

Dissertation training

At

IIHMR, New Delhi

On

**“A STUDY TO ASSESS THE KNOWLEDGE, ATTITUDE AND
PERCEPTION REGARDING STREET-FOOD CONSUMPTION AND
FOOD SAFETY OF STREET-FOOD AMONG POST-GRADUATE
STUDENTS IN NEW DELHI”**

By

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PG/23/038

Under the guidance of

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PGDM (Hospital and Health Management)

2023-2025

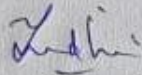


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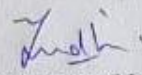
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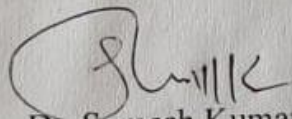
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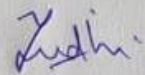
The Candidate has successfully carried out the study designated to him during internship training and his/her approach to the study has been sincere, scientific and analytical.

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I wish him all success in all his/her future endeavors.



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Area of Dissertation: A study to assess the knowledge, attitude and perception regarding street-food consumption and food safety of street-food among post-graduate students in New Delhi

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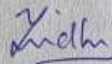
Objectives achieved:

Deliverables: Decided the project topic
framed Questionnaire
Conducted the survey, data analysis.

Strengths: Complete attendance
good communication skills

Suggestions for Improvement: good luck for your future endeavours

Suggestions for Institute (course curriculum, industry interaction, placement, alumni): —NA—



Signature of the Officer-in-Charge/
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Certificate of Approval

The following dissertation titled **A STUDY TO ASSESS THE KNOWLEDGE, ATTITUDE AND PERCEPTION REGARDING STREET-FOOD CONSUMPTION AND FOOD SAFETY OF STREET-FOOD AMONG POST-GRADUATE STUDENTS IN NEW DELHI** at **IHMR Delhi** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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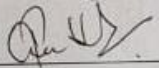
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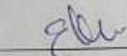
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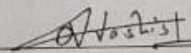
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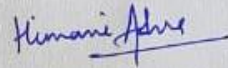




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This is to certify that the dissertation titled **A study to assess the knowledge, attitude and perception regarding street-food consumption and food safety of street-food among post-graduate students in New Delhi** and submitted by Ms. HIMANI ASHRA, Enrollment No PG/23/038 under the supervision of Dr. Nidhi Yadav for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from 01st April to 30th June embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning. Signature



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Title of the Dissertation/Summer Assignment	A study to assess the knowledge, attitude and perception regarding street food consumption and food safety of street-food among post-graduate students in New Delhi.		
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Very special thanks to my friends, Jahanvi and Anamika, for their support. I will always cherish the fond memories of the beautiful time spent.

Before I finish, I thank the almighty for all the blessings and for giving me the strength to sail through all these years.

Himani

ABSTRACT

Title: A study to assess the knowledge, attitude and perception regarding street-food consumption and food safety of street-food among post-graduate students in New Delhi.

Objective: This study attempts to assess the contribution of street foods in the dietary intake among postgraduate students. Findings and the suggested recommendations will reveal barriers, fallacies and cultural influences that form health behaviours. By revealing these gaps, researchers can implement effective strategies to help students select better food by sensitizing them against unhealthy street food eating practices, ultimately encouraging positive/healthy eating behaviour change among students.

Methods: A descriptive cross-sectional study will be conducted to evaluate the KAP regarding street-food consumption and food safety of street-food among post-graduate students in New Delhi

Results and Conclusions: These findings highlight a gap between student's knowledge about street food and how they actually behave or feel. Results show that increasing knowledge is not enough to drive better practice . While good knowledge positively influences attitudes to some extent, it does not necessarily translate to actual practices. These results suggest that interventions with a more comprehensive approach including behavior change communication, health education campaigns, or college-led programs, may be needed to bridge the knowledge-practice gap.

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BACKGROUND

Street food/out-of-home food consumption has become a widespread alternative option in the urban settings of developing countries and is now considered a vital part of urban diets (Imathiu, 2017). Approximately 2.5 billion people worldwide eat street-food. Street-food consumers mostly comprise children, university students, workers, etc (Shehasen M.Z. & Mohammed A.S., 2020). Street food is considered a food source option for many university students, and emerging evidence has shown that university students who consume low-quality food may experience long-term health effects such as gain in body weight and other associated complications (Almoraie et al., 2024). This is especially significant in terms of the rise in the prevalence of obesity as observed in many developing countries (Popkin et al., 2020; World Health Organization, 2016). Therefore, the objective of present study is assess the contribution of street foods in the dietary intake among postgraduate students.

