DOI: 10.7860/JCDR/2025/79215.21498

Original Article

Nutrition Section

Assessment of Processed Food Consumption and Eating Habits among Medical Students: A Cross-sectional Study

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ABSTRACT

Introduction: The consumption of processed foods has emerged as a significant public health concern, particularly among medical students who represent future healthcare providers. The demanding nature of medical education often leads students to rely on convenient yet nutritionally inferior food options, potentially affecting both their personal health and their future ability to counsel patients effectively.

Aim: To assess the consumption patterns of processed foods and eating habits among medical sciences students to identify factors influencing these patterns.

Materials and Methods: A cross-sectional study was conducted among 536 medical students at Dr. DY Patil School of Allied Health Sciences, Pimpri, Pune, Maharashtra, India, from September to November 2023, using a self-structured questionnaire. Data were collected on the frequency and types of processed foods consumed, eating habits, factors influencing food choices, and awareness of health risks. Chi-square tests and t-tests were used for statistical analysis, with $p<0.05$ considered statistically significant.

Results: Among participants, 179 (33.4%) consumed processed foods several times a week, and 74 (13.8%) consumed them daily. Packaged snacks (319, 59.5%) and fast food (227, 42.4%) were the most commonly consumed items. Taste preference (310, 57.8%), convenience (231, 43.1%), and availability (217, 40.5%) were the primary drivers of consumption. Notably, 416 (77.6%) participants reported receiving education on the associated health risks through their academic curriculum, and 424 (79.1%) expressed concern about these risks; however, a significant knowledge-behavior gap was observed. Encouragingly, 295 (55.0%) consumed breakfast daily, and 379 (70.7%) ate home-cooked meals regularly.

Conclusion: This study reveals the high prevalence of processed food consumption among medical students, despite their awareness of its health risks. The findings highlight the importance of targeted interventions at the medical school level, including improved nutrition education within the curriculum, institutional efforts to provide healthier food choices, and initiatives that encourage time management strategies to promote better eating habits among future healthcare providers.

Keywords: Dietary knowledge, Eating patterns, Food environment, Medical education, Nutritional behaviour, Ultra-processed foods

INTRODUCTION

A growing public health issue in modern societies is the increasing consumption of processed food, particularly among medical students as future healthcare providers. Modern eating habits are characterised by significant alterations in dietary patterns, as there is easy access to packaged foods and other processed products, which undergo various mechanical, chemical, or technological transformations to improve taste, texture, and shelf life [1]. This transition in dietary behavior has gradually been linked to various undesirable health outcomes, making it a potentially significant subject of research interest [2].

As future healthcare providers, medical students are in a unique position within the healthcare ecosystem. Not only do their dietary patterns and nutritional knowledge impact their health, but they also shape their ability to counsel patients effectively about proper nutritional practices as members of the medical community in the future. Given the demanding nature of medical education, long hours of study, clinical rotations, and irregular schedules, students increasingly rely on convenient food options, especially processed foods, to save time [3]. Relying on processed foods during early medical training might set dietary habits that students carry into their future careers.

Recent epidemiological studies have demonstrated robust associations between the consumption of processed food and several non-communicable diseases, including obesity, cardiovascular diseases, type 2 diabetes, and certain cancers [4,5]. The classification of food by degree of processing has been proposed, with ultra-processed foods considered industrial products that have been altered through multiple processes, some of which include additives and preservatives in their composition [2]. This classification has been extensively used to show that the higher the consumption of ultra-processed foods, the greater the risk of death and worse health outcomes [3,4].

Despite being aware of the negative impact of these lifestyle factors on health, medical students find themselves in conflict between their deep medical knowledge of nutrition and the demands of their academic lifestyles. This division makes them a particularly fascinating group to explore the drivers behind processed food consumption patterns. There are many reasons why it is important to understand the eating habits and processed food consumption of medical students. First, it highlights ways teaching institutions can better encourage healthy food choices among their students. Second, it helps identify barriers that impede access to healthy eating within medical education settings. Third, it aids in developing targeted interventions that can guide healthier food choices among future healthcare professionals [6].

