants was 19.6 ± 0.98 years. In this study 51 (50.5%) were male participants. In this study, all participants were undergraduate and belonged to science stream. Out of 101, 82 (81.2%) participants belonged to 2nd year and 19 (18.8%) participants were 3rd year. A little over half of the participants (56.4%) were residing with the family at the time of interview. The detail of socio-demographic factors given in Table 1. The participants were asked about their dietary behaviours of the past 7 days. The study found that in the past 7 days, 82.4% male participants and 72% female participants didn't eat fruit every day and 56.9% male and 56% female participants didn't eat vegetable every day. The 7.8% male participants and 2% female participants responded they drank carbonated soft drinks every day in the past 7 days. In the past 7 days, the 51% male participants and 44% female participants reported that didn't drink milk every day and 70.6% male participants and 58% female participants responded they didn't eat breakfast daily. The dietary behaviours of male and female participants were given in Table 2. The participants who were found being at-risk in a health risk behaviour domain: a subject is termed as being 'at-risk' in a health risk behaviour domain, if he/she reported having any one or more of the risk behaviours that comprised the particular behaviour domain. In the study we found the prevalence of unhealthy dietary behaviours was 96.0% (97/101). The unhealthy dietary behaviours were compared with various socio-demographic factors in the study to look out any association with them. The study found that participants with part-time job had significantly higher unhealthy dietary behaviours than participants with no part-time job ($p = 0.024$). However, no significant association was found with age, gender etc.

Table 1: Distribution of study participants by their socio-demographic characteristics (n = 101)

Characteristics	Categories	n (%)
Age	19	46 (45.5)
	20	36 (35.6)
	21	7 (6.9)
	18	6 (5.9)
	22	4 (4.0)
	23	2 (2.0)
Gender	Male	50 (49.5)
	Female	51 (50.5)
	Others	0
Year of college	First year	82 (81.2)
	Second year	19 (18.8)
Stream	B.Sc. Chemistry Hons	35 (34.7)
	B.Sc. Zoology Hons	33 (32.7)
	B.Sc. Botany Hons	19 (18.8)
	B.Sc. Life Science Hons	14 (13.9)
	With family	57 (56.4)
Current Residence	Hostel	11 (10.9)
	PG accommodation	25 (24.8)
	Local guardians	4 (4)
	Others	4 (4)
	Unemployed	0
Father's current occupation	Own business	36 (35.6)
	Government job	34 (33.7)
	Professional (Doctor/Engineer/Lawyer/Actor etc.)	9 (8.9)
	Private job	12 (11.9)
	Farmer	6 (5.9)
Mother's current occupation	Parent not alive	4 (4)
	Don't know	0
	Unemployed	87 (86.1)
	Own business	1 (1)
	Government job	5 (5)
Year of education of father (n = 99, missing = 2)	Professional (Doctor/Engineer/Lawyer/Actor etc.)	4 (4)
	Private job	1 (1)
	Farmer	1 (1)
	Parent not alive	1 (1)
	Don't know	1 (1)
Year of education of mother	10 years or less	7 (6.9)
	11-12 years	19 (18.8)
	13 - 15 years	39 (38.6)
	More than 15 years	34 (33.7)
	10 years or less	32 (31.7)
Work for income	11 - 12 years	28 (27.7)
	13 - 15 years	21 (20.8)
	More than 15 years	20 (19.8)
	Yes	88 (87.1)
	No	13 (12.9)

Table 2: Unhealthy dietary behaviours among male and female participants

Unhealthy dietary behaviours (In the past 7 days)	Male		Female		Total	
	n (51)	%	n (50)	%	n (101)	%
Who don't eat fruit every day	42	82.4	36	72	78	77.2
Who don't eat vegetables every day	29	56.9	28	56	57	56.4
Who eat food items like French-fries etc. everyday	13	25.5	8	16	21	20.8
Who drink carbonated soft drinks everyday	4	7.8	1	2.0	5	5.0
Who do not drink milk everyday	26	51.0	22	44.0	48	47.5
Who don't eat breakfast daily	36	70.6	29	58.0	65	64.4

4. Discussion

University student populations are widely reported to engage in unhealthy lifestyle behaviours including unhealthy eating behaviours such as high consumption of snack foods, high consumption of fast foods and insufficient consumption of fruit and vegetables. The 96% participants were found to be at-risk of unhealthy dietary behaviours in the current study. The higher finding in the current study because any positive finding in the domain was considered as at-risk behaviour. Such high finding could be due to fast food and soft drink consumption more than one time a day and the frequent skipping of breakfast. Previous studies conducted among college students reported that only 50% college students eat a healthy diet,¹⁵ 31.6% fell within the cluster of risky eating behaviour¹⁶ and 29.8% showed poor dietary behaviours.¹⁷ The current study found that 77.2% didn't eat fruits every day and 56.4% participants didn't eat vegetables every day. The study conducted in Australian college students resulted that half of the participants (49.3%) were not meeting fruit consumption recommendations and 89.5% were not meeting vegetable consumption recommendation.¹⁸ CDC's 2019 national youth risk behaviour survey (YRBS) reported that 41.8% and 40.7% of students had not eaten fruits and vegetables daily.¹² The other study also reported that 76% and 82% did not meet the daily recommendations for fruit and vegetable intake.¹⁹ In the current study we found that 20.8% ate food items like French-fries etc. every day and 38.6% eat snack everyday between the meals. Other studies also reported 17% consumed fast food daily,²⁰ more than half of the participants had a habit of snacking between the meals.²¹ The study explored that 64.4% didn't eat breakfast daily, findings higher than CDC's 2019 YRBS, 16.7% had not eaten breakfast on all 7 days,¹² 26.2% reported to skip breakfast commonly.²¹ The current study found that 97% rarely/sometimes/most times/ always watch a screen while having a meal, 5% drink carbonated soft drinks every day and 47.5% did not drink milk every day. The CDC's 2019 YRBS 15.1% had drunk sugar-sweetened soda or pop every day.¹² The other study¹⁵ reported that 70% did not drink recommended glasses of milk daily. The significant association were found between the unhealthy dietary

behaviours and participants who did part-time job. The reason behind this could be frequent skipping of breakfast and participants who worked part-time might be belonged to low socio-economic status.

The present study has some limitations, firstly that it was a cross-sectional study and the findings of this study were based on self-report data rather than direct observation, which has the risk of source bias. The self-administered questionnaire can lead to over-reporting or under-reporting.

5. Conclusion

College life for youth can be both exciting and stressful. New freedom and responsibilities give them a control over their lifestyles. Thus, college going youth have an option either to adopt healthy behaviours or unhealthy risk behaviours. Healthy dietary behaviours prevent from diseases like cardiovascular diseases, certain cancers, type 2 diabetes and also from anxiety and depression. The healthy diet also boost immunity. Food choices made by the youth also important, frequent junk food consumption should be avoided by the college going youth as the behaviours that are adopted during this phase will set the behaviours of adulthood. We recommend that benefit of eating healthy diet should be taught to students at an early age, and they should be made aware of diseases that can occur due to unhealthy dietary behaviours so that made their own food choices and careful of their diet. Awareness programme should be organized by the colleges related to healthy diet.

6. Source of Funding

None.

7. Conflict of Interest

None.

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Cite this article: Bhawna, Sharma R, Sharma AK. Unhealthy dietary behaviours among college going youth in Delhi. *Southeast Asian J Health Prof* 2022;5(2):33-37.