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A Study on Knowledge of Under Graduate Students on Street Food and Its Health Hazards in Mandya District, Karnataka

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Abstract

Street food is very popular in India. Many people of low socioeconomic status depend on street food for survival. Different types of street foods are available in India and vary according to geographical location and extent of food habits and preferences of the resident people. For example, in Mandya district of Karnataka, tea, lassi, panipuri, bajji, gobi manchuri, omlet, fried rice, chicken kabab and noodles are the most commonly available street food. However, street food may be adulterated with artificial colours and microbes or their toxins, which raise several health concerns. Vendors often little care in preparing and handling street food. These things are of tremendous public health concern, since eating out of eating street food is seen across all age groups. In this article the authors have discussed these aspects of street food.

Keywords: street foods, health hazards, under graduate students, fast foods, junk foods, unhygienic.

1.1. Introduction

Food is an important part of a balanced diet. It is something needed every day. Life can be sustained only with adequate nourishment. human needs food for growth and development and leads to an active and healthy life but now a days street food has become a common food source all over India because people from all economic classes eat on the roadside and it sometime felt that taste of street food is better than restaurant in the city.

Street food and fast food are also taken in the same context as junk. When we speak of street food, the fact that it's cooked in unhealthy conditions makes it more un-healthy than the same food made at home. Coming to the latter, fast food is the kind of food item which can be made and served quickly. The biggest irony regarding junk food is the fact that it's mostly prepared out of healthy food.

Street food is ready-to-eat food or drink sold by a hawker, or vendor, in a street or other public place, such as at a market or fair. It is often sold from a portable food booth, food cart, or food truck and meant for immediate consumption. Some street foods are regional, but many have spread beyond their region of origin. Most street foods are classed as both finger food and fast food and are cheaper on average than restaurant meals. According to a 2024 study from the Food and Agriculture Organization, 3.8 billion people eat street food every day.

Today, people may purchase street food for a number of reasons, such as to get flavorful food for a reasonable price in a sociable setting, to experience ethnic cuisines, or for nostalgia.

The growth in nuclear families, particularly in urban India, exposure to global media and Western cuisine and an increasing number of women joining the work force have had an impact on eating out trends.

Street food trading solves major social and economic problems in developing countries through the provision of ready-made meals at relatively inexpensive prices and employment for teeming rural and urban populace along its value chain. Unhygienic, unhealthy and harmful are the words that come to one mind while talking about street food eating. The

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most common street foods are Mangalore Buns, Davangere Benne Dosa, Pani Puri, Kachori, Churmuri, Neer Dosa, Sathriyani, Idli Sambhar, Vada Pav, Kebabs, Bhajji, Chaat, Pav Bhaji, Dosa, Poori, etc.

Health hazards of street foods are Foodborne Illnesses, Poor Hygiene, Use of Contaminated Water, Improper Storage of Food, Use of Recycled Oil, Allergic Reactions, Excessive Oil and Fat, Food Additives and Artificial Colors, Contaminated Street Utensils, Unregulated Sources of Meat, Spoiled Ingredients, Excessive Spices, Non-Food Grade Containers, Environmental Pollution, excessive use of plastic covers, etc.

1.2 Review of Literature

1. Singh, 2016 Street food plays a vital role in India's culinary culture, representing regional diversity and offering affordable, quick meals that cater to various tastes.
2. Sood & Sharma, 2019 Street food vendors contribute significantly to the informal economy, offering employment to millions of people and generating substantial revenue, especially in urban areas.
3. Sharma & Kapoor, 2020 While street food is rich in flavors, its nutritional value is often questioned, with concerns about excessive salt, sugar, and unhealthy fats.
4. Kumar et al., 2018 Street food in India is often associated with foodborne illnesses, due to issues like improper food storage, lack of hygiene, and contamination.
5. Das & Patil, 2017 Studies suggest that taste, convenience, and low cost are the primary factors that drive consumers to street food vendors, especially in urban areas.
6. Verma, 2021 Although Street food is subject to health and safety regulations in India, enforcement remains weak, and many vendors lack proper certifications or hygiene practices.
7. Rana, 2015 Street food consumption serves as a space for socialization, where people from diverse backgrounds gather, sharing not just food but cultural experiences.
8. Jha, 2020 As urbanization increases, the demand for street food grows, particularly in crowded cities where it provides affordable and quick meals to working-class populations.
9. Chakraborty, 2019 Street food items in India vary according to the season and region, with different foods becoming popular during specific festivals, weather conditions, or local preferences.
10. Singh & Gupta, 2019 Street food is an integral part of India's tourism industry, attracting both domestic and international tourists who seek authentic, local culinary experiences.
11. Rathi & Shukla, 2018 Street food vendors face numerous challenges such as lack of access to clean water, poor infrastructure, and difficulties in acquiring official licenses.
12. Patel & Nair, 2017 Increasingly, women are becoming entrepreneurs in the street food business, especially in rural and semi-urban areas, contributing to gender empowerment.
13. Mishra & Singh, 2016 There is growing concern over the role of street food in the spread of infectious

diseases, particularly in areas with inadequate sanitation and waste management.

