

Food Safety Information and Hygiene Practices Among Food Handlers in Selected Hospitality Businesses in Osogbo, Nigeria

Uwaebuka Wisdom Madu¹ and Uwem Effiong Madu²

ABSTRACT

Background: This study investigated the impact of food safety information on hygiene practices in selected hospitality businesses in Osogbo, Nigeria. The study was guided by five research questions and one null hypothesis.

Method: It utilized descriptive survey design. The population comprised all the staff working in the food and beverage department in Atlantic Grand Hotel, Leisure Spring Hotel, Captain Cook, and Finger Licking, totalling 39. The sampling technique employed was Total Enumeration. A structured questionnaire was used to collect data. Analysis of the generated data was conducted through descriptive and inferential statistics.

Results: Findings indicated a high level of personal hygiene practices ($\bar{x} = 3.65, \delta = 0.53$) and a very high level of environmental hygiene practices ($\bar{x} = 3.70, \delta = 0.60$) among the food handlers. Also, there is a high level of awareness of food safety information ($\bar{x} = 2.64, \delta = 0.54$); and a high level of utilization of food safety information ($\bar{x} = 2.86, \delta = 0.32$) among food handlers. The study also established that food safety information has a positive impact on the hygiene practices of food handlers ($\bar{x} = 3.64, \delta = 0.49$).

Conclusion: The study concludes that food safety information is a prerequisite for achieving an acceptable standard of hygiene practices among food handlers, as it helps them to maintain strict personal and environmental hygiene and minimize the risk of food poisoning. Among others, the study recommended that hospitality business owners and managers should provide regular training sessions for food handlers and indeed all employees on the importance of food safety and hygiene practices to keep staff informed about the latest food safety guidelines and best practices.

¹*Corresponding author: Department of Library and Information Science, Federal Polytechnic Ede, Nigeria | maduwisdom40@yahoo.com | <https://orcid.org/0000-0001-8420-100X>

²Department of Hospitality Management, Federal Polytechnic Offa, Nigeria | inwanguwem@gmail.com

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Introduction

Foodborne diseases (FBDs) constitute a significant global public health burden, affecting individuals of all ages and socio-economic statuses. The World Health Organization (WHO) estimates that almost 1 in 10 people fall ill every year from eating contaminated food, resulting in an estimated 600 million cases and 420,000 deaths annually. These illnesses are caused by bacteria, viruses, parasites, toxins, and chemicals, and they not only cause significant morbidity and mortality but also pose a substantial economic burden on healthcare systems and impede socio-economic development by straining health systems and harming trade and tourism (WHO, 2022).

The African region bears the highest per capita burden of foodborne diseases in the world. According to the WHO African Region, over 91 million people fall ill and 137,000 die each year from FBDs. This high prevalence is exacerbated by challenges such as inadequate safe water supply, poor sanitation and hygiene infrastructure, limited regulatory oversight, and weak food safety surveillance systems (WHO, 2022). Furthermore, a lack of targeted food safety information and training for key actors, particularly food handlers, perpetuates unsafe practices along the food chain (Mensah et al., 2022).

In Nigeria, the situation is particularly dire. Foodborne illnesses like typhoid fever, cholera, and diarrheal diseases are endemic and rank among the leading causes of morbidity and mortality. A significant proportion of these outbreaks is linked to foods prepared and consumed outside the home, placing a spotlight on the hospitality industry (restaurants, hotels, and fast-food outlets). Studies have consistently shown a high level of microbial

contamination in ready-to-eat foods from these establishments, often traced back to poor hygiene practices among food handlers (Adebayo et al., 2021; Chukuezi, 2020). The sector's rapid, often unregulated growth in urban areas, coupled with the handlers' often low level of formal education and training, creates a critical point of intervention for improving public health.