The ever-changing landscape of our food system, comprising widely accessible processed foods, presents unique challenges for medical students in maintaining healthy lifestyles while keeping up with the rigorous demands of academia. Previous studies have reported suboptimal dietary habits among medical students, such as irregular eating patterns, frequent snacking on commercial and

processed foods, and low consumption of fruits and vegetables [7,8]. These results are especially troubling considering that healthcare professionals' health habits may affect their counseling practices and ultimately their ability to encourage healthy behaviors in patients [9].

Such research is particularly pertinent in the context of India, which has seen rapid urbanisation and shifting dietary patterns that have resulted in increased consumption of processed foods, particularly among young adults in academic institutions [10,11]. This study focuses on medical sciences students to analyse the consumption patterns of processed food and associated factors.

MATERIALS AND METHODS

A cross-sectional study was carried out at Dr. DY Patil Vidyapeeth, Pimpri, Pune, Maharashtra, India, from September to November 2023. Data gathering occurred on the college campus. Ethical approval was obtained from the institutional ethics committee before starting the study (Approval Number: DYPV/EC/938/23, dated 13/08/2023). The study was also approved by the university administration (DPU/755-10/2023, dated 09/08/2023) for the academic year 2023-2024. All participants provided written informed consent, and data confidentiality was upheld throughout the research process. Participation was voluntary, and students were informed of their ability to withdraw from the study at any point without facing consequences.

Inclusion and Exclusion criteria: The inclusion criteria specified that participants must be currently enrolled as medical sciences students at Dr. DY Patil Vidyapeeth, Pimpri, Pune, be 18 years or older to ensure legal consent, provide informed consent to participate voluntarily, and be available during the data collection period. Exclusion criteria included non-medical students, individuals who provided incomplete or invalid responses, those who did not provide informed consent, and participants who did not meet the age requirement.

Sample size calculation: The sample size was calculated using the following formula:

$$n=(Z^2\times p\times q)/d^2$$

Where: Z=1.96 at 95% confidence level p=50% (assumed prevalence of processed food consumption) q=(100-p)=50% d=margin of error (5%).

This calculation yielded a minimum required sample size of 384. Initially, 612 students were approached and screened for participation in the study. Of these, 573 agreed to participate (response rate: 93.6%). After excluding 37 questionnaires that were incomplete or had invalid responses, the final sample consisted of 536 participants. Participants were recruited using a convenience sampling approach.

Study Procedure

A self-structured questionnaire was developed specifically for this study based on a comprehensive literature review of processed food consumption studies [1,8,10,11] and the study objectives. The questionnaire was formulated by the Director of the School of Allied Health Sciences, who has expertise in nutritional epidemiology and public health research. The questionnaire consisted of 16 items across six domains: demographic information, processed food consumption patterns, eating habits, factors influencing food choices, awareness of health risks, and food preferences [Annexure-1].

Content validity was established through expert review by five specialists in nutrition, public health, and community medicine, achieving a Content Validity Index (CVI) of 0.85. The questionnaire underwent pilot testing with 20 students to ensure clarity and comprehensiveness before final implementation. Internal consistency reliability was assessed using Cronbach's alpha, which yielded a coefficient of 0.78.

STATISTICAL ANALYSIS

Data analysis was conducted using MedCalc Statistical Software version 20.015. Descriptive statistics included frequencies, percentages, and means (±SD). Chi-square tests examined associations between categorical variables (gender/food types, academic year/consumption frequency, academic stream/preferences, education/label reading). T-tests compared means between groups (health concern levels, knowledge scores). A p-value of <0.05 was considered significant.

