ORIGINAL ARTICLE

Knowledge, Attitude and Practice Regarding Dietary habits and Physical activity in Undergraduate medical students of district Etawah, Uttar Pradesh

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ABSTRACT

Background: The resurgence of interest in the intricate relationship between nutrition and health reflects the escalating burden of lifestyle diseases on the healthcare system. The imperative for medical students to embody a healthy lifestyle is underscored by their pivotal role as future advocates of health promotion. **Aims & Objectives**: This study aims to assess the knowledge, attitude, and practices regarding dietary habits and physical activity among undergraduate medical students of district Etawah of Uttar Pradesh. **Material and Method**: A cross-sectional survey was carried out in UPUMS, Saifai, Etawah and 153 study subjects were recruited using the purposive sampling method. All the first-year undergraduate medical students who had given consent to participate were included in the study. **Results:** Approximately half of the participants were able to identify healthy foods, with 84.4 percent recognizing the hypertensive risks associated with excessive salt intake. The majority exhibited positive attitudes, such as the importance of daily water consumption (85.7%), awareness that sweet foods/drinks could be detrimental to health (79.8%), and the acknowledgment that fast foods have adverse health effects (70.1%). **Conclusion**: While a substantial majority of medical students showcased awareness regarding the significance of a healthful diet and regular exercise, the translation of this knowledge into consistent practices warrants attention.

KEYWORDS

Medical Students; Dietary Habits; Physical Activity; Knowledge; Attitude; Practice; Cross-Sectional Study

INTRODUCTION

Contrary to prevalent belief that medical students, possess superior knowledge of lifestyle habits (1), research indicates their higher susceptibility to abnormal eating patterns, inactivity, and addiction. (2) This can be attributed to modern dietary patterns, characterized by reduced consumption of dietary fibres, vegetables, and fruits, coupled with increased intake of high-fat, sugary, and

salty foods. (3) Simultaneously, sedentary activities like watching television, accessing internet, and playing video games have become common among these students. (4)
Regular physical activity not only lowers chronic disease risks and improves mental health but is also endorsed by World Health Organization, which recommends at least 150 minutes of moderate to vigorous activity weekly for health preservation. (5,6,7) The crucial interplay between knowledge, attitudes, and behaviors in health management highlights a noticeable gap in nutritional education for medical students. (8,9,10) Prior research highlights inadequacy of information for significant changes in preventive behavior, requiring increased knowledge; however, employing attitudes, beliefs, self-efficacy, and an effective call to action can enhance the impact on health-related behaviors. (11,12)
This study focuses on crucial yet often neglected aspect of lifestyle of undergraduate medical students, aiming to evaluate their knowledge, attitude, and practices concerning dietary habits and physical activity.

Aim & Objectives

1. To assess the knowledge and attitude regarding dietary habits and physical activity among undergraduate medical students of district Etawah of Uttar Pradesh.
2. To assess the practices regarding dietary habits and physical activity among undergraduate medical students of district Etawah of Uttar Pradesh.

MATERIAL & METHODS

Study Type: A cross-sectional survey approach.
Study Population: First year undergraduate medical students.
Study area: This study was conducted at Uttar Pradesh University of Medical Science, Saifai, Etawah.
Sample size: A purposive sampling method was used to recruit a total of 153 study subjects.
Inclusion criteria: All first-year undergraduate medical students from UPUMS, Saifai, who provided consent to participate were eligible for inclusion in the study.
Exclusion criteria: The students who were absent on the day of the interview were excluded from study.
Strategy: Information pertinent to the study objectives was collected using a semi-structured, pre-tested, and interviewer-administered questionnaire. Participants received detailed explanations regarding the study's aims and objectives before providing written informed consent. Anthropometric measurements, including weight and height, were taken at the conclusion of the interview. Weight was measured using an electronic weighing scale (Dr. Trust-514 Quick Silver), with precision up to 0.01 kg, while height measurements were obtained using a stadiometer with precision up to 1 cm. To ensure accuracy, scale indicators were verified against zero readings before and after weighing each participant, and instruments were calibrated as necessary.

