

Assessment of Dietary Sources, Eating Habits and Lifestyle Among Pharmacy Students in India

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Abstract

Aim and Objective: *Balanced Diet and their sources play a vital role in maintaining physical, mental and health, especially in college students and in teenagers. Knowledge regarding the dietary source, and eating habits of Pharmacy students is important as health care professionals play critical and central role in management and in accessing the quality of health care population. The purpose of this survey study is assessment of dietary sources, eating habits and lifestyle among pharmacy students in India.* **Methodology:** *This cross-sectional online survey study was conducted during the period of 15th August to 30th August 2021. It was done by the distribution of self-administered questionnaire google form among the students studying in Pharmacy by using social media platform WhatsApp, LinkedIn, Email etc. This questionnaire was sub-divided in to participants consent, demographic detail, questions related to dietary sources, eating habits and lifestyle among the Pharmacy students. The data was automatically recorded in google Drive and the recorded data was analyzed using Microsoft Office Excel and percentage analysis and written in table form.* **Results:** *Total 58% student are hostellers and 42% are day scholars. However, 52.5% participants prefer vegetarian diet, followed by 39.5% Non-Vegetarian, and 8% Vegan diet. According to WHO-BMI classification, BMI was calculated for the study participants: 11.7% participants were noted to be underweight, 45.1% were noted as Normal BMI and 43.2% students were either pre-obesity or overweight.* **Conclusion:** *Fibrous fruits, green vegetables and more amount of water intake is balanced diet. It can decrease the risk of underweight or overweight and development of obesity and any nutritional deficiency disease or disorders. Especially in those students who stay in hostel and take infrequent and irregular meals, together with low green vegetables and fibrous fruits; this is the main reason for being unhealthy. Our conclusion is to counsel the students to reduce the risk of underweight or overweight or obesity and try to avoid the junk food.*

Keywords: Balanced diet, dietary sources, health, pharmacy students, green vegetables, counselling

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INTRODUCTION

The impact of dietary choices on our well-being underscores the critical role of nutrition in not only sustaining health but also in mitigating the risks of various ailments. Having a proper diet and nutrition helps people in young age to have a healthy lifestyle. Many health and health-related issues are prevalent among Pharmacy college students, with studies consistently showing poor eating habits characterized by high intake of high-fat, high-calorie foods [1, 2]. During this dynamic transitional period marked by newfound independence from their parents, college students experience rapid and interconnected changes in their bodies, minds, and social relationships [3]. This new environment often includes increased

workload and stress, disrupted sleep patterns, and other factors that significantly contribute to unhealthy lifestyles among college students. Maintaining an adequate diet, particularly ensuring regular and balanced meals like breakfast, is crucial for promoting a healthy and sound body. It is important to know all the aspects of eating habits among students whose diets often feature low dietary fiber and high intake of carbohydrates such as bread, rice, cereals and refined foods and also with dairy products. A higher consumption of vegetables and fruits, along with a more varied and balanced dietary intake, contributes significantly to overall health and well-being [4].

Dietary patterns such as frequent snacking, skipping meals (especially breakfast), irregular meal timings, reliance on fast food, and low consumption of nutritious foods are prevalent among adolescents and college-aged individuals.

These unhealthy lifestyles may lead to health related problems and develop obesity among students [5]. In order to improve, design and support healthy nutritional campuses, it is crucial to improve knowledge of dietary behaviors in the university-age population [6].

Obesity is recognized as one of the most serious non-communicable diseases, characterized as a chronic condition with multifactorial origins that can affect individuals of all ages. In the population with obesity in younger age, it is likely that these individuals develop morbidity later [7–9]. The development of dietary patterns, physical activity, and a healthy lifestyle in young people plays a crucial role in reducing the risk of obesity later in life. These habits tend to persist over time, making the academic years a pivotal period for shaping lifelong healthy behaviors [10–12].

Low nutritional and more fat intake with less physical activity and changing environment often leads to decreased energy levels of students, decreased immune system functioning and their ability to cope with stress and lack of concentration with health related complications. Researches suggest that students rely too heavily on calorie dense and nutritionally empty foods, since they are fast, easy and relatively inexpensive [13–15].

In this study among the Pharma students regarding the assessment of dietary changes, lifestyle modification, nutritional value, lack of proper dietary supply and obese condition is seen.

METHODS AND METHODOLOGY

Study Design

This study employed a cross-sectional prospective design. All participants were informed about the study's objectives and methods, and provided informed consent via a Google Form.

Study Location

All colleges offering Pharmacy across India were involved in this study.

Study participants

Students who were studying Pharmacy from different institutes.

Study Duration

This study was conducted from 15th August 2021 to 30th August 2021 i.e., 2 weeks (15 days).

Data collection method

A self-administered questionnaire link was created using Google Forms and distributed to known Pharmacy students personally and through faculty members via social networks such as WhatsApp, Instagram, Facebook, Email, and LinkedIn. The questionnaire was comprised with demographic details like student's (gender, residence, year of study) as well as 25 questions were included for Assessment of Dietary Sources, Eating Habits and Lifestyle among Pharmacy Students in India and the data was recorded in Google Drive.

STUDY CRITERIA

The participants' selection was based on the inclusion and exclusion criteria:

Inclusion Criteria

- All students who were studying in Pharmacy.
- All students who were willing to give consent for participation in the study by filling the study google form questionnaire were included in the study.

Exclusion Criteria

- Those students who were not willing to participate were excluded from the study.
- Student who did not understand the data collection form.

Data Analysis

All the recorded Data were analyzed using Microsoft Excel and presented in tables with percentage frequency analysis.

RESULT

A total of 162 students were involved in which 121 were girls and 41 were boys who participated in the study. Out of which 64 students were aged between 18–20 years, 86 students had age between 21–23 years, 10 students had age between 23–25 years and 2 students had age above 25 years. 27 students were from Pharmacy 1st Year, followed by 31 students from 2nd year, 17 student from 3rd Year, 22 students from 4th year, 55 students from 5th year, and 27 students from Internship, as shown in Table 1.

Total 58% student are hostellers and 42% are Day scholars. However, 52.5% participants prefer Vegetarian, followed by 39.5% Non-Vegetarian, and 8% Vegan diet. According to WHO-BMI classification, BMI was calculated for the study participants, 11.7% participants were noted to be underweight, 45.1% were noted as Normal BMI, and 43.2% students were either pre-obesity or overweight. There was no significant difference observed in the pattern of meal intake between male and female students. There was slight difference in the pattern of meals intake between Hostellers and Day scholars. Most male students were found to skip eating daily breakfast with respect to female participants. Most students were found to not have any habit of smoking or drinking alcohol as depicted in Table 2.

Table 1. Demographic detail.

S.N.	Demographic variables		Number of participate	Percentage
	Gender	Male	41	25.3
		Female	121	74.7
1.	Age (years)	18–20	64	39.5
		21–23	86	53.1
		23–25	10	6.2
		Above 25	2	1.2
2.	Current Year of Study	1st Year	27	16.7
		2nd Year	31	19.1
		3rd year	17	10.5
		4th year	22	13.6
		5th Year	55	27.8
		Internship	27	12.3

Table 2. Summary of dietary preferences, meal intake patterns, and health metrics among study participants.

Question	Options	Frequency	%
Are you?	Hosteller	94	58
	Day scholar	68	42
Do you know your current BMI {BODY MASS INDEX = Weight (kg)/height (m) ×height (m)} index?	Less than 18.5 kg/m ²	20	12.3
	18.5–25 kg/m ²	73	45.1
	25–30 kg/m ²	22	13.6
	30–35 kg/m ²	10	6.2
	35–40 kg/m ²	18	11.1
	More than 40 kg/m ²	19	11.7
Which type of meal you prefer in your Diet?	Vegetarian	85	52.5
	Non-Vegetarian	64	39.5
	Vegan	13	8
Do you take breakfast in the morning?	Daily	107	66
	Three to Four times per week	23	16
	One to two times per week	7	4.3
	Rarely	22	13.6
How many times do you eat per day?	1–2 Times	44	27.2
	3–4 Times	117	72.2
	More Than 4 Times	1	0.6
How many caffeinated beverages do you consume per day?	One	129	79.6
	Two	29	17.9
	Three	5	3.1
	More than three	2	1.2
How many times a week do you eat raw nuts or seeds?	Daily	29	17.9
	Three to four times a week	27	16.7
	One to two times per week	38	23.5
	Rarely	68	42
How often do you take fruits in a week?	Daily	23	14.2
	One to two times per week	54	33.3
	Three to four times in a week	37	22.8
	Rarely	48	29.6
How often do you take Junk foods in a week?	Daily	17	10.5
	Three to four times in a week	19	11.7
	One to two times per week	54	33.3
	Rarely	72	44.4
How often do you drink soft drinks in a week?	Daily	8	4.9
	Three to four times in a week	8	4.9
	One to two times per week	35	21.6
	Rarely	111	68.5
How often do you drink milk in a week?	Daily	63	38.9
	Three to four times in a week	24	14.8
	One to two times per week	23	14.2