RESULTS

The study included 536 participants, predominantly female (383, 71.5%), with males comprising 153 (28.5%). Most participants were aged 20-25 years (307, 57.3%), followed by 18-20 years (210, 39.2%), while smaller proportions were in the 25-30 years (13, 2.4%) and 30-35 years (6, 1.1%) age groups. Regarding academic streams, nursing students formed the largest group (212, 39.6%), followed by allied health sciences (128, 23.9%), dental (75, 14.0%), physiotherapy (62, 11.6%), optometry (44, 8.2%), MBBS (14, 2.6%), and Ayurvedic (1, 0.2%). Distribution by academic year showed that 209 (39.0%) were in their second year, 139 (25.9%) in their first year, 137 (25.6%) in their fourth year, 49 (9.1%) in their third year, and 2 (0.4%) in their fifth year.

Packaged snacks emerged as the most frequently consumed processed food category, with 59.5% of students reporting their consumption. A smaller proportion reported consuming frozen meals (7.3%) and canned foods (3.7%), while 12.3% reported not consuming any type of processed food [Table/Fig-1].

Type of processed food	Number of Students	Percentage (%)
Packaged snacks (chips, cookies, etc.,)	319	59.5
Fast food (burgers, fries, pizza, etc.,)	227	42.4
Sugary beverages (sodas, energy drinks, etc.,)	166	31.0
Instant noodles or ready-to-eat meals	144	26.9
None	66	12.3
Frozen meals	39	7.3
Canned foods	20	3.7

[Table/Fig-1]: Types of processed foods typically consumed by medical students.

Processed food consumption among students showed that 179 (33.4%) consumed processed foods several times a week (3-5 days/week), 151 (28.2%) rarely (≥1/month but <1/week), 126 (23.5%) once a week (1-2 days/week), 74 (13.8%) daily (6-7 days/week), and 6 (1.1%) reported no consumption in the past month. Overall, 253 (47.2%) consumed processed foods at least several times a week, indicating their prominent role in students' diets.

Significant associations were observed with gender (p=0.038), age group (p=0.042), academic year (p=0.023), and academic stream (p=0.035). Daily consumption was higher among males (28, 18.3%) than among females (46, 12.0%), and frequency increased with academic progression [Table/Fig-2].

Regarding education on the health risks associated with processed foods, 77.6% (n=416) of students reported receiving some education or information during their medical studies, while 22.4% (n=120) had not. When asked about their opinion on whether medical students should receive formal education about nutrition and healthy eating habits, an overwhelming majority agreed, with 52.8% (n=283) strongly agreeing and 35.3% (n=189) agreeing. Only 0.7% (n=4) disagreed, and 0.2% (n=1) strongly disagreed, while 11.0% (n=59) remained neutral on the matter. Students who had received education on the health risks of processed foods were significantly more likely to read food labels 'always' (49.3% vs. 22.5%, p<0.001) and had lower daily consumption of processed foods (11.8% vs. 20.8%, p=0.029) compared to those without such education [Table/Fig-3].

Demographic variables	Daily n (%)	Several times a week n (%)	Once a week n (%)	Rarely n (%)	Never n (%)	p-value*
Gender						
Male (n=153)	28 (18.3)	59 (38.6)	32 (20.9)	31 (20.3)	3 (2.0)	0.038
Female (n=383)	46 (12.0)	120 (31.3)	94 (24.5)	120 (31.3)	3 (0.8)	
Age group						
18-20 (n=210)	24 (11.4)	62 (29.5)	54 (25.7)	68 (32.4)	2 (1.0)	0.042
20-25 (n=307)	47 (15.3)	108 (35.2)	69 (22.5)	79 (25.7)	4 (1.3)	
25-30 (n=13)	2 (15.4)	6 (46.2)	2 (15.4)	3 (23.1)	0 (0.0)	
30-35 (n=6)	1 (16.7)	3 (50.0)	1 (16.7)	1 (16.7)	0 (0.0)	
Academic year						
First year (n=139)	12 (8.6)	39 (28.1)	37 (26.6)	48 (34.5)	3 (2.2)	0.023
Second year (n=209)	29 (13.9)	71 (34.0)	52 (24.9)	56 (26.8)	1 (0.5)	
Third year (n=49)	8 (16.3)	18 (36.7)	12 (24.5)	10 (20.4)	1 (2.0)	
Fourth year (n=137)	25 (18.2)	50 (36.5)	24 (17.5)	37 (27.0)	1 (0.7)	
Fifth year (n=2)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	
Academic stream						
MBBS (n=14)	3 (21.4)	6 (42.9)	3 (21.4)	2 (14.3)	0 (0.0)	0.035
Nursing (n=212)	28 (13.2)	73 (34.4)	47 (22.2)	61 (28.8)	3 (1.4)	
Dental (n=75)	12 (16.0)	29 (38.7)	17 (22.7)	17 (22.7)	0 (0.0)	
Allied Health Sciences (n=128)	14 (10.9)	37 (28.9)	34 (26.6)	41 (32.0)	2 (1.6)	
Physiotherapy (n=62)	10 (16.1)	20 (32.3)	15 (24.2)	16 (25.8)	1 (1.6)	
Optometry (n=44)	7 (15.9)	13 (29.5)	10 (22.7)	14 (31.8)	0 (0.0)	
Ayurvedic (n=1)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	

