

Knowledge, attitude, and practice of food hygiene among food vendors in Imo state University owerri

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Abstract:

The aim of this study was to assess the Knowledge, attitude, and practice of food hygiene among food vendors in Imo State University. Five (5) research questions and objectives were used in this study. The study adopted a descriptive cross sectional design. The sampling technique used in this study was a random sampling technique. The sample size consisted of 67 Food vendors operating within Imo State University environment. The primary instrument for data collection was a structured questionnaire. The collected data was analyzed using descriptive statistics which include frequencies, percentages. Results revealed that majority of the respondents were single (20%) within the ages of 18-23years (50%). Also majority of the respondents were Igbos (60%), among males (60%)and with 2years in business (40%).The level of knowledge on food hygiene among food vendors in Imo State University was majorly (50%).Also majority of the respondents on the level of awareness on food hygiene among food vendors in Imo State University were High Extent (40%).On the level of practices on food hygiene among food vendors in Imo State University, majority indicated Storage Practices (40%).On challenges faced by food vendors in Imo State University in implementing food hygiene practices effectively, majority indicated Knowledge Gap (40%).The major strategies towards food vendors in Imo State University in implementing food hygiene practices was Education and Training. Collaborative efforts between the university, health authorities, and relevant organizations should be initiated to design and implement educational programs that provide food vendors with practical knowledge and skills on food hygiene.

Key Words: Knowledge, attitude food hygiene, food vendors, Imo state University owerri

Introduction

Food hygiene refers to the practices and measures taken to ensure the safety and cleanliness of food from production to consumption. It involves handling preparation, and storage of food in a way that Foodborne illnesses continue to be a major global public health concern, causing millions of cases and even deaths each year. The World Health Organization (WHO) estimates that approximately 600 million -people worldwide fall ill due to contaminated food, and around 420,000 of them die annually. Most of these cases are preventable with the implementation of proper food hygiene practices. Food vendors, including street food vendors, mobile vendors, and those operating in open markets, are particularly vulnerable to contributing to foodborne diseases due to their often-limited resources and lack of formal food safety training [2].

prevents contamination and reduces the risk of food borne illnesses. Proper food hygiene is essential to protect consumers from harmful bacteria, viruses, parasites, and chemical contaminants that can cause foodborne diseases [1]

Food hygiene refers to the practices and conditions necessary to ensure the safety and quality of food throughout its entire production, preparation, handling, and storage processes. It involves maintaining high standards of cleanliness and following safe food handling practices to prevent contamination and the growth of harmful microorganisms in food items. Proper food hygiene is crucial in minimizing the risk of foodborne illnesses and safeguarding public health [3]

Food vendors are essential players in the food supply chain, especially in urban areas and communities where ready-to-eat food is widely consumed. They serve a diverse range of food items,

including snacks, beverages, and cooked meals, to a large number of customers daily. While they provide convenience and access to affordable food, the potential risk of foodborne illnesses is heightened due to factors such as limited resources, inadequate training, and challenging working conditions [4]

One of the key factors influencing the safety of food sold by vendors is their level of knowledge regarding food hygiene. Knowledgeable food vendors are more likely to understand the risks associated with improper food handling and storage practices, leading to the adoption of better practices. Attitudes towards food hygiene encompass the beliefs, perceptions, and feelings of food vendors towards the importance of food safety. Positive attitudes towards food hygiene can lead to a greater sense of responsibility and commitment to following best practices. On the other hand, negative attitudes may result in complacency and a lack of adherence to food safety guidelines. Understanding the attitudes of food vendors towards food hygiene can provide valuable insights into their willingness to change and improve their practices. The practices of food vendors directly impact the safety of the food they sell. This includes aspects such as personal hygiene, food handling techniques, cleanliness of utensils and equipment, and the storage conditions of food items [5]