Ethical clearance: Ethical approval for this study (Ethical clearance no. 234/2020-21) was provided by the Institutional Ethics Committee, UPUMS, Saifai, Etawah.

Data Analysis: Data was entered into an Excel spreadsheet and analyzed using SPSS version 24.0, software developed by IBM Inc. in Chicago, USA. For the statistical analysis of data, proportions, mean and standard deviations were calculated.

RESULTS

A total of 153 participants were recruited after applying the inclusion and exclusion criteria. The mean age of the study participants was 20.56 ± 1.16 years. The gender-wise distribution of participants shows around 62.0 percent male and 38.0 percent female. The majority of the study subjects in the study were Hindus (90.0%), and the category-wise distribution shows that most of the study participants were from the Unreserved category (39.2%), followed by 38.6 percent from Other Back-ward Classes and 22.2 percent were from Scheduled Caste/Scheduled Tribes. Almost half of the

participants (50.9%) belonged to the upper socioeconomic class and among the total study participants, the majority (65.3%) lived in nuclear families. (Table 1)

Table: -1 Socio-Demographic Profile of study participants(n=153)

	Variable	Frequency (n)	Percentage (%)
Gender	Male	95	62.0
	Female	58	38.0
	Caste		
	Unreserved	60	39.2
	OBC	59	38.6
	SC/STs	34	22.2
Education of Parent	Intermediate	39	25.4
	Graduate	70	45.75
	Post Graduate	31	20.2
	Illiterate	13	8.4
Number of Family Member	5 or less	51	33.3
	More than 5	102	66.6
	Type of Family		
	Nuclear	100	65.3
	Joint	52	33.9
	Three generation	01	0.6
Socio-Economic class*	Upper class	78	50.9
	Upper middle class	32	20.9
	Lower middle class	10	6.5
	Upper Lower class	22	14.3
	Lower class	11	7.1

**According to modified BG Prashad classification August,2021*

Most of the participants knew that they should include protein in their daily diet (90.8%), the Importance of vitamins and minerals consumption (88.8%), and that eating fruits and vegetables helps prevent diseases (81.0%). Around half of the participants were able to identify nutritious foods, while 84.9 percent knew that excessive intake of salty foods could lead to hypertension. Most of the participants had a positive attitude towards drinking plenty amount of water every day (86.2%), consuming sweet foods/drinks could be bad for health (90.3%) and fast foods was not good for health (70.5%). In terms of practices, most of the participants had break-fast daily (75.1%), 51.6 percent of the participants infrequently consumed snacks between lunch and dinner, and 60.1 percent of the participants consumed milk four days per week or less. Around 68.6 percent consumed fast foods four days per week or less and carbonated beverages were consumed by 72.5 percent of the participants on four days or less in a week. About 63.4 percent of the participants consumed fruits and about 52.9 percent of the participants consumed legumes and nuts on four days per week or less. (Table 2)

Table: 2 Knowledge, Attitude & Practices regarding Dietary Habits among Study Participants

Variable (n=153)	Frequency (n)	Percentage (%)
Dietary Knowledge		
Ingredients in a balanced diet	107	69.9
Identifying nutritious foods	77	50.3
Hypertension can result from consuming too much salt	130	84.9
Determining which food categories are the healthiest	140	91.5
The significance of consuming vitamins and minerals	136	88.8
Protein is needed for growth	139	90.8
Consuming fruits and vegetables aids in disease prevention	124	81.0
Attitude regarding dietary habits		
I believe that consuming sweet foods and beverages is unhealthy	123	90.3