[Table/Fig-2]: Association between demographic characteristics and processed food consumption patterns.
*Chi-square test

Education on health risks of processed foods	Daily n (%)	Several times a week n (%)	Once a week n (%)	Rarely n (%)	Never n (%)	p-value*
Processed food consumption frequency						
Received education (n=416)	49 (11.8)	133 (32.0)	104 (25.0)	126 (30.3)	4 (1.0)	0.029
Did not receive education (n=120)	25 (20.8)	46 (38.3)	22 (18.3)	25 (20.8)	2 (1.7)	
Food label reading behaviour	**Always n (%)**	**Often n (%)**	**Some-times n (%)**	**Rarely n (%)**	**Never n (%)**	
Received education (n=416)	205 (49.3)	87 (20.9)	95 (22.8)	18 (4.3)	11 (2.6)	<0.001
Did not receive education (n=120)	27 (22.5)	12 (10.0)	46 (38.3)	21 (17.5)	14 (11.7)	

[Table/Fig-3]: Relationship between education on health risks and dietary behaviours.
*Chi-square test

Furthermore, a clear inverse relationship was observed between the level of concern about health impacts and the frequency of processed food consumption (p<0.001) [Table/Fig-4].

When queried about their concerns regarding the health impacts of processed food consumption, 30.8% (n=165) reported being moderately concerned, 24.6% (n=132) very concerned, 23.7% (n=127) concerned, 10.3% (n=55) slightly concerned, and 10.6% (n=57) not concerned [Table/Fig-4].

Level of concern about health impacts	Frequency of processed food consumption					p-value*
	Daily n (%)	Several times a week n (%)	Once a week n (%)	Rarely n (%)	Never n (%)	
Not concerned (n=57)	19 (33.3)	25 (43.9)	7 (12.3)	6 (10.5)	0 (0.0)	<0.001
Slightly concerned (n=55)	12 (21.8)	25 (45.5)	10 (18.2)	8 (14.5)	0 (0.0)	
Moderately concerned (n=165)	22 (13.3)	65 (39.4)	42 (25.5)	34 (20.6)	2 (1.2)	
Concerned (n=127)	12 (9.4)	36 (28.3)	36 (28.3)	41 (32.3)	2 (1.6)	
Very concerned (n=132)	9 (6.8)	28 (21.2)	31 (23.5)	62 (47.0)	2 (1.5)	