Foodborne illnesses are a significant public health concern globally, and improper food handling practices by food vendors are often a major contributing factor. Food vendors play a crucial role in providing food to students, staff, and visitors within the university campus. However, there is limited research on the knowledge, attitude, and practice of food hygiene among food vendors in Imo State University. Food vendors in the university may lack essential knowledge about proper food handling techniques, hygiene practices, and food safety regulations. Insufficient knowledge can lead to food contamination, potentially causing foodborne illnesses among the campus population. The attitude of food vendors towards food hygiene practices is critical in determining their commitment to maintaining high food safety standards. Negative attitudes or misconceptions about food hygiene may lead to complacency and a lack of motivation to adhere to recommended food safety guidelines. Despite having the necessary knowledge and positive attitudes, food vendors may still fail to implement appropriate food handling practices consistently. Factors such as time constraints, lack of resources, or limited access to food safety training can hinder the application of food safety measures. Unsafe food practices among food vendors can lead to the transmission of foodborne pathogens to the university population, resulting in foodborne diseases and outbreaks. The health and well-being of students, staff, and visitors are at risk when food hygiene is not adequately ensured. The university administration is responsible for ensuring the health and safety of its community members. Inadequate food hygiene practices among vendors can reflect poorly on the university and may lead to reputational damage.

Materials And Methods

Research Design

The study adopted a descriptive cross-sectional design. This design offers several advantages that align with the research objectives and practical considerations. A cross-sectional design involves collecting data from a sample of individuals at a single point in time

Area of Study

Imo State University (IMSU) is located in Owerri, the capital city of

Imo State, Nigeria. Owerri is situated in the southeastern part of Nigeria and is bordered by Abia State to the east, Anambra State to the north, Rivers State to the south, and Delta State to the west. Owerri has a diverse population with a mix of indigenous Igbo people and residents from various ethnic backgrounds and regions of Nigeria. The city is known for its vibrant and dynamic population, which includes students from different parts of the country and international students attending Imo State University.

Owerri has a rich cultural heritage with a history that dates back centuries. The city is known for its traditional festivals, cultural dances, and historical landmarks. The indigenous Igbo people have a strong cultural identity, and their customs and traditions are celebrated during various festivals and events. IMSU is a state-owned institution of higher learning located in Owerri. It was established in 1981 and has grown to become one of the prominent universities in the southeastern region of Nigeria. The university offers a wide range of academic programs and is known for its commitment to academic excellence and research.

The IMSU campus is situated on a large expanse of land and is equipped with modern facilities and infrastructure. It comprises several academic buildings, faculty offices, libraries, laboratories, hostels, sports facilities, and administrative offices. The university provides a conducive learning environment for students and offers various amenities to cater to their academic and extracurricular needs. IMSU is renowned for its academic achievements and research contributions in various fields. The university offers programs in areas such as arts, sciences, social sciences, engineering, law, education, and health sciences. Faculty members are highly qualified and dedicated to providing quality education to the students.

Owerri, being a university town, has a vibrant cultural and social life. The presence of students from diverse backgrounds adds to the city's lively atmosphere. Students engage in various cultural activities, social events, and sports competitions, making Owerri an exciting and dynamic place to live and study. As a major educational institution in the state, IMSU contributes significantly to the economic development of Owerri and its surroundings. The university provides employment opportunities for faculty, administrative staff, and support personnel. Additionally, the presence of students and visitors stimulates economic activities in the area, including hospitality, transportation, and retail businesses.

Study Population

The study population consisted of 200 participants. The study population for this study consists of all food vendors operating within the premises of Imo State University. This includes individuals who sell food items and beverages to students, staff, and visitors within the university campus. The study focused on food vendors from various categories, such as small kiosks, food trucks, cafeteria operators, and those selling snacks and drinks at various locations within the university campus

Sampling Technique

The sampling technique used in this study was a random sampling technique. This consisted 67 Food Vendors operating within Imo State University environment.

Instrument for Data Collection

The primary instrument for data collection was a structured

questionnaire. The questionnaire was designed to determine the objectives of the study. It included both closed-ended and open-ended questions to capture quantitative and qualitative data

Validity/Reliability of Instrument

The instrument used for data collection underwent a process of validity and reliability assessment. Content validity was ensured by consulting experts in the field and reviewing relevant literature. The questionnaire was validated by the supervisor on the study. Pilot testing of the instrument was conducted to assess its reliability and make necessary modifications to improve clarity and comprehensibility.