Osogbo, the capital of Osun State, Nigeria, has witnessed a notable expansion in its hospitality industry, driven by its status as an administrative and commercial hub and its cultural significance. This growth has led to an increased demand for safe and hygienically prepared food from both residents and visitors. However, there is a growing public health concern regarding the adherence to food safety standards in these businesses. Preliminary observations and reports from the Osun State Ministry of Health suggest lapses in basic hygiene practices, such as improper hand washing, inadequate cleaning of utensils, and poor personal hygiene among handlers in many local establishments. These lapses potentially contribute to the high incidence of foodborne illnesses reported in local health facilities (Osun State Ministry of Health, 2023).

While the problem of poor food hygiene is acknowledged, empirical research is scarce, specifically within Osogbo that systematically investigates the nexus between food safety information and the actual hygiene practices of food handlers. Many studies in Nigeria have focused on knowledge, attitude, and practice (KAP) in isolation, but few have deeply explored how awareness and utilization of food safety information influence their day-to-day operational behaviors in a hospitality setting. Understanding this link is crucial for designing effective, targeted, and sustainable intervention programs. Therefore, this study is justified by the critical need to generate empirical evidence that bridges this gap. The crux of this research is to assess the influence of food safety information in achieving an acceptable level of hygiene practices in selected hospitality businesses in Osogbo, Nigeria. The findings will provide valuable insights for business owners,

public health policymakers, and environmental health officers to develop data-driven strategies for training, regulation, and continuous monitoring, ultimately contributing to the reduction of foodborne disease outbreaks in the city.

Statement of the Problem

Food is a basic need for man's existence. Its importance in the well-being of humans is indispensable. The food that serves the purpose of enhancing man's overall wellbeing is one that is healthy and devoid of unhygienic contamination that results in food-borne diseases. In other words, food handlers are expected to ensure strict adherence to food hygiene practices (Zenbaba et al, 2022). According to Ozioko (2013), many food handlers engage in dangerous hygiene failures, such as having unkempt hair, wearing dirty footwear, and failing to cover coughs. Furthermore, they often leave food unprotected from insects and wash equipment with dirty water in unsanitary conditions. Such practices are a primary cause of food contamination, resulting in severe consumer infections and representing a major cause of morbidity and mortality in developing countries such as Nigeria. The National Agency for Food and Drug Administration and Control (NAFDAC) consistently identifies poor hygiene practices among food handlers as a critical factor in food contamination, contributing to the high national burden of diseases like typhoid fever, cholera, and diarrheal illnesses (NAFDAC, 2021).

More so, the Osun State Ministry of Health (2023) documented numerous cases of food poisoning linked to food outlets in the state capital, while routine inspections often cite violations such as improper handwashing, unclean food contact surfaces, and poor personal hygiene of handlers. These observed failures are symptomatic of deeper, underlying causes, including weak regulatory enforcement, negative personal attitudes towards hygiene, and crucially, a profound lack of adequate food safety information and training.

While weak enforcement and attitude are significant challenges, they are often compounded by a fundamental information deficit. Food

handlers who are not properly informed about why certain practices are critical and how to execute them correctly are more likely to develop and perpetuate bad habits. This gap between knowing a rule and understanding the principles behind it is a key driver of unsafe practices (Amenu et al., 2019). Previous research in Nigeria has rightly focused on the well-documented issues of street food vending (Cheng et al., 2017; Tabit & Teffo, 2020). However, this has created a significant gap in the literature concerning the more formal, yet often equally problematic, hospitality businesses like hotels and dedicated restaurants in cities like Osogbo.

It is not sufficient to merely document poor practices; there is an urgent need to investigate the central role that food safety information plays in either enabling or preventing these practices. The critical question remains: How does the specific variable of food safety information directly influence the hygiene behaviors of handlers in Osogbo's hospitality sector? Therefore, this study was designed to bridge this empirical gap by systematically investigating the nexus between food safety information and the actual hygiene practices among food handlers in selected hospitality businesses in Osogbo, Nigeria. By identifying the specific informational gaps that lead to hazardous practices, this research will provide actionable evidence for hospitality business owners and public health authorities to develop targeted training interventions, ultimately contributing to improved food safety outcomes and a reduction in foodborne diseases

Research Questions

The study was guided by the following research questions:

1. What is the level of personal hygiene practices among food handlers in selected hospitality businesses in Osogbo?
2. What is the level of environmental hygiene practices among food handlers in selected hospitality businesses in Osogbo?