INTRODUCTION

In the recent years, several studies have highlighted the double burden of malnutrition as a growing global health challenge. It is characterized by the co-occurrence of undernutrition along with obesity or diet-related NCDs within individuals (Popkin et al., 2020; World Health Organization, 2016). The tremendous rise in the rates of obesity, particularly in developing countries like India and street-food consumption has been implicated as one of the major reasons to increased obesity rates (Siddiqui & Donato, 2020). According to the National Institute of Nutrition (NIN), Street/junk food comprises anything that is low in nutritional content (proteins, vitamins, or minerals) but is high in salt, sugar, preservatives, added color, trans-fats, and calories (Krishnaswamy, 2011). These generally include foods that are commercially prepared and packaged, for example, candy bars, chips, snack cakes, cheese puffs, and cookies.

Consuming unhealthy/junk food is considered as one of the primary causes of non-communicable illness worldwide (Popkin et al., 2020). Studies have shown that regularly consuming such foods negatively impact health and is associated with obesity, diabetes, hypertension, high cholesterol, heart disease, addiction, kidney disease, neurological disorders, cancer, hypoxia, behavioral problems etc. Further, it has also been shown that consuming large quantities of junk food is linked with a radical decrease in the consumption of healthy foods, including fruits and vegetables (Laxer & Janssen, 2014). Factors that led

to the growing tendency towards eating junk food include high revenues, affordable cost, fast urbanization, free home delivery, easy access, alluring advertisements etc (Mandoura et al., 2017).

To assess individuals' understanding towards a specific health-related topic or practice, the Knowledge, Attitude and Practices (KAP) surveys are done to gauge individuals' behaviour (Jiang et al., 2024). KAP model is a well-developed comprehensive cognitive theory in health education research. It postulates that the development of health behaviour of an individual includes the gaining of knowledge, the formation of attitudes, and the development of behaviours. Further, individuals generally engage in healthy behaviours only when they thoroughly understand health-related knowledge and cultivate positive attitudes (Liu et al., 2020). This becomes essential for the development and implementation of tailored interventions/programs that promote healthier practices in the population. Furthermore, KAP surveys also highlight and uncover the fallacies and cultural influences that govern health-related behaviours in the population. By recognising such barriers and gaps, investigators can implement effective, customised interventions and design policies to address them and thereby encouraging healthy eating behaviour change among students (Zarei et al., 2024).

The purpose of the study is to assess the level of knowledge, prevalence, analyze common practices and key determinants/influencing factors of street-food consumption among post-graduate students living in Delhi. This will help reveal factors that influence the eating behaviour of students, which will further aid in implementing health promotion strategies to encourage healthy eating behaviour.

LITERATURE REVIEW

Knowledge of Food Safety and Street Food Risks

Numerous studies have reported that college students often lack knowledge of food safety principles. According to Aluko et al. (2014), many young students lack a thorough understanding of foodborne pathogens and diseases associated with them. Further, a study by Bas et al. (2006) also highlighted that although students are aware of the importance of food safety principles, they generally lack knowledge of the ill-effects associated with consuming unhygienic food, such as gastrointestinal infections and complications. Furthermore, street food, often cooked in unsanitary/unhygienic conditions, poses significant health risks. According to World Health Organization (WHO, 2015), street foods generally hold contaminants due to poor vendor hygiene, lack of clean water, etc. Therefore, the level of knowledge among students plays a critical role in determining their food choices (street-food versus home-cooked food) and healthy eating behaviors.

Attitudes Towards Street Food Consumption and Safety

Attitude towards street food consumption is shaped by a mixture of cultural, economic, and social factors. College students regularly consider street food not just as an alternative, but also as part of their daily social experience (Muinde & Kuria, 2005). While knowing the potential risks, reasons, for example, affordability and ease of access to street food may overlook safety concerns. A study conducted by Choudhury et al. (2011) revealed that despite the fact that students believed hygiene was important, very few students considered it as a factor in their purchasing decisions.

Practices Related to Street Food Consumption

Numerous studies have reported that even students with high awareness about street-food safety issues regularly consume street food. For instance, a study by Sharifa Ezat and Norimah (2012) revealed that students often focus more on taste and enthusiasm to try new items, overlooking safety issues or environmental cleanliness when selecting street food.

Another study by Syahrul et al. (2018) showed that poor practices among college students, such as overlooking vendor cleanliness, and consuming food stored at unsafe temperatures.

These practices often contribute to amplified risk of foodborne illnesses, particularly in urban environments where street food is very commonly consumed.

The Role of Educational Interventions

Educational campaigns and trainings for street-food safety practices have shown positive effects on improving KAP among students. Study by Ansari-Lari et al. (2010), showed that incorporating food safety education in schools significantly improved knowledge and encouraged safer consumption practices amongst students. The study highlighted the importance of focusing on university students, as they contribute to a major proportion of street food-consuming population.