Method of data collection

The data collection involved a self-administered questionnaire. The questionnaires was distributed to the selected participants during designated times and locations within the local government. The questionnaire was interpreted to the participants was instructed on how to complete the questionnaire, and they had the opportunity to seek clarifications if needed

Method of Data Analysis:

The collected data was analyzed using appropriate statistical methods. Descriptive statistics such as frequencies, percentages, and measures of central tendency was used to summarize the data. Inferential statistics, such as chi-square tests or regression analysis, may be employed to examine relationships and associations between variables.

Method of Data Analysis:

The collected data was analyzed using appropriate statistical methods. Descriptive statistics such as frequencies, percentages, and measures of central tendency was used to summarize the data. Inferential statistics, such as chi-square tests or regression analysis, may be employed to examine relationships and associations between variables.

Results

This chapter deals with the analysis and presentation of data. Simple tables were used to show the distribution of responses to the various questions. Sixty-seven (67) questionnaires were distributed to the respondents while Fifty (50) questionnaires were returned.

Table 4.1 Demographic Characteristics

Marital Status	Frequency	Percentage (%)
Married	15	30.0
Single	20	40.0
Others	15	30.0
Total	50	100.0

(Source: Field survey, 2023)

(Source: Field survey, 2023) The above table shows that 15 (30.0%) of the respondents are married, 20 (40.0%) of the respondents are single and 15 (30.0%) of the respondents are others.

Table 4.2 Demographic Characteristics

Age (years)	Frequency	Percentage (%)
18-23	25	50.0
24-29	10	20.0
30-35	5	10.0
36-above	10	20.0
Total	50	100.0

(Source: Field survey, 2023)

The above table shows that 25 (50.0%) of the respondents are between 18-23 years, 10 (20.0%) of the respondents are within 24-29 years, 5 (10.0%) of the respondents are within 30-35 years and 10 (20.0%) of the respondents are within 36 and above years.

Table 4.3 Demographic Characteristics

Ethnicity	Frequency	Percentage (%)
Igbo	30	60.0
Hausa	10	20.0
Yoruba	5	10.0
Others	5	10.0
Total	50	100.0

(Source: Field survey, 2023)

The above table shows that 30 (60.0%) of the respondents were Igbos, 10 (20.0%) of the respondents were Hausas, 5 (10.0%) of the respondents were Yorubas and 5 (10.0%) of the respondents were from other ethnic groups.

Table 4.4 Demographic Characteristics

Gender	Frequency	Percentage (%)
Male	30	60.0
Female	20	40.0
Total	50	100.0

(Source: Field survey, 2023)

The above table shows that 30 (60.0%) of the respondents were Males, 20 (40.0%) of the respondents were Females.

Table 4.5 Demographic Characteristics

Years in business	Frequency	Percentage (%)
Less than 1 year	15	30.0
2 Years	20	40.0
3 Years	10	20.0
More than 3 Years	5	10.0
Total	50	100.0

(Source: Field survey, 2023)

The above table shows that 15 (30.0%) of the respondents were less than 1 year in business, 20 (40.0%) of the respondents were with 2 years in business, 10 (20.0%) of the respondents were with 3 years in business and 5 (10.0%) of the respondents were with more than 3

years in business.

Result of the data analysis concerning research question

Research question 1: What is the level of knowledge on food hygiene among food vendors in Imo State University?

Table 5: showing the level of knowledge on food hygiene among food vendors in Imo State University

Items	Frequency	Percentage (%)
Adequacy of Training	25	50.0
Inadequate Personal Hygiene	5	10.0
Temperature Control	10	20.0
Cross-Contamination	5	10.0
Foodborne Pathogens	5	10.0
Total	50	100.0

(Source: Field survey, 2023)

The above table shows that 25 (50.0%) respondents indicated adequacy of Training, 5 (10.0%) respondents indicated inadequate Personal Hygiene while 10 (20%) respondents indicated temperature Control, 5 (10.0%) respondents indicated cross-Contamination and 5 (10.0%) respondents indicated Foodborne Pathogens as level of knowledge on food hygiene among food vendors in Imo State University.

Research question 2: What are the level of awareness on food hygiene among food vendors in Imo State University?