14. Singh et al., 2020 Despite the growing awareness of foodborne illnesses, many consumers continue to opt for street food, due to its affordability and convenience. There is a need for education on food safety practices.
15. Gupta, 2021 The COVID-19 pandemic significantly affected the street food sector in India, with vendors struggling to maintain business due to lockdowns and restrictions, leading to a shift toward contactless food delivery models.

1.3 Objectives of the Study

1. To assess the level of knowledge regarding street food and its hazards.
2. To find out awareness level about hygiene.
3. To find out association between knowledge scores with selected demographic variables.
4. To give suggestions and recommendations.

1.4 Hypothesis

H1: There will be a significant difference between pre-test and post-test knowledge scores, of under graduate students.
H2: There will be a significant association between posttest knowledge level of under graduate students.

1.5 Research Approach

Research approach refers to the approach or the methodology that has been adopted to conduct the research. It basically involves the selection of research problems, the conceptual framework that has to be adopted.

A Descriptive survey approach was used in the study since the study aimed to assess the knowledge regarding street food and its hazards on their health among under graduate students of Mandya district in Karnataka.

1.6 Research Design

The research design is the plan, structure and strategy of investigation for answering the research questions. It is over all plans or blueprints the researcher selects to carry out the study. Research design reveals the overall plan for organization of scientific investigation. It helps the researcher in the selection of subjects, manipulation of independent variables and observation of a type statistical method to be used to interpret data. The present study adopts descriptive design.

Material And Methods

Study Design and Participants

Present study was a descriptive survey design with convenient sample of 100 under graduate students of Mandya district in Karnataka were selected for the study.

Population

Population is the entire set of individuals or objects having some common characteristics. In this study population is under graduate students of Mandya district in Karnataka were selected for the study.

Sampling Technique

Sampling technique adopted for the selection of sample is simple random sampling technique.

Data Collection Method

In the present study was collected by the use of closed ended structured interview schedule

Instruments

Structured Questionnaire with Multiple choices

questionnaire having 3 distracters with one correct answer. It consists of 60 items which includes 20 questions to assess the knowledge of the students. Each correct response carried a weightage of one score. Thus, the maximum score is 20 and the minimum score is 0.

1.7 Demographic Data

The socio demographic variables include Age, sex, Religion, Place of residence, type of family, family income.

Data Analysis

The data obtained were analyzed in terms of the objectives of the study using Descriptive and Inferential statistics. A master data sheet was prepared with responses given by the participants. Frequency and percentage for the analysis of demographic data. The mean and standard deviation of answered questions. The Chi Square test was used to determine association between knowledge level and selected demographic variables presented in tables and graphs.

Reliability of the tool

The reliability of the instrument was established by administering the tool to 5 under graduate students. the co-efficient of internal consistency was completed for interview structure knowledge questionnaire using split – half technique. The reliability of the test was found out by using Karl Pearson's co-efficient correlation formula. The reliability co-efficient obtained was 0.9 which indicates the tool is reliable.

Presentation of data

The data is presented by using following section:

Section A: findings related to socio- demographic variables of under graduate students.

Section B: findings related to mean, median Standard deviation, Range of knowledge.

Section C: Findings related to knowledge of under graduate students on street food and its hazards.

Table – 1: Table showing Demographic Variables of Respondents.

Demographic Variables	Frequency	Percentage (%)
Age in years		
18-19	12	12
19-20	38	38
20-21	35	35
21-22	15	15
Sex		
a) Male	72	72
b) Female	28	28
Religion		
a) Hindu	76	76
b) Christian	08	08
c) Muslim	10	10
d) Others	06	06
Place		
a) Urban	36	36
b) Rural	64	64
Family		
a) Nuclear	84	84
b) Joint	16	16
Income (Rs.)		
10,000 to 15,000	36	36
15,001 to 20,000	16	16
20,001 to 30,000	40	40
Above Rs. 30,001	08	08
Total	100	100

1.8 Association of Pre-Test Knowledge Scores and Selected Demographic Variables

Table – 2: Table showing Association of Pre-Test Knowledge Scores with Selected Demographic Variables.