Overall, current literature highlights a significant gap in KAP regarding street food consumption among college students. While many are aware of food safety principles, their attitudes toward ease of access and taste lead to poor food safety practices. As street food culture continues to expand, understanding and improving KAP among college students becomes crucial to encourage healthy eating habits.

AIM OF THE STUDY

The current study is conducted to assess the knowledge, attitude, practice and influencing factors of street-food consumption among postgraduate students in New Delhi.

RESEARCH QUESTIONS

1. What is the level of knowledge of among students regarding balanced food and street-food?
2. Are students aware of health risks associated with consuming unhygienic street food?
3. What is their attitude, perceptions and beliefs towards street-food consumption and food safety?
4. How frequently do students consume street food and what types are most commonly consumed?
5. Is there a correlation between students' knowledge of food safety and their street food consumption practices?
6. Do demographic factors (age, gender, socioeconomic status) influence knowledge, attitudes, or practices related to street food consumption?

RESEARCH IMPLICATIONS

This study aims to provide a comprehensive understanding of knowledge, prevalence, reasons and other influencing factors that lead students to consume street-food. Moreover, the KAP survey will also reveal barriers, fallacies and cultural influences that form health behaviours. By revealing these gaps, researchers can implement effective strategies to help students select better food by sensitizing them against unhealthy street food eating practices, ultimately encouraging positive/healthy eating behaviour change among students.

RESEARCH METHODOLOGY

1. Study design: A descriptive cross-sectional study will be conducted to evaluate the KAP regarding street-food consumption and food safety of street-food among post-graduate students in New Delhi.

2. Sampling strategy:

- **Sampling frame:** The study will use a sampling size of **96** participants/post-graduate students from a population of approximately 400 students.
- **Location of study:** 400 students include 200 post-graduate students of IIHMR, Delhi and an equal number of students (200) from another college, IIT, Delhi, to facilitate a better comparison between those studying healthcare management and those enrolled in other courses.
- **Sampling method:** **Stratified simple random sampling** technique will be used.

3. Data collection tool: Data will be collected using **semi-structured questionnaire** by self-administered method.

4. Pilot testing: A pilot study will be conducted to refine the questionnaire for clarity and appropriateness. It will be conducted for approximately 15 students of IIHMR, Delhi.

5. Variables and measures:

Independent variables (influencing factors):

- Socio-demographic factors (e.g., age, place of stay, education).
- Knowledge-related factors (e.g., awareness of healthy eating habits and knowledge of risk of NCDs)
- Attitude-related factors (e.g., beliefs about street food safety)

Dependent variables (outcomes):

- Frequency of street food consumption (e.g., daily/weekly/monthly)

- Types of street food consumed
- Incidence of foodborne illness after consumption

6. Inclusion criteria:

- Students currently enrolled in a postgraduate program.
- Individuals eager to participate and provide informed consent.

7. Exclusion criteria

- Individuals not willing to participate in providing informed consent.

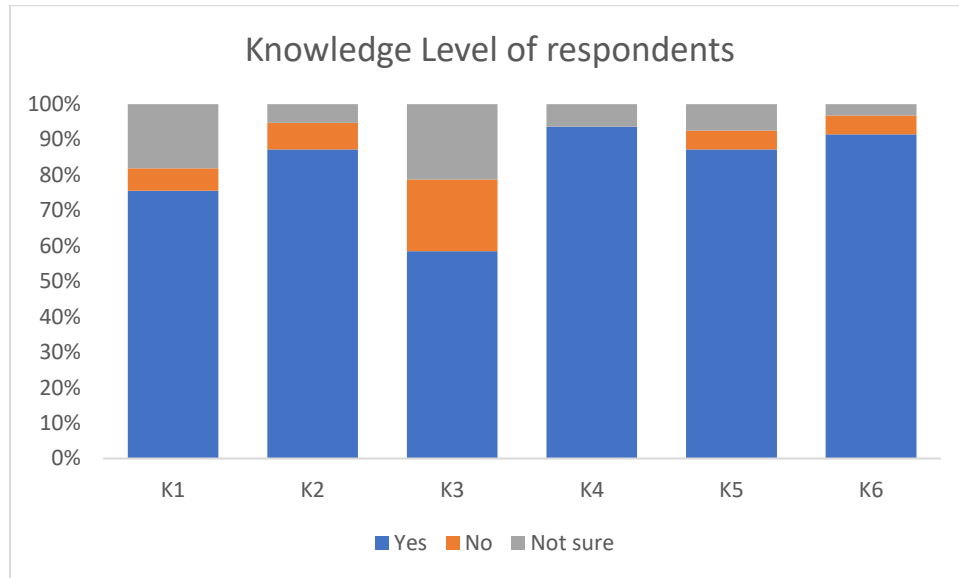
8. Data analysis: Descriptive statistics (frequency and percentage) will be utilized to summarize demographic data, as well as knowledge, and prevalence for street-food consumption. Correlation analysis will be conducted to assess the strength of association between the knowledge levels and selected socio-demographic variables of respondents. SPSS software will be used for data analysis.