Table 6: showing the level of awareness on food hygiene among food vendors in Imo State University

S/N	Items	Frequency	Percentage (%)
1	Very High Extent	10	20.0
2	High Extent	20	40.0
3	Low Extent	10	20.0
4	Very Low Extent	10	20.0
	Total	50	100.0

(Source: Field survey, 2023)

The above table shows that 10 (20%) of the respondents indicated Very High Extent, 20 (40%) of the respondents indicated High Extent, 10 (20.0%) of the respondents indicated Low Extent and 10 (20.0%) of the respondents indicated Very Low Extent

Research question 3: What is the level of practices on food hygiene among food vendors in Imo State University?

Table 7: showing the level of practices on food hygiene among food vendors in Imo State University

S/N	Items	Frequency	Percentage (%)
1	Hand washing Practices	15	30.0
2	Use of Gloves	10	20.0
3	Clean Utensils and	5	10.0

	Surfaces		
4	Storage Practices	20	40.0
	Total	50	100.0

(Source: Field survey, 2023)

The above table shows that 15(30%) of the respondents indicated Handwashing Practices, 10 (20.0%) of the respondents indicated Use of Gloves, 5 (10.0%) of the respondents indicated Clean Utensils and Surfaces and 20 (40.0%) of the respondents indicated Storage Practices.

Research question 4: What are the challenges faced by food vendors in Imo State University in implementing food hygiene practices effectively?

Table 8: showing the challenges faced by food vendors in Imo State University in implementing food hygiene practices effectively

S/N	Items	Frequency	Percentage (%)
1	Limited Access to Clean Water and Sanitation Facilities	15	30.0
2	Lack of Infrastructure	10	20.0
3	Knowledge Gap	20	40.0
4	Limited Training Opportunities	5	10.0
	Total	50	100.0

(Source: Field survey, 2023)

The above table shows that 15 (30%) of the respondents showed limited access to Clean Water and Sanitation Facilities, 10 (20.0%) of the respondents indicated lack of Infrastructure, 20 (40%) of the respondents indicated Knowledge Gap and 5 (10.0%) of the respondents indicated limited training opportunities.

Research question 5: What are the strategies towards food vendors in Imo State University in implementing food hygiene practices?

Table 09: showing the strategies towards food vendors in Imo State University in implementing food hygiene practices

S/N	Items	Frequency	Percentage (%)
1	Education and Training	20	40.0
2	Collaboration with Local Authorities	15	30.0
3	Access to Resources	5	10.0
4	Incentives and Recognition	10	20.0
	Total	50	100.0

(Source: Field survey, 2023)

The above table shows that 20 (40%) of the respondents showed Education and Training, 15 (30.0%) of the respondents indicated collaboration with local authorities, 5 (10%) of the respondents indicated access to resources and 10 (20.0%) of the respondents indicated Incentives and Recognition

4.2Summary

Results revealed that majority of the respondents were single (20%)

within the ages of 18-23years (50%). Also majority of the respondents were Igbos (60%), among males (60%) and with 2years in business (40%).

The level of knowledge on food hygiene among food vendors in Imo State University was majorly (50%).

Also majority of the respondents on the level of awareness on food hygiene among food vendors in Imo State University were High Extent (40%).

On the level of practices on food hygiene among food vendors in Imo State University, majority indicated Storage Practices (40%).

On challenges faced by food vendors in Imo State University in implementing food hygiene practices effectively, majority indicated Knowledge Gap (40%).

The major strategies towards food vendors in Imo State University in implementing food hygiene practices was Education and Training.

Discussion

The findings of the present study shed light on various demographic characteristics of food vendors in Imo State University Owerri and provide insights into their knowledge, attitude, and practice of food hygiene. In terms of demographic characteristics, the study revealed that the majority of the respondents were single, falling in the age range of 18-23 years, and predominantly of Igbo ethnicity. This demographic profile aligns with the study conducted by [6] in Nigeria, which also reported a relatively young population of food vendors, with a significant proportion being single and of a particular ethnic group (Yoruba in their study).

Furthermore, the study found that a majority of the respondents were males, and a significant proportion had been in the food vending business for around two years. This is consistent with the results of a study by [7] conducted among food vendors in Lagos State, Nigeria, which reported a higher representation of males among food vendors. However, the findings related to the age group of the respondents highlight a difference compared to other studies. While the present study indicates that a significant proportion of food vendors are in the age group of 18-23 years, the study by [8] found that the majority of food vendors were in the age group of 31-40 years. This disparity could be attributed to the specific context of the university campus environment in the present study.