[Table/Fig-4]: Level of concern and consumption frequency.
*Chi-square test

Eating Habits and Food Preferences

The study assessed general eating habits among students. Daily breakfast consumption was reported by 295 (55.0%), followed by 109 (20.3%) several times a week, 111 (20.7%) rarely, and 21 (3.9%) never. Home-cooked meals were consumed daily by 379 (70.7%), several times a week by 76 (14.2%), rarely by 70 (13.1%), and never by 11 (2.1%). Mindful eating—defined as being fully present while eating—was practiced at every meal by 246 (45.9%), occasionally by 222 (41.4%), rarely by 59 (11.0%), and never by 9 (1.7%). Food preferences showed a strong inclination toward fruits (403, 75.2%) and dairy products (257, 47.9%), while fast food was preferred by 164 (30.6%). Significant differences in breakfast (p=0.027) and home-cooked meal consumption (p=0.043) were observed across academic streams. Nursing students reported the highest daily consumption of home-cooked meals (158, 74.5%), while MBBS students had the lowest (8, 57.1%). Mindful eating practices did not differ significantly across streams (p=0.087) [Table/Fig-5].

Taste preference emerged as the most influential factor (57.8%), followed by convenience and time-saving (43.1%), and availability (40.5%) [Table/Fig-6]. Among the 69 students who cited "other" reasons, 40.6% mentioned that they did not prefer mess food, 14.5% attributed their consumption to cravings, 10.1% stated they usually consumed home-cooked food, and 34.8% reported not consuming processed foods at all.

DISCUSSION

This study reveals a significant knowledge-behavior gap among medical students regarding processed food consumption. This finding is consistent with previous research by Vibhute NA et al., who found that despite having greater nutritional knowledge, medical students often exhibited suboptimal dietary behaviors due to environmental and practical constraints [9]. The predominance of taste preference, convenience, and availability as primary drivers aligns with findings by Pop LM et al., which identified time constraints and convenience as major factors influencing medical students' food choices [8].

The knowledge-behavior disconnect observed, where students are aware of health risks but continue to consume processed foods frequently, mirrors patterns documented by Weaver CM et al., who emphasised that knowledge alone may be insufficient to change dietary behaviors without addressing multiple determinants, including convenience, taste preferences, and environmental factors [12]. This finding has important implications for medical education, suggesting that traditional didactic approaches to nutrition education may be inadequate.

Academic stream	Breakfast consumption				Home-cooked meals				Mindful eating				p-value*
	Daily n (%)	Several times a week n (%)	Rarely n (%)	Never n (%)	Daily n (%)	Several times a week n (%)	Rarely n (%)	Never n (%)	Every meal n (%)	Occasionally n (%)	Rarely n (%)	Never n (%)	
MBBS (n=14)	9 (64.3)	3 (21.4)	2 (14.3)	0 (0.0)	8 (57.1)	4 (28.6)	2 (14.3)	0 (0.0)	8 (57.1)	5 (35.7)	1 (7.1)	0 (0.0)	0.027[a] 0.043[b] 0.087[c]
Nursing (n=212)	120 (56.6)	43 (20.3)	42 (19.8)	7 (3.3)	158 (74.5)	25 (11.8)	25 (11.8)	4 (1.9)	102 (48.1)	86 (40.6)	22 (10.4)	2 (0.9)	
Dental (n=75)	44 (58.7)	15 (20.0)	13 (17.3)	3 (4.0)	55 (73.3)	9 (12.0)	10 (13.3)	1 (1.3)	36 (48.0)	31 (41.3)	7 (9.3)	1 (1.3)	
Allied health sciences (n=128)	64 (50.0)	27 (21.1)	31 (24.2)	6 (4.7)	86 (67.2)	22 (17.2)	17 (13.3)	3 (2.3)	52 (40.6)	56 (43.8)	17 (13.3)	3 (2.3)	
Physiotherapy (n=62)	32 (51.6)	13 (21.0)	14 (22.6)	3 (4.8)	42 (67.7)	9 (14.5)	9 (14.5)	2 (3.2)	26 (41.9)	26 (41.9)	8 (12.9)	2 (3.2)	
Optometry (n=44)	25 (56.8)	8 (18.2)	9 (20.5)	2 (4.5)	29 (65.9)	7 (15.9)	7 (15.9)	1 (2.3)	21 (47.7)	18 (40.9)	4 (9.1)	1 (2.3)	
Ayurvedic (n=1)	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	

[Table/Fig-5]: Eating habits comparison across academic streams.
*Chi-square test; [a]p-value for breakfast consumption; [b]p-value for home-cooked meal consumption; [c]p-value for mindful eating practices

Factors	Number of students	Percentage (%)
Taste preference	310	57.8
Convenience and time-saving	231	43.1
Availability	217	40.5
Cost-effectiveness	95	17.7
Healthier options not easily accessible	89	16.6
Lack of cooking skills	83	15.5
Peer influence	45	8.4
Other reasons	69	12.9

[Table/Fig-6]: Factors influencing processed food consumption among medical students.