RESULTS

DEMOGRAPHIC PROFILE OF RESPONDENTS

Variables	Labels	Percentage
Gender		
	Male	40.43%
	Female	59.57%
	Other	0
Age		
	18-25	44.68%
	>25	55.38%
Year of study		
	1st year	9.57%
	2nd year	90.43%
Field of Post-graduation study		
	Science	8.51%
	Arts	12.68%
	MBA	62.77%
	Mtech	6.38%
	Medical Science	7.45%
	Others	1.90%
Name of college		
	IIHMR Delhi	51.06%
	Others	48.94%
Living place during study		
	With family	45.74%
	college hostel	14.89%
	PG/Flat/Others	39.36%
Food preference		
	Vegeterian	46.81%
	Non-vegeterian	41.49%
	Eggetarian	11.70%
Smoking		
	Regular	4.26%
	Occassional	19.15%
	Never	76.60%
Alcohol Frequency		
	Occassional	43.62%
	Never	55.32%
	Regular	1.06%

DESCRIPTIVE STATS OF KNOWLEDGE-BASED QUESTIONS



K1- Do you know that regularly eating street food may lead to missing of main food groups in a balanced diet?

Yes	75.53%
No	6.38%
Not sure	18.09%

K2- Are you aware that improper food storage can lead to bacterial contamination?

Yes	87.23%
No	7.45%
Not sure	5.32%

K3- Do you know the recommended daily servings of fruits and vegetables, in a balanced diet, for adults or children?

Yes	58.51%
No	20.21%
Not sure	21.28%

K4-Do you think street food can cause foodborne diseases?

Yes	93.62%
No	0.00%
Not sure	6.38%

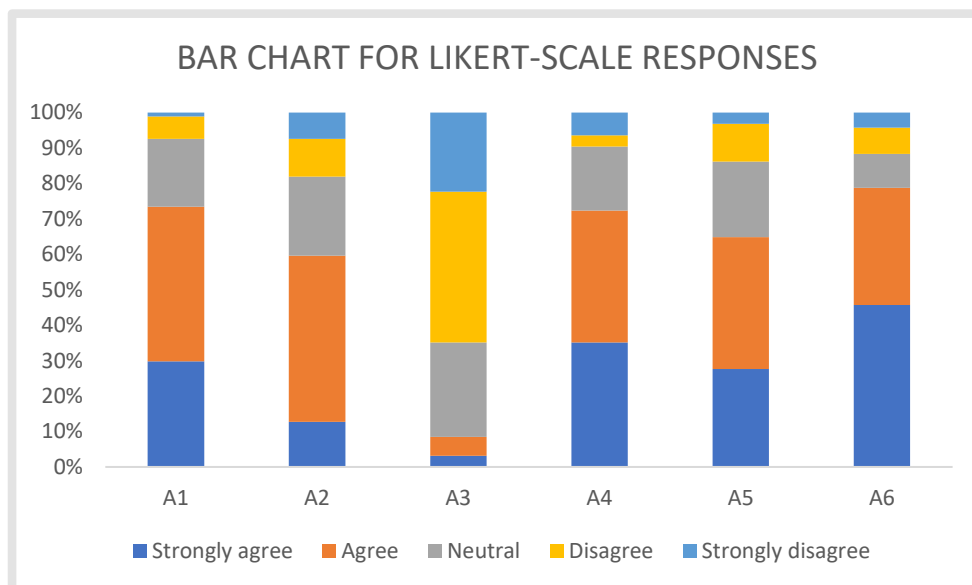
K5- Do you think street food consumption can increase the risk of developing non-communicable diseases (NCDs), including CVD or obesity?

Yes	87.23%
No	5.32%
Not sure	7.45%

K6- Do you think that home-based meals are less likely to be contaminated compared to street food

Yes	91.49%
No	5.32%
Not sure	3.19%

DESCRIPTIVE STATS OF ATTITUDE-BASED QUESTIONS



A1- Do you feel motivated to eat healthy food (home-cooked) regularly?

A2- I believe it's ok to indulge in street food occasionally if we maintain a healthy lifestyle.

A3- I believe street food is generally safe to eat.

A4- I am concerned about hygiene and clean surroundings when eating street food.

A5- I believe that skipping meals can negatively affect my health.