3. What is the level of awareness of food safety information among food handlers in selected hospitality businesses in Osogbo?

4. What is the level of utilization of food safety information among food handlers in selected hospitality businesses in Osogbo?

5. What is the impact of food safety information on the hygiene practices of food handlers in selected hospitality businesses in Osogbo?

Hypothesis

There is no significant impact of information on the hygiene practices of food handlers in selected hospitality businesses in Osogbo

Literature Review

Empirical literature on food safety information and hygiene practices among food handlers in Nigerian hospitality businesses reveals a field grappling with a persistent and critical paradox: a generally high level of theoretical knowledge consistently fails to translate into adequate hygienic practices. Recent studies have not only reinforced this central finding but have also begun to delve deeper into the complex socio-economic and structural determinants that underpin this disconnect (Mahmood et al., 2018).

The most prevalent and concerning trend in the literature is the discrepancy between knowledge and practice. The vast majority of food handlers are able to accurately state basic food safety principles, according to numerous studies carried out in different Nigerian states. For example, a study by Adebayo et al. (2023) revealed that handlers had high knowledge scores about cross-contamination and personal hygiene. Also, according to a study conducted in Abuja, more than 90% of participants understood the significance of handwashing during crucial situations (Chukwuezi et al., 2022).

This declarative knowledge, however, contrasts with behaviors that have been observed. Poor adherence is documented in the same body of research, with observational checklists showing that hands are not frequently washed, that the same equipment is used for raw and cooked food, and that surfaces that come into contact with food

are not adequately cleaned. This paradox is not specific to Nigeria; a study conducted in Ghana found that "knowledge alone was a poor predictor of behavior," with situational constraints serving as the main obstacle (Amenu et al., 2021, p. 8).

The literature exhibits strong agreement on the key factors perpetuating this knowledge-practice gap. Inadequate infrastructure and resource constraints are repeatedly cited as fundamental barriers. Studies in Lagos and Port Harcourt highlight that even motivated food handlers are often thwarted by a lack of consistent running water, soap, sanitizers, and refrigeration facilities (Ekanem & Gberville, 2024; Nwabor et al., 2020).

The role of managerial commitment is also emphasized as a critical determinant. Research indicates that in establishments where management actively supervises hygiene protocols, provides necessary resources, and fosters a positive safety culture, compliance is significantly higher (Chukwuezi et al., 2022). On the other hand, a lack of managerial oversight and poor working conditions, including low wages and job insecurity, demotivate handlers from implementing their knowledge, a finding corroborated by studies from East Africa (Mugo et al., 2023).

The critical role of training is another area of consensus, but recent literature has evolved to critique the nature of existing training programs. While foundational knowledge is often present, studies point to significant gaps in understanding more complex concepts like Hazard Analysis and Critical Control Points (HACCP) and temperature control. A study in Benin City found that only 28% of handlers had received formal training on HACCP principles, and knowledge of specific critical temperatures for cooking and chilling was poor (Ibrahim & Okafor, 2021).

While numerous studies in Nigeria have measured food handlers' knowledge, attitudes, and practices (KAP) as distinct categories, there is a scarcity of research that critically examines how their daily operational conduct in a hospitality environment is shaped by both their awareness of food safety information and their actual application of it. This

study bridged this gap with a focus in hospitality business in Osogbo, Nigeria.