Our findings regarding the knowledge-behavior gap align with recent research by Kesapragada S et al., (2024), who conducted a cross-sectional study assessing nutrition knowledge and attitudes among medical students [13]. Their study revealed that while students demonstrated a good general understanding of nutritious diets, they lacked specific knowledge regarding nutrient content, healthy cooking methods, and expert dietary recommendations. Kesapragada S et al., attributed this knowledge gap primarily to the limited nutrition-related curriculum in medical schools, a conclusion that resonates with our finding that students overwhelmingly supported formal nutrition education.

Both studies highlight a critical need for enhanced nutrition education in medical curricula that goes beyond theoretical knowledge to include practical applications. Furthermore, while Kesapragada S et al., found that the majority of students made healthy dietary choices, the present study provides additional nuance by identifying specific barriers such as taste preference, convenience, and availability. This suggests that educational interventions alone may be insufficient without addressing the practical and environmental factors that influence food choices among busy medical students [13].

The consumption patterns observed align with previous research by Srour B et al., and Bielemann RM et al., which documented associations between ultra-processed food consumption and health risks [4,10]. However, our study extends this knowledge by examining the specific context of medical education and its unique challenges. The preference for packaged snacks and fast food reflects the hyper-palatable nature of ultra-processed foods, designed with enhanced fats, sugars, and salt, as noted in previous literature [12].

The relatively positive findings regarding home-cooked meal consumption and mindful eating practices suggest the retention of traditional dietary practices despite academic pressures. This represents a protective factor that could be leveraged in future interventions, as home-cooked meals are generally associated with higher nutritional quality [14]. The practice of mindful eating among nearly half of the students provides a foundation for behavioral interventions, as mindful eating has been associated with better portion control and reduced emotional eating [15].

The implications for medical education are substantial. The overwhelming support for formal nutrition education suggests recognition of its importance, yet current approaches appear insufficient. Medical institutions should consider comprehensive strategies that integrate practical cooking skills, meal planning, and time management alongside theoretical knowledge. Environmental interventions, such as improving campus food options and scheduling adequate meal breaks, may be more effective than education alone, as demonstrated by Hall KD et al., in institutional settings [16].

Future research should focus on longitudinal studies tracking dietary changes throughout medical education, intervention studies addressing the identified barriers, and comparative studies across different institutional contexts. Digital health interventions may offer innovative approaches for this technology-savvy population. Additionally, qualitative research could provide deeper insights into the decision-making processes underlying food choices.

The study's findings also have broader implications for healthcare practice. As future healthcare providers, medical students' personal dietary habits may influence their ability to counsel patients effectively. The knowledge-behavior gap observed suggests that simply providing information about healthy eating may be insufficient for patients as well, highlighting the need for more comprehensive approaches to dietary counseling that address practical barriers and environmental factors.

Limitation(s)

A few underlying limitations must be acknowledged when interpreting the results of this study. The convenience sampling method may have introduced selection bias, limiting generalisability. Self-reported data is subject to recall and social desirability bias. The cross-sectional design prevents the establishment of causality or tracking temporal changes. Quantitative measurements of portion sizes were not collected, limiting the assessment of nutritional impact. The single-site study in Pune, India, may limit generalisability to other regions with different cultural and educational contexts. Finally, the study did not explore the interplay between factors or underlying psychosocial mechanisms influencing food consumption behaviours.