I believe it is crucial to regularly consume plenty of water	132	86.2
I believe that eating fruits can help to keep me healthy	72	47.0
I believe that fast foods and snacks like potato chips are bad for your health	108	70.5
Dietary Practice		
Breakfast schedule		
Daily	115	75.1
Between meals, grab a snack		
Infrequently	79	51.6
Daily	74	48.4
Milk and Milk product		
Four days per week or less	92	60.1
More than Four days per week	61	39.8
Fast food intake		
Four days per week or less	105	68.6
More than Four days per week	48	31.4
Carbonated Beverage		
Four days per week or less	111	72.5
More than Four days per week	42	27.5
Fruit Intake		
Four days per week or less	97	63.3
More than Four days per week	56	36.7
Sweets and Chocolates		
Four days per week or less	100	65.3
More than Four days per week	53	34.7
Legumes and nuts		
Four days per week or less	81	52.9
More than Four days per week	72	47.0

About 82.3 percent of the participants knew about the recommended daily physical activity and around 90.8 percent of the participants believed that physical activity decreases the risk of diabetes and heart disease, and a similar proportion of the participants believed that it decreases the risk of obesity. The attitude towards the physical activity of most of the participants was appropriate. In terms of the nature of physical activity, walking (80.3%) was the most performed physical activity. The majority of the participants (66.0%) were infrequently practicing recommended physical activity for five days per week. (Table 3)

Table 3: Knowledge, Attitude & Practice regarding Physical activity among study participants

Variable (n=153)	Frequency	Percentage
Knowledge regarding physical activity		
Brisk Walking for 150 minutes per week or 30 minutes per day for 5 days	126	82.3
Diabetes and heart disease risks are reduced by exercise	139	90.8
Risk of obesity is reduced by physical activity	139	90.8
Attitude regarding physical activity		
Value of maintaining a healthy lifestyle	136	88.8
Value of exercise for a healthy life	148	96.7
Regular exercise is often good for health	109	71.2
The entire family should go for an exercise	94	61.4
Practices of physical activity		
Nature of Physical Activity		
Walking	123	80.3
Outdoor Sport activities	30	19.6
Running / Jogging	24	15.6
Cycling	05	3.2
Frequency of practicing physical activity (cycling, running, brisk walking, or swimming) for 150 minutes per week or 30 minutes per day for five days per week		

Variable (n=153)	Frequency	Percentage
Not Practicing	17	11.1
Infrequent	101	66.0
Daily	35	22.8
Frequency of weight lifting or strength training		
Not Practicing	126	82.3
Infrequent	20	13.0
Daily	8	5.2

DISCUSSION

In the present study the gender-wise distribution of participants shows 62.0 percent were male and 38 percent were female. The mean age of study participants was 20.56 ± 1.16 years. In a study conducted by Eman Mokbel Alissa et. al. (13) women made up 68 percent of the 200 medical students, compared to 32 percent of men. In a study conducted by Saeed Ali Alghamdi et al. (14) the average age of 386 students was 21.5 ± 2.10 years, with 310 (80.3%) men and 76 (19.7%) females.

Dietary Knowledge

In the present study, it was found that their overall knowledge of a healthy diet was good. The present study showed that most of the study participants knew that protein was needed for growth, and vitamins, minerals, fruits, and vegetables were important to include in their daily diet. Most of the participants also knew about the composition of a balanced diet, healthy food and excessive intake of salty foods could lead to hypertension. In a study conducted by Eman Mokbel Alissa et al (13) they found that, overall, 75 to 94 percent of the participants knew what made up a balanced diet and how important it is to have enough vitamins and minerals. Only 18 percent to 39 percent of students in their study, how to identify nutritious foods. In a study conducted by Saeed Ali Alghamdi et al. (14) around 57.4 percent of the participants reported about the importance of having breakfast as a component of their diet and only 34.6 percent of the medical students believed that the consumption of vegetables was important. In a study conducted by Shalini Bassi et al. (15), out of the 1026 participants, (25.5%) knew that a balanced diet is important, 67.5 percent understood the value of eating breakfast every day, and (32.6%) understood that eating too much salt might cause hypertension.

Attitude Towards Dietary Habits:

In the present study, the attitude towards the importance of consuming fruits, and vegetables, drinking lots of water every day, and consuming sweet food, drinks, and fast foods was bad for health. In a study conducted by Azrin Shah AB et al. (16) reported that 67.3 percent of the participants believed that snacks like potato chips are bad for them, while only 6.7 percent believed that drinking plenty of water every day was crucial and that eating fruits can protect against diseases. Similarly, 90 percent of participants showed an appropriate attitude towards sweet foods and drinks as bad for health.