A6- I believe that canteens in colleges/universities should provide better healthy food options

DESCRIPTIVE STATS OF PRACTICE-BASED QUESTIONS

How many meals do you consume per day?		
	1 to 3	72.34%
	4 or 5	26.59%
	More than 5	1.06%
How frequently do you consume street food?		
	Daily	1.06%
	2–3 times/week	20.40%
	Once/week	41.48%
	Rarely	31.91%
	Never	2.12%
Do you check whether the food is freshly prepared?		
	Always	31.91%
	Sometimes	55.31%
	Rarely	10.63%
	Never	2.13%
Have you ever fallen ill after consuming street food?		
	Yes	60.63%
	No	39.36%

SCORING OF KNOWLEDGE-BASED QUESTIONS

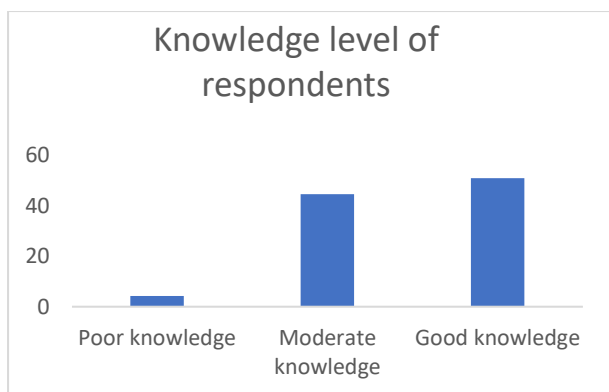
Assigned scores: Correct/Health-Aware Answer = 1; Incorrect / Not Sure = 0

Scoring Summary: Total Questions: 6; Maximum Score: 6; Minimum Score: 0

Score Range	Interpretation
0-2	Poor/low Knowledge
3-4	Moderate Knowledge
5-6	Good/High Knowledge

RESULTS:

Mean knowledge of respondents	4.93 (good knowledge)
Max	7
Min	0
Stdev	1.461352971



SCORING LIKERT SCALE ATTITUDE STATEMENTS

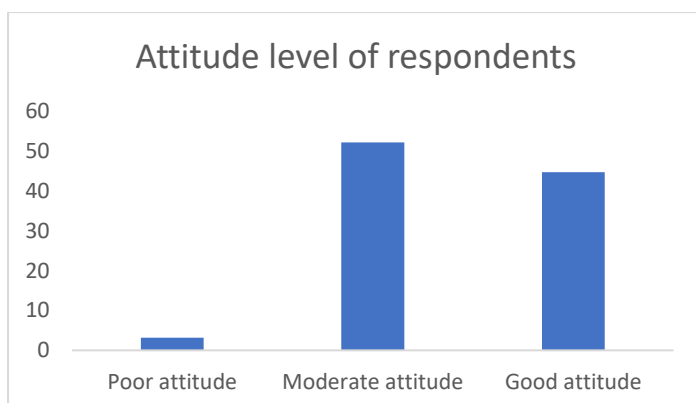
1 (Strongly Disagree) to 5 (Strongly Agree)

Attitude Level interpretation:

Score Range	Interpretation
6-14	Poor/Negative Attitude
15-23	Moderate Attitude
24-30	Good/Positive Attitude

RESULTS:

Mean attitude of respondents	25.93(Good/Positive attitude)
Max	33
Min	12
Stdev	4.237082864



SCORING FOR PRACTICE-BASED QUESTIONS

1. How many meals do you consume per day?

Response	Score	Explanation
1–3	1	May suggest under-eating or irregular meals
4–5	2	Healthy, balanced meal pattern
More than 5	1	May suggest overeating or unnecessary snacking

2. How frequently do you consume street food?

Response	Score
Daily	0
2–3 times/week	1
Once/week	2
Rarely	3
Never	4

3. Do you check whether the food is freshly prepared?

Option	Score	Explanation
Always	3	Ideal hygiene awareness
Sometimes	2	Moderate awareness
Rarely	1	Low awareness
Never	0	No awareness

4. Have you ever fallen ill after consuming street food?

Option	Score	Explanation
Yes	–1	Indicates unsafe eating experiences
No	1	Suggests careful food choices

Total Combined Score Range

Minimum Score =

$$Q1 (1) + Q2 (0) + Q3 (0) + Q4 (-1) = -1$$

Maximum Score =

$$Q1 (2) + Q2 (4) + Q3 (3) + Q4 (1) = 10$$

Final Score Range: 1 to +10

Interpretation:

Score Range	Practice Level
-1 to 4	Poor behavior
5 to 8	Moderate (mixed habits/barriers)
9 to 10	Good (healthy lifestyle choices)

RESULTS:

Mean practice of respondents	5.478723404 (Moderate practice/habits)
max	10
min	2
stdev	1.794428195



T-Tests

T test was done to compare the KAP mean scores of two groups (demographic variables-age/gender/college/living place) to determine if the difference between them is **statistically significant**.