	Rarely	52	32.1
How often do you eat greens, vegetables in a week?	Daily	52	32.1
	Three to four times in a week	53	32.7
	One to two times per week	42	25.9
	Rarely	15	9.3
Have you ever felt cranky and irritable, weak or tired after skipping a meal?	Yes	61	37.7
	No	54	33.3
	Occasionally	54	33.3
How many bowel movements on an average you have in a day?	One	105	64.8
	Two	60	37
	Three	4	2.5
	More than three	1	0.6
How much of your diet consists of vegetables and non-animal products?	90–100%	28	17.3
	75–89%	54	33.3
	50–74%	49	30.2
	25–49%	18	11.1
	less than 25%	13	8
Have you been avoiding some foods for any health reasons?	Yes	66	40.7
	No	97	59.9
In a day how many hours do you sleep?	3–4 h	7	4.3
	5–6 h	51	31.5
	7–8 h	89	54.9
	More than 8 h	15	9.3
Do you smoke cigarettes?	Yes	3	1.9
	No	157	96.9
	Occasionally	2	1.2
Do you drink alcohol?	Yes	3	1.9
	No	150	92.6
	Occasionally	10	6.2
Do you take vitamins or mineral supplements?	Yes	21	13
	No	121	74.7
	Occasionally	20	12.3
Please state your physical activity?	No	44	27.2
	Mild	56	34.6
	Moderate	57	35.2
	Vigorous	5	3.1
Are you suffering from any chronic disease?	Yes	5	3.1
	No	157	96.9
Are you currently taking any medication for any condition?	Yes	151	93.2
	No	11	6.8
Which type of food you prefer in your diet to get balanced nutrition?	Mainly meat, fish, eggs	14	8.6
	Mainly vegetables and fruits	65	40.1
	Mainly meat, fish, eggs + vegetables and fruits + Milk	69	42.6
	Don't know	14	8.6

CONCLUSION

Malnutrition has greater risk for the development of metabolic and cardiovascular diseases; that is why healthy and balanced diet plays vital function in maintaining the physical, mental and emotional strength of young people. Healthy diet is required for development of healthy bones, skin, and energy levels and prophylaxis of eating disorders, constipation, malnutrition, dental caries and iron deficiency anemia and nutritional deficiencies. Making aware the people by some activities like camp on nutrition and balanced diet will help the students to maintain an adequate diet. On the other hand, numerous studies have indicated that many students lack familiarity with healthy foods necessary for their bodies in various conditions. Nutrition is an intake of food i.e. Macromolecules and is considered in relation to the body's dietary needs. Good nutrition is an adequate, well-balanced diet combined with regular physical activity. It is a cornerstone of good health. Poor nutrition may lead to reduced immunity, increased susceptibility to disease, impaired physical and mental development, and reduced productivity. Many of us are in the habit of eating too many carbohydrate-rich foods and not quite enough protein-rich foods, so our intake is out of balance. Excessive intake of any nutrient can contribute to health issues. Due to the abundance of food choices and rapid growth in the food industry, traditional food items are increasingly avoided by many younger individuals in favor of consuming large quantities of junk foods, ready-made canned foods, and frozen meals. Despite their high palatability, these foods often have low nutritional value and can lead to various health issues.

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