Dietary practices:

In this study the dietary habits had mixed findings, most of the participants had breakfast daily (75.1%), while 51.6 percent infrequently consumed snacks between lunch and dinner. Around 60.1 percent of the participants consumed milk on four or less days per week. About 68.6 percent of the participants consumed fast foods on four days per week or less and carbonated beverages were consumed by 72.5 percent of the participants on four days or less. Snacking was common among the participants in the current study. Despite this knowledge, most of the participants consumed carbonated beverages and fast food. In a study conducted by Saeed Ali Alghamdi et al. (14) reported that 34.6 percent consumed vegetables daily while 47.1 percent on some days and 14 percent rarely consumed green vegetables. About 53.7 percent participants in their study consumed fast foods infrequently and 22.1 percent daily in a week. While in response to the frequency of having soft drinks in a week, 18.4 percent of

the medical students said “Always”. This study supports the findings of the present study. When asked about snacks between meals (chips, chocolate, sweets) 45.6 percent consume infrequently, 21.3 percent daily. When asked about tea, coffee and carbonated beverage 51.9 percent consumed those daily and 27.4 percent infrequently.

Knowledge and Attitude Towards Physical Activity:

Knowledge regarding physical activity among the participants of this study was quite good. In a study conducted by Shalini Bassi et al. (15), the participants knew that physical activity lowered the risk of obesity (69.5%), that it's recommended to get 60 minutes of exercise each day (18.9%), and that it also lowers the risk of diabetes and heart disease (66.3%). The present study shows that attitude toward physical activity was also good. In a study conducted by Eman Mokbel Alissa et al (13) found that nearly half of the students felt that physical activity promotes and maintains health. The results of their study provide support to the findings of the current study.

Physical Activity Practices:

The present study shows that physical activity was poor in only 22.8 percent, while weight lifting or strength training was practiced by only 5.3 percent of the participants daily. In a study conducted by Eman Mokbel Alissa et al (13) found that when asked if they engaged in physical exercise, 50 percent of the students indicated “No”, 43 percent said 1-3 times and only a small percentage said 4-6 times and 7 times. In a study conducted by Saeed Ali Alghamdi et al. (14) showed that 22.1 percent of medical students exercised regularly, 41.9 percent occasionally, and 23.5 percent infrequently. When asked which sport participants most frequently engaged in, medical students most frequently selected aerobics (43.7%), followed by ball sports. When asked how much time they spend walking each day, 22.1 percent didn't walk at all, 30.1 percent walked for up to 30 minutes, and 39.1 percent walk for between 10 and 20 minutes.

CONCLUSION

Overall, the majority of medical students were aware of the importance of a healthy diet and regular physical activity. The attitude towards both diet and physical activity was fairly positive but the participants did not put these principles into practice on most occasions. Most of the participants were infrequently performing physical activity recommended for 150 minutes a week.

RECOMMENDATION

Education-based improvements in knowledge, attitudes, and practices toward diet and exercise may aid in the prevention of numerous diseases related to nutrition. The findings of our study may provide some insight into the significance of developing an evidence-based curriculum for healthy eating, physical activity, and the creation of health education materials for the prevention of non-communicable chronic diseases in young people, but most importantly, for the provision of nutrition education to students for the adoption of healthy eating among medical students.

LIMITATION

The homogeneity of the study sample from one medical college is one of the study's limitations. Additionally, the study only included first-year medical students. In addition, compared to the students who did not engage, the participating students who volunteered may have been more eager or driven to respond to questions on dietary habits or physical activity. These factors make the self-reported findings prone to selection bias.

AUTHORS CONTRIBUTION

All authors have contributed equally.

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Nil

CONFLICT OF INTEREST

There are no conflicts of interest.

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven't used any generative AI/ AI assisted technologies in the writing process.

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