Demographic Variables	Frequency	Percentage (%)	χ^2 Value	P Value
Age in years				
18-19	12	12	0.02 (NS)	p>0.05
19-20	38	38		
20-21	35	35		
21-22	15	15		
Sex				
c) Male	72	72	1.20 (NS)	p>0.05
d) Female	28	28		
Religion				
e) Hindu	76	76	0.14 (NS)	P<0.05
f) Christian	08	08		
g) Muslim	10	10		
h) Others	06	06		

Place				
c) Urban	36	36	0.27 (NS)	p>0.05
d) Rural	64	64		
Family				
c) Nuclear	84	84	1.12 (NS)	p>0.05
d) Joint	16	16		
Income (Rs.)				
10,000 to 15,000	36	36	7.81 (S)	p>0.05
15,001 to 20,000	16	16		
20,001 to 30,000	40	40		
Above Rs. 30,001	08	08		

Table – 3: Table showing Mean, Median, Mode, Standard Deviation and range of knowledge scores of respondents regarding street food and its hazard.

Area of Analysis	Mean	Median	Standard Deviation
Knowledge of under graduate students regarding street food and its hazard	10.5	10.5	2.3

Table – 4: Table showing Frequency and percentage distribution of knowledge scores of respondents regarding street food and its hazard.

	Frequency	Percentage
Inadequate (<50%)	48	48
Moderate (51-75%)	46	46
Adequate (>75%)	6	6

SECTION A: Findings related to social demographic variables of respondents.

- Majority of respondents (38%) belongs to 19-20 years of age, while minimum (12%) belongs to 18-19 years of age.
- Majority of respondents (72%) are male students, while minimum (28%) are female students.
- Majority of respondents (76%) belongs to Hindu and (6%) belongs to Others.
- Majority of respondents (84%) belongs to nuclear family, while minimum (16%) belongs to joint family.
- Majority of respondents (64%) belongs to rural areas, while minimum (36%) belongs to urban areas.
- Majority of respondents that (36%) belongs to more than Rs 10,000-15,000 income, (8%) belongs to Rs 30,001 income. (40%) belongs to 20,001 to 30,000 income and remaining (16%) belongs to below 15,001 to 20,000 incomes.

Section B: Mean, Median, Standard Deviation, and Range of knowledge score of respondents under graduate students regarding street food and its hazards.

In this study, mean score was (10.5), median (10.5), and standard deviation was (2.1). There are almost (50%) having inadequate knowledge, (48%) having moderate knowledge about the subjects and (2%) having adequate knowledge regarding street food and its hazards.

Section C: Findings related to level of knowledge of under graduate students regarding street food and its hazards.

In a majority of subjects 25(50%) had inadequate knowledge, subjects 24(48%) had moderate knowledge and 1(2%) had adequate knowledge of under graduate students.

Section-D: Association between the selected demographic variable and the knowledge scores of under graduate students regarding street food and its hazards.

Chi-Square of knowledge level of students in order to age is ($X^2=0.021$, $df=1$), sex($X^2=1.20$, $df=1$), religion($X^2=0.14$, $df=1$), type of family($X^2=1.12$, $df=1$), place($X^2=$

0.27, $df=1$), and family income ($X^2=7.81$, $df=3$). Here age, sex, religion, type of family, and place are not significant with knowledge of under graduate students but family income is significant with the knowledge of under graduate students.

1.9 Conclusion

The findings of the study concluded that most of the students have inadequate and moderate knowledge regarding street food and its hazards. This study is effective to gain knowledge regarding street food and its hazards.

Street foods in Karnataka are a vital part of daily life, offering an affordable and convenient source of nourishment for millions. The variety and taste of local delicacies like "pani puri," "bajji," "churumuri," and "neer dosa" make them immensely popular across urban and rural areas. However, this thriving street food culture comes with significant health risks that need urgent attention. As much as street foods contribute to the region's food culture and economy, they also pose a threat to public health due to inconsistent hygiene practices and unregulated food preparation methods.

The primary health hazards associated with street food in Karnataka stem from improper food handling, storage, and the use of contaminated water. Vendors often operate in unhygienic conditions, with little access to clean water, proper sanitation, or safe storage facilities. These issues significantly increase the likelihood of foodborne illnesses, such as Salmonella, E. coli, and cholera. The presence of pests, flies, and pollution in the environment further exacerbates these health risks, making it essential for vendors to adopt stricter hygiene standards and food safety protocols to protect consumers from potential hazards.

To mitigate these health risks, there needs to be a more robust regulatory framework for street food vendors in Karnataka. Local authorities should enforce food safety laws more effectively and provide training for vendors on hygiene practices and food handling techniques. Public awareness campaigns can also help educate consumers

about the potential health risks associated with street food and encourage them to choose safer options. By addressing these health hazards, Karnataka can preserve the cultural essence of its street food while ensuring that it remains a safe and enjoyable experience for all.

1.10 Further Research

Interventions should be aimed at improving the knowledge of under graduate students regarding hazards of street food as it has been shown that higher increased knowledge about street food. Similar studies can be replicated on a large sample to generalize the findings. An experimental study can be undertaken with control group for effective comparison. A comparative study can be conducted between urban and rural children. A similar study on large and wider samples for a longer period would be more pertinent in making board generalization.

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