Key Findings:

	Gender	N	Mean	Std. Deviation	Std. Error Mean	T	Df	Sig. (2-tailed)	Interpretation
Knowledge_Score	Female	56	5.29	.780	.104	2.735	92	0.002	Females have higher knowledge scores than males.
	Male	38	4.42	1.840	.298				
Attitude_Score	Female	56	27.20	3.136	.419	3.439	92	0.001	Females show significantly more positive attitudes than males
	Male	38	24.08	4.956	.804				
Attitude_Score	18-25					2.481	92	0.015	Younger participants have more positive attitudes compared to those >25.
	>25	42	26.88	4.520	.697				
		52	24.76	3.776	.524				

- There is no difference in KAP scores between the two colleges ($P > 0.005$ in all cases, Null hypothesis is accepted).
- There is no difference in KAP scores between the two places of stay (with family vs others).
- There is no difference in Practice scores between the two genders.
- There is no difference in attitude scores between the two colleges & also between the two places of stay ($P > 0.005$ in all cases, we accept Null hypothesis).

Spearman's rho Correlation Summary (Correlation analysis)

Pair	Correlation Coefficient (ρ)	Sig. (p-value)	Interpretation
Knowledge ↔ Attitude	0.241	0.020	Weak positive, statistically significant
Knowledge ↔ Practice	0.173	0.095	Weak, not significant
Attitude ↔ Practice	0.103	0.324	Very weak, not significant

Knowledge ↔ Attitude

- H_0 : There is no relationship amongst knowledge and attitude scores. ($\rho = 0$)
- H_1 : There is a relationship amongst knowledge and attitude scores. ($\rho \neq 0$)

Since $p = 0.020 < 0.05$, reject $H_0 \rightarrow$ A statistically significant weak positive correlation exists.

Regression analysis

- Key Findings:
- Simple linear regression was used to observe the effect of knowledge on attitude. The model was significant, $F(1, 92) = 21.487$, $p < .001$, with an R^2 of .189, demonstrating that knowledge explains 18.9% of the variance in attitude. Knowledge Score significantly predicted Attitude Score ($B = 1.342$, $p < .001$), suggesting that higher/good knowledge is linked with more positive attitudes.
- Multiple linear regression was also done to observe whether knowledge and attitude scores predicted practice score. Results showed no statistical significance, $F(2, 91) = 1.239$, $p = .294$, and explained only 2.7% of the variance in practice ($R^2 = 0.027$). Neither knowledge score ($\beta = 0.148$, $p = 0.200$) nor attitude score ($\beta = .029$, $p = 0.804$) were significant predictors.

Regression analysis (between knowledge score and demographic variables, i.e., age, gender, college of study and living place during study)

- The overall model is **not statistically significant** ($p = .055$). Gender is the only significant predictor ($p=0.011$). Age, college, and place of living do not significantly affect knowledge score. The model explains only ~11.8% of the variation, meaning most of the variation in knowledge score comes from other unmeasured factors

Regression (between attitude score and demographic variables, i.e., age, gender, college of study and living place during study)

- The regression model is **statistically significant overall** ($p = .001$). Age and gender are significant predictors of attitude score. College and living place are not significant in predicting attitude score. The model explains **18.5%** of the variation in attitude.

Regression analysis (between practice score and demographic variables, i.e., age, gender, college of study and living place during study)

- **The regression model is not significant overall** ($p = .921$). **None** of the individual predictors (age, gender, college, living place) significantly explain variation in practice score. $R^2 = 0.010 \rightarrow$ means ~90% of the variability in practice is due to **other factors not in this model**. This model **does not explain** practice behavior. All predictors are **statistically non-significant**.

DISCUSSION

The present study aimed to understand the relationship between knowledge, attitudes, and practices (KAP) regarding street food consumption among post-graduate students.

The correlation analysis provides insights into how KAP components influence one another. The results showed a weak positive but statistically significant correlation between knowledge and attitude. This indicates that adequate knowledge about street food consumption and safety practices is associated with more positive attitudes toward consumption practices. However, the strength of this correlation suggests that while knowledge may form attitude, other determinants of behaviour such as peer influence, change of taste, and convenience may also play roles in deciding the consumption of street-food.

Further, the relationship between knowledge and practice was statistically non-significant. This suggests that even with sufficient knowledge, students may not certainly adopt healthy food practices, highlighting towards a knowledge-practice gap. Likewise, the correlation between attitude and practice was not statistically significant, indicating that a positive attitude does not translate into healthier practices/behavior regarding food consumption.

These findings highlight a gap between student's knowledge about street food and how they actually behave or increasing knowledge is not enough to drive better practice . Behavioral practices are likely influenced by other factors such as accessibility, taste preferences, and social habits, etc.

CONCLUSION

This KAP survey highlights the intricacy of student's behavior concerning street food consumption and safety practices. While good knowledge positively influences attitudes to some extent, it does not necessarily translate to actual practices. These results suggest that interventions with a more comprehensive approach including behavior change communication, health education campaigns, or college-led programs, may be needed to bridge the knowledge-practice gap.

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KAP Survey

<https://forms.gle/HdxbYM2iRFcswcEY9>

INFORMED CONSENT

We invite you to participate in a research study that explores the knowledge, attitude, and practices (KAP) regarding street-food consumption and food safety of street-food among postgraduate students in New Delhi.

Study Description

The questionnaire includes questions on:

- Your age, gender, and academic background
- Your knowledge and understanding of healthy eating and street-food consumption

Benefit(s) of the survey:

While there is no direct benefit to you, the findings may help in designing better awareness programs and strategies for promoting healthier lifestyles among students.

Confidentiality:

All information provided will remain confidential. This survey is anonymous, and no identifying details will be collected. Responses will be coded and securely stored for research purposes only.

Consent

By filling this form, you confirm that you are a postgraduate student residing in New Delhi, and that you have read and understood this form. Your consent indicates that you are participating voluntarily in this study.

Section A: Demographic Information

1. Age:

- ☐ 18-25

- ☐ >25

2. Gender:

- ☐ Male

- ☐ Female

- ☐ Other

3. Year of Study:

- ☐ 1st Year

- ☐ 2nd Year

- ☐ Postgraduate

4. Field of Study during post-graduation:

- ☐ Science

- ☐ Arts

- ☐ BBA/MBA

- ☐ Engineering

- ☐ Medical Science

- ☐ Others

5. Living place during study?

- ☐ With Family

- ☐ College hostel

- ☐ PG/Flat/others

6. Food preferences

- ☐ Vegetarian

- ☐ Non-vegetarian

- ☐ Eggetarian

7. Smoking

- ☐ regular

- ☐ Occasional

- ☐ Never

8. Alcohol frequency

- ☐ Regular

- ☐ Occasional

-[] Never

Section B: Knowledge

1. Do you know what are the major food groups in a balanced diet? [] Yes [] No [] Not Sure
2. Do you know the recommended daily servings of fruits and vegetables for adults or children? [] Yes [] No [] Not Sure
3. Are you aware that improper food storage can lead to bacterial contamination? [] Yes [] No [] Not Sure
4. Do you prefer street food over home-cooked? [] Always [] Never [] Sometimes
5. Do you think street food can cause foodborne diseases? [] Yes [] No [] Not Sure
6. Do you think street food consumption/trans-fat can increase the risk of developing non-communicable diseases (NCDs) such as cardiovascular disease? [] Yes [] No [] Not Sure
7. Do you know the recommended daily water intake for adults? [] Yes [] No [] Not Sure

Section C: Attitude

Please indicate your level of agreement:

1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

Statement	1	2	3	4	5
1. Do you feel motivated to eat healthy food (fruits and vegetables) regularly?					
2. I believe it's ok to indulge in street food occasionally if we maintain a healthy lifestyle.					
3. I believe street food is					

generally safe to eat.					
4. I am concerned about hygiene and clean surroundings when eating street food.					
5. I believe that skipping meals can negatively affect my health.					
6. I believe that university canteens should offer more healthy food options.					

7. What are you most concerned about the street food safety issues?

- ☐ Use of food additives & low-quality ingredients
- ☐ pesticide residue
- ☐ Heavy metals/microbe pollution
- ☐ Unhygienic food & environment
- ☐ May cause health-related problems
- ☐ Others

Section D: Practice

1. How many meals do you consume per day?

- ☐ 1-3

- ☐ 4-5

- ☐ More than 5

2. How often do you eat street food?

- ☐ Daily

- ☐ 2–3 times a week

- ☐ Once a week

- ☐ Rarely

- ☐ Never

3. What is your reason for preferring street food over home-cooked food? (Barriers to healthy eating)

- ☐ Change of taste and I often find it hard to resist street-foods
- ☐ I often find that street-foods are more convenient to eat
- ☐ Peer group
- ☐ Enthusiasm to try out new dishes
- ☐ To remove stress
- ☐ Time-saving (Preparing a healthier diet takes too much time)
- ☐ Less price
- ☐ Others

4. Do you check whether the food is freshly prepared?

- ☐ Always
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

5. Have you ever fallen ill after consuming street food?

- ☐ Yes
- ☐ No

Expected outcomes

Knowledge-Based Questions with Scoring

Assigned scores:

Correct/Health-Aware Answer = 1

Incorrect / Not Sure / Misconception = 0

Scoring of questions:

Q.No	Question	Answer Choices	Correct Answer(s)	Score (Yes = 1, No/Not Sure = 0)
1	Do you know what are the major food groups in a balanced diet?	☐ Yes ☐ No ☐ Not Sure	Yes	Yes = 1; No/Not Sure = 0
2	Do you know the recommended daily servings of fruits and vegetables for adults or children?	☐ Yes ☐ No ☐ Not Sure	Yes	Yes = 1; No/Not Sure = 0

Q.No	Question	Answer Choices	Correct Answer(s)	Score (Yes = 1, No/Not Sure = 0)
3	Are you aware that improper food storage can lead to bacterial contamination?	☐ Yes ☐ No ☐ Not Sure	Yes	Yes = 1; No/Not Sure = 0
4	Do you think street food can cause foodborne diseases?	☐ Yes ☐ No ☐ Not Sure	Yes	Yes = 1; No/Not Sure = 0
5	Do you think street food/trans-fat can increase risk of NCDs like cardiovascular diseases?	☐ Yes ☐ No ☐ Not Sure	Yes	Yes = 1; No/Not Sure = 0
6	Do you know the recommended daily water intake for adults?	☐ Yes ☐ No ☐ Not Sure	Yes	Yes = 1; No/Not Sure = 0

Scoring Summary

Total Questions: 6

Maximum Score: 6

Minimum Score: 0

Score Range	Interpretation
0–2	Poor Knowledge
3–4	Moderate Knowledge
5–6	Good/High Knowledge

Scoring Likert Scale Attitude Statements

Statement	Scoring
1 Motivated to eat healthy food	1 (Strongly Disagree) to 5 (Strongly Agree)
2 OK to indulge in street food occasionally	1 (Strongly Disagree) to 5 (Strongly Agree)
3 Street food is generally safe	5 (Strongly Disagree) to 1 (Strongly Agree)
4 Concerned about hygiene when eating street food	1 (Strongly Disagree) to 5 (Strongly Agree)
5 Skipping meals is harmful	1 (Strongly Disagree) to 5 (Strongly Agree)
6 Canteens should offer healthy food	1 (Strongly Disagree) to 5 (Strongly Agree)

Attitude Level interpretation:

Total Score Range Attitude Level

6–14	Poor/Negative Attitude
15–23	Moderate Attitude
24–30	Good/Positive Attitude

Question 9: What are you most concerned about the street food safety issues?

- [] Use of food additives & low-quality ingredients
- [] pesticide residue
- [] Heavy metals/microbe pollution
- [] Unhygienic food & environment
- [] May cause health-related problems
- [] Others

Scoring: In this question, each option reflects a negative attitude toward street food safety, meaning that more selections indicate a greater concern. 1 point for each selected option and 0 point for unselected. Therefore, total score ranges from 0 to 6

Total Score Interpretation

0–1	Low concern (lenient attitude)
2–3	Moderate concern (aware attitude)
4–6	High concern (positive attitude)

Overall Scoring Summary

6-16	Poor attitude
17-27	Moderate attitude
28-36	Good attitude

Scoring for practice-based questions

How many meals do you consume per day?

Response	Score	Explanation
1–3	1	May suggest under-eating or irregular meals
4–5	2	Healthy, balanced meal pattern

Response	Score	Explanation
More than 5	1	May suggest overeating or unnecessary snacking

2. How often do you eat street food?

Response	Score
Daily	0
2–3 times a week	1
Once a week	2
Rarely	3
Never	4

3. Do you check whether the food is freshly prepared?

Option	Score	Explanation
Always	3	Ideal hygiene awareness
Sometimes	2	Moderate awareness
Rarely	1	Low awareness
Never	0	No awareness

4. Have you ever fallen ill after consuming street food?

Option	Score	Explanation
Yes	–1	Indicates unsafe eating experiences
No	1	Suggests careful food choices

5. Do you prefer street food over home-cooked?

Never	1
Always	0
Sometimes	0

Scoring Summary for Each Question

Q. No.	Question Brief	Score Range
1	Meals per day	1 to 2

Q. No.	Question Brief	Score Range
2	Frequency of eating street food	0 to 4
3	Check if food is freshly prepared	0 to 3
4	Illness after eating street food	-1 to 1
5	Preference for street food	0 to 1

Total Combined Score Range

Minimum Score =

$$Q1 (1) + Q2 (0) + Q3 (0) + Q4 (-1) + Q5 (0) = 0$$

Maximum Score =

$$Q1 (2) + Q2 (4) + Q3 (3) + Q4 (1) + Q5 (1) = 11$$

Final Score Range: 0 to +11

Interpretation (Total Score: 0 to 11)

Score Range Practice Level

0 to 4	Poor behavior
5 to 8	Moderate (mixed habits/barriers)
9 to 11	Good (healthy lifestyle choices)

Himani DIS

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