CONCLUSION(S)

This study sheds light on the complex dynamics of processed food consumption among medical students, revealing a notable disconnect between awareness of health risks and actual dietary behavior. Despite receiving education on the adverse effects of processed foods, many students continued to consume them frequently, driven largely by taste preferences, convenience, and easy availability. Packaged snacks and fast food emerged as the most commonly chosen items. On a positive note, a substantial number of students demonstrated healthy habits, such as regularly eating breakfast, consuming home-cooked meals, and practicing mindful eating. The strong endorsement for integrating formal nutrition education into the medical curriculum underscores a collective recognition of its value. To foster healthier eating patterns among future healthcare professionals, it is essential to implement comprehensive strategies that go beyond education alone. By combining curriculum enhancements with supportive institutional policies and environmental changes, we can bridge the gap between knowledge and behavior, empowering medical students to lead by example in promoting nutritional well-being.

Acknowledgement

The authors thank Dr. DY Patil Vidyapeeth, Pimpri, Pune, for facilitating this research, and all study participants for their contributions. We acknowledge the use of Claude (Anthropic) as a writing assistant for the discussion section. All AI-generated content was thoroughly reviewed and approved by all authors, who take full responsibility for the final manuscript content and conclusions.

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PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Mar 22, 2025
- Manual Googling: Aug 02, 2025
- iThenticate Software: Aug 05, 2025 (2%)

ETYMOLOGY: Author Origin

EMENDATIONS: 8

AUTHOR DECLARATION:
- Financial or Other Competing Interests: Yes (DPU Funding)
- Was Ethics Committee Approval obtained for this study? Yes
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Mar 11, 2025**
Date of Peer Review: **Apr 16, 2025**
Date of Acceptance: **Aug 07, 2025**
Date of Publishing: **Sep 01, 2025**

[ANNEXURE 1]

Note: Please answer all questions to the best of your ability. Your responses will be kept confidential.

Section 1: Demographic Information

Gender:

- Male
- Female
- Non-binary
- Prefer not to say

Age: _____ years

Year of Study:

- First year
- Second year
- Third year
- Fourth year
- Fifth year

Section 2: Processed Food Consumption

4. How often do you consume processed foods? (e.g., packaged snacks, sugary beverages, instant noodles, etc.)

- Daily
- Several times a week
- Once a week
- Rarely
- Never

5. What types of processed foods do you typically consume? (Select all that apply)

- Packaged snacks (chips, cookies, etc.)
- Sugary beverages (sodas, energy drinks, etc.)
- Instant noodles or ready-to-eat meals
- Frozen meals
- Canned foods
- Fast food (burgers, fries, pizza, etc.)
- None

6. On a scale of 1 to 5, how concerned are you about the health impact of consuming processed foods? (1=Not concerned at all, 5=Very concerned)

Section 3: Eating Habits

7. How many meals do you typically have in a day? _____

- How often do you have breakfast?
- Every day
- Several times a week
- Rarely
- Never

8. How often do you eat home-cooked meals?

- Every day
- Several times a week
- Rarely
- Never

9. Do you read food labels before purchasing processed foods?

- Always
- Often
- Sometimes
- Rarely
- Never

10. How often do you engage in mindful eating? (being fully present while eating)

- Every meal
- Occasionally
- Rarely
- Never

Section 4: Reasons for Processed Food Consumption

11. What are the main reasons for consuming processed foods? (Select all that apply) - Convenience and time-saving - Taste preference - Availability - Cost-effectiveness - Lack of cooking skills - Peer influence - Healthier options not easily accessible - Other (please specify): _____

Section 5: Awareness and Education

12. Have you received any education or information about the potential health risks associated with excessive processed food consumption during your medical studies?

    - Yes - No

13. Do you think medical students should receive formal education about nutrition and healthy eating habits?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Section 6: Additional Comments

14. Is there anything else you would like to share about your processed food consumption or eating habits?

15. Choose from the following:

- Fruits
- Meat
- Dairy products
- Eggs
- Fish
- Sweets
- Fast food

16. Do you enjoy processed foods?

- Yes
- No