The findings of this study shed light on the level of knowledge and awareness of food hygiene among food vendors in Imo State University Owerri. In terms of the level of knowledge on food hygiene, the present study indicates that the majority of the respondents (50%) possess a moderate level of knowledge. This finding is consistent with the results of a study conducted by [9] in Abeokuta, Nigeria, which also reported a moderate level of food safety knowledge among street food vendors. Additionally, the study by [10] in Lagos State found that a significant proportion of food vendors had a moderate level of food safety knowledge.

However, the present study diverges from the findings of the study by [11] in terms of the level of awareness on food hygiene. While the current study reports a high extent of awareness (40%), the study by [12] found that the majority of food vendors had a low level of awareness regarding food safety practices. This discrepancy could be attributed to the different geographical locations and university campus settings studied.

The findings of this study provide valuable insights into the level of

awareness and practices of food hygiene among food vendors in Imo State University Owerri. In terms of the level of awareness on food hygiene, the current study reports that a significant portion (40%) of the respondents had a high extent of awareness. This aligns with the results of a study conducted by [13] in Ibadan, Nigeria, which found that a substantial proportion of food vendors exhibited a high level of awareness regarding food safety practices.

This positive trend in awareness contrasts with the findings from the study by [14] mentioned earlier. While it reported a low level of awareness among food vendors on a Nigerian university campus, the results from the current study indicate a comparatively higher level of awareness.

The current study's findings regarding the level of practices on food hygiene among food vendors at Imo State University show that the majority (40%) of respondents prioritize storage practices. This finding is consistent with the study conducted by [15] in Enugu State, which also identified storage practices as an area of emphasis among food vendors. Additionally, the study by [16] in Edo State noted that food vendors exhibited relatively better practices in areas such as storage. The current study found that a significant proportion (40%) of food vendors in IMSU identified a "knowledge gap" as a primary challenge hindering the effective implementation of food hygiene practices. This challenge resonates with findings from other studies conducted in Nigeria. For instance, a study by [17] in Abia State, Nigeria, reported that inadequate knowledge and awareness among food handlers were major barriers to proper food safety practices [18].

Furthermore, the study's results indicated that education and training were the main strategies adopted by food vendors in IMSU to enhance the implementation of food hygiene practices. This aligns with the findings of other studies that have emphasized the importance of educational interventions in improving food safety practices. A study by [19] in Cross River State, Nigeria, highlighted the significance of training and education programs to address food safety challenges among street food vendors [20].

In addition to education and training, other studies have also underscored the importance of regulatory measures and government enforcement to ensure food safety practices among vendors. A study by [21] in Lagos State, Nigeria, emphasized the need for effective regulatory policies and enforcement mechanisms to promote food safety practices among street food vendors.

Conclusion

In conclusion, the findings of this study provide valuable insights into the knowledge, awareness, practices, challenges, and strategies related to food hygiene among food vendors in Imo State University. The study highlighted several key trends and factors that contribute to the overall food hygiene situation among this group.

The demographic characteristics of the respondents, including their marital status, age group, ethnicity, gender, and years in business, shed light on the profile of food vendors in the university. This information is important for designing targeted interventions and educational programs that cater to the specific needs and preferences of this diverse group.

The level of knowledge on food hygiene among food vendors was found to be moderate, with 50% of the respondents indicating a reasonable understanding of food hygiene principles. This suggests a need for educational interventions that can bridge the knowledge

gap and enhance the overall understanding of safe food handling practices among vendors.

The high level of awareness (40%) among food vendors about food hygiene is a positive indication, indicating that many vendors are conscious of the importance of food safety. However, the actual practices of food hygiene, as revealed by the study, need further improvement.

Challenges faced by food vendors in effectively implementing food hygiene practices, particularly the "knowledge gap" identified by 40% of the respondents, call for comprehensive and continuous educational initiatives. Strengthening their knowledge base through workshops, seminars, and training sessions can empower vendors to adopt and maintain better food hygiene practices.

The identified strategy of "Education and Training" as a major approach toward improving food hygiene practices is promising. This echoes the need to focus on educational interventions that empower food vendors with the necessary skills and knowledge to handle food safely. Such strategies should be designed in collaboration with relevant health authorities and institutions to ensure their effectiveness.

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