Methods

The research design adopted for the research study was a descriptive survey. The design is suited for this study because it directly aligns with the primary objective of systematically documenting and describing the current state of food safety information and hygiene practices within a specific, real-world context. The population of the study comprised all the staff working in the food and beverage department (including chefs, waiters, and cleaners) in Atlantic Grand Hotel, Leisure Spring Hotel, Captain Cook, and Finger Licking totalling Thirty-Nine (39). The sampling technique adopted for the study was a total enumeration sampling technique because of the manageable size of the population. A structured questionnaire was used for data collection. The instrument was validated by two experts in the Hospitality Management Department at Federal Polytechnic Ede to ensure content and face validity. All observed corrections were effected before the instrument was used for data collection. The Cronbach's alpha was used to calculate the reliability of the instrument. The overall reliability coefficient of 0.92 was obtained, indicating that the instrument was highly reliable and can be replicated. The questionnaire contained five sections that elicited information to answer the research questions.

The respondents were adequately informed of the purpose of the study, and their verbal consents to participate were obtained. A total of 39 copies of the questionnaire were administered, out of which 30, representing 77%, were retrieved. The data generated for the study were collated and analysed using descriptive and inferential statistics. Descriptive statistics such as frequency counts, simple percentages, mean, and standard deviation were used to answer the research questions, while regression analysis was used to test the null hypothesis at 0.05 level of significance.

1. Data Presentation, Analysis and Interpretation

2. Research Question 1: What is the Level of personal hygiene practices among food handlers in selected hospitality businesses in Osogbo.

Results

Research Question 1: What is the Level of personal hygiene practices among food handlers in selected hospitality businesses in Osogbo

Table 1 presents the analysis of data on the level of personal hygiene practices among food handlers in selected hospitality businesses in Osogbo. The result indicates that the respondents' disposition to personal hygiene practices is high. On aggregate agreement, all the respondents (100%) affirmed that they wear clean and appropriate clothes when handling food, and 93.6% alluded to maintaining good health and reporting any feeling of ill health to medical personnel. The table further revealed that all the items exceed the cutoff mean of 2.5, with the least being 3.53, which falls in the highest region of Strongly Agreed. Also, the grand mean yielded ($\bar{x} = 3.65, \delta = 0.53$), implying a high level

of compliance with personal hygiene practices among the respondents. Therefore, it can be concluded that there is a high level of personal hygiene practices among food handlers in the selected hospitality businesses in Osogbo.

This finding may be attributed to different factors. One of them could be the respondents' individual background and personal commitment towards maintaining personal hygiene. It could also be as a result of the personal hygiene information made available by their employers or that they accessed by themselves from various sources. The finding of this study with regards to personal hygiene of food handlers is in line with Tuglo et al. (2021) who reported the routine of personal hygiene practices expected from food handlers in the hospitality business include: bathing or showering; brushing and flossing teeth; using mouthwash; cutting or manicuring finger nails; maintaining clean work clothes; treating skin allergies, conditions or wounds; using deodorant, wearing clean bandages on wounds and washing scalp and hair.

Table 1: Level of Personal Hygiene Practices

| SN | Personal Hygiene Practices | SA | | A | | D | | SD | | Mean \bar{x} | Std. Dev. | Rank |
|----|--|-------|------|-------|------|-------|-----|-------|---|----------------|-----------|-----------------|
| | | Freq. | % | Freq. | % | Freq. | % | Freq. | % | | | |
| 1 | I wear clean and appropriate cloths when handling food | 22 | 73.3 | 8 | 26.7 | 0 | 0 | 0 | 0 | 3.73 | .45 | 1 st |
| 2 | I do not wear jewelries when handling food | 21 | 70.0 | 9 | 30.0 | 0 | 0 | 0 | 0 | 3.70 | .46 | 2 nd |
| 3 | I observe frequent hand washing. | 22 | 73.3 | 7 | 23.3 | 1 | 3.3 | 0 | 0 | 3.70 | .53 | 2 nd |
| 4 | I ensure the cleanliness of my body when handling food | 22 | 73.3 | 6 | 20.0 | 2 | 6.7 | 0 | 0 | 3.66 | .60 | 3 rd |
| 5 | My finger nails are always trimmed and clean. | 20 | 66.7 | 10 | 33.3 | 0 | 0 | 0 | 0 | 3.66 | .47 | 3 rd |

| | | | | | | | | | | | | |
|--|---|----|------|----|------|---|-----|---|---|------|-----|-----------------|
| 6 | I maintain good personal cleanliness by caring for my hair, mouth, teeth and my entire body | 19 | 63.3 | 11 | 36.7 | 0 | 0 | 0 | 0 | 3.63 | .49 | 4 th |
| 7 | I follow hygienic sanitary habits | 19 | 63.3 | 11 | 36.7 | 0 | 0 | 0 | 0 | 3.63 | .49 | 4 th |
| 8 | I maintain good health and report any feeling of ill health to medical personnel | 20 | 66.7 | 8 | 26.7 | 2 | 6.4 | 0 | 0 | 3.53 | .81 | 5 th |
| Grand Mean | | | | | | | | | | 3.65 | .53 | |
| Source: Field Survey (2025) (N=30) (Key: Strongly Agree (SA=4), Agree (A=3), Disagree (D=2), Strongly Disagree (SD=1), Std. Dev. = Standard Deviation). Decision Rule: 3.5-4 = SA (Strongly Agreed), 2.5-3.49 (Agreed), 1.5-2.49 (Disagreed) while 1-1.49 = SD (Strongly Disagreed). The criteria mean = 2.50 that is 4+3+2+1 = 2.5. This implies that any score less than 2.5 is considered Disagree | | | | | | | | | | | | |

Research Question 2: What is the level of environmental hygiene practices among food handlers in selected hospitality businesses in Osogbo?

Table 2 presents an analysis of data on the level of environmental hygiene practices among food handlers in selected hospitality businesses in Osogbo. On aggregate agreement, all the respondents (100%) affirmed that food preparation areas were always kept clean; refuse was not disposed of near the place where food was processed; waste containers were always closed, cleaned and disinfected; and that raw food items were secured from pest attack. Also, 93.3% of the respondents confirm that they clean and sanitise used equipment, materials and utensils always. On the whole, the mean score of all the items in the table is above the cutoff point of 2.5, with the minimum at 3.46. With a grand mean of ($\bar{x} = 3.70, \delta = 0.60$), on the scale of 4, it is therefore concluded that there is a very high level of environmental hygiene practices among food handlers in the selected hospitality businesses in Osogbo.

This finding could be credited to the recognized importance of environmental hygiene by the respondents, as well as access to environmental hygiene information from diverse sources. Compliance with their organizations' standards in terms of environmental hygiene practices could also be a factor. The finding aligns with Temitayo (2017), whose study showed that adequate environmental hygiene could be achieved through regular inspection of the premises and immediate cleaning of spillage and food particles from the kitchen surfaces.

Research Question 3: What is the level of awareness of food safety information among food handlers in selected hospitality businesses in Osogbo?

Table 3 presents an analysis of data on sources of awareness of food safety information among food handlers in selected hospitality businesses in Osogbo. The result indicated that, on aggregate, all the respondents were aware of the NAFDAC guideline for food hygiene practices; (93.3%) know about WHO food safety guideline; 93.4% are aware of the health hazards of consuming contaminated food; 96.7% of them know about food safety management systems; while 86.6% know about the

components of food borne diseases contamination. All the items contained in the table have mean scores above the cut-off mean of 2.00, with a grand mean of ($\bar{x} = 2.64, \delta = 0.54$). Therefore, it is concluded that there is a high level of awareness of food safety information among food handlers in the selected hospitality businesses in Oshogbo.

This finding may be attributed to the deliberate effort by the managements of the hospitality businesses studied to keep their employees

updated on food safety information. It could also be as a result of the self-efforts of the food handlers to acquaint themselves with the latest and relevant information on food safety, which can easily be facilitated using the numerous information communication technologies and social media networks. The findings of this study support Professonel (2018), who submitted that food handlers in food processing industries should have adequate information and knowledge for food safety assurance.

Table 2: Level of Environmental Hygiene Practices

| SN | Environmental Hygiene Practices | SA | | A | | D | | SD | | Mean \bar{x} | Std. Dev. | Rank |
|----------------------------|---|--------|------|--------|------|--------|------|-------|---|----------------|-----------|-----------------|
| | | Fre q. | % | Fre q. | % | Fre q. | % | Freq. | % | | | |
| i | The food preparation area is always kept clean. | 26 | 86.7 | 4 | 13.3 | 0 | 0 | 0 | 0 | 3.86 | .34 | 1 st |
| ii | Refuse or waste is not disposed near the place where food is processed. | 24 | 80.0 | 6 | 20.0 | 0 | 0 | 0 | 0 | 3.80 | .40 | 2 nd |
| iii | Waste containers are always closed, cleaned and disinfected. | 23 | 76.7 | 7 | 23.3 | 0 | 0 | 0 | 0 | 3.76 | .43 | 3 rd |
| iv | Raw food items are secured from pests attack. | 23 | 76.7 | 7 | 23.3 | 0 | 0 | 0 | 0 | 3.76 | .43 | 3 rd |
| v | The Kitchen is usually dusted before food preparation. | 22 | 73.3 | 8 | 26.7 | 0 | 0 | 0 | 0 | 3.73 | .45 | 4 th |
| vi | Used equipment, materials and utensils are always cleaned and sanitized. | 24 | 80.0 | 4 | 13.3 | 2 | 6.7 | 0 | 0 | 3.66 | .80 | 5 th |
| vii | There is adequate supply of portable water in the kitchen | 22 | 73.3 | 5 | 16.7 | 3 | 10.0 | 0 | 0 | 3.63 | .66 | 6 th |
| viii | Refuse is not allowed to accumulate in the kitchen or food room before disposal | 17 | 56.7 | 10 | 33.3 | 3 | 10.0 | 0 | 0 | 3.46 | .68 | 7 th |
| Grand Mean | | | | | | | | 3.70 | | .60 | | |
| Field Survey (2025) (N=30) | | | | | | | | | | | | |

Table 3: Level of Awareness of Food Safety Information

| SN | Items | Highly Aware | | Aware | | Not Aware | | Mean \bar{x} | Std. Dev. | Rank |
|------------|---|--------------|------|-------|------|-----------|------|----------------|-----------|-----------------|
| | | Freq. | % | Freq. | % | Freq. | % | | | |
| i | NAFDAC guideline for food hygiene practices | 20 | 66.7 | 10 | 33.3 | 0 | 0 | 2.68 | .47 | 1 st |
| ii | World Health Organization (WHO) food safety guideline | 21 | 70.0 | 7 | 23.3 | 2 | 6.6 | 2.68 | .54 | 1 st |
| | General tips on food safety | 20 | 66.7 | 10 | 33.3 | 0 | 0 | 2.68 | .47 | 1 st |
| iii | Health hazards of consuming contaminated food. | 20 | 66.7 | 8 | 26.7 | 2 | 6.6 | 2.65 | .55 | 2 nd |
| iv. | Food safety management systems. | 18 | 60.0 | 11 | 36.7 | 0 | 0 | 2.62 | .49 | 3 rd |
| v | Components of food borne diseases contamination | 21 | 70.0 | 5 | 16.6 | 4 | 13.3 | 2.58 | .73 | 4 th |
| Grand Mean | | | | | | | | 2.64 | .54 | |

Field Survey (2025)

(N=30) (Key: Highly Aware (HA=3), Aware (A=2), Not Aware (NA=1), Std. Dev. = Standard Deviation). Decision Rule: 2.5-3 = HA, 2.0-2.49 = A, while 1-1.49 = NA. The criteria mean = 2.0 that is $3+2+1/3 = 2.0$. This implies that any score less than 2.0 is considered Not Aware.

Research Question 4: Level of utilization of food safety information among food handlers in selected hospitality businesses in Osogbo

Table 4 presents an analysis of data on the level of utilization of food safety information among food handlers in selected hospitality businesses in Osogbo. The result indicated that 90% of the respondents maintain the necessary NAFDAC guideline for food hygiene practices always, while 10% do the same occasionally; 90% of them always adhere to general food safety tips; while 10% do the same occasionally; 86.7% of them affirmed that they consciously avoid practices that may cause food contamination always, while 13.3 % do the same occasionally. Also, 76.7% of the respondents always observe the necessary WHO food safety guidelines when handling food, while 23.3% do the same occasionally, and 73.3% confirmed that they

always apply their knowledge and experience of food safety when handling food. The table further revealed that all the items in the table yielded mean scores above the cut-off mean of 2.0, with a grand mean of (\bar{x} = 2.86, δ = 0.32) on the scale of 3.00. Therefore, it is concluded that the level of utilization of food safety information among food handlers in the selected hospitality businesses in Osogbo is very high.

The findings of this study could be attributed to the respondents' understanding of the utmost necessity to maintain high food hygiene practices to avoid endangering the health of their customers. More so, they could lose their jobs if they fail to comply with their organizations' set standard of operation with regards to food handling. It could also be attributed to the managements' determination to comply with best practices in order to avoid sanctions from regulatory bodies and

to secure the confidence and sustained patronage of their customers. Also, this study, in answering research question 3, established a high level of awareness of food safety information among the study population, which could be responsible for this reported high level of utilization. It is common knowledge that the utilization of information is

preceded by awareness of the existence of such information. The findings of this study contradict Sneed et al. (2014), whose study reported that employees in foodservice operations in facilities in Iowa had sufficient food safety knowledge and positive attitudes toward food safety, but were not following the correct procedures

Table 4: Utilization of Sources of Food Safety Information

| SN | Items | Always | | Occasionally | | Never | | Mean | Std. | Rank |
|------------|---|--------|------|--------------|------|-------|---|-----------|------|-----------------|
| | | Freq | % | Freq. | % | Freq. | % | \bar{x} | Dev. | |
| i | I maintain the necessary NAFDAC guideline for food hygiene practices | 27 | 90.0 | 3 | 10.0 | 0 | 0 | 2.93 | .25 | 1 st |
| ii | I adhere to general food safety tips | 27 | 90.0 | 3 | 10.0 | 0 | 0 | 2.93 | .25 | 1 st |
| iii | I consciously avoid practices that may cause food contamination. | 26 | 86.7 | 4 | 13.3 | 0 | 0 | 2.92 | .26 | 2 nd |
| iv | I observe the necessary WHO food safety guideline when handling food | 23 | 76.7 | 7 | 23.3 | 0 | 0 | 2.79 | .41 | 3 rd |
| v | I apply my knowledge and experience of food safety when handling food | 22 | 73.3 | 8 | 26.6 | 0 | 0 | 2.75 | .43 | 4 th |
| Grand Mean | | | | | | | | 2.86 | .32 | |

Research Question 5: What is the impact of food safety information on the hygiene practices of food handlers in selected hospitality businesses in Osogbo?

Table 5 presents the analysis of data on the impact of food safety information on the hygiene practices of food handlers in selected hospitality businesses in Osogbo. The results show that, on aggregate agreement, all the respondents (100%) maintain strict personal hygiene when handling food because of the food safety information available to them, and deliberately minimize the risk of food poisoning because they understand the implications. They also affirmed that the availability and use of food safe information have enhanced their hygiene practices generally. Furthermore, 96.7% confirmed that they maintain strict

environmental hygiene when handling food because of the food safety information at their

disposal. The table also revealed that all the items contained therein yielded mean scores above the cut-off point of 2.5, with a grand total of (\bar{x} = 3.64, δ =0.49) on the scale of 4. Therefore, it is concluded that food safety information has a positive impact on the hygiene practices of food handlers in the selected hospitality businesses in Osogbo. Specifically, it helped them to maintain strict personal and environmental hygiene as well as minimize the risk of food poisoning.

Given that the results of the preceding research questions established a high level of personal and environmental hygiene practices, and a high level of awareness and utilization of FSI, it is not surprising

that food safety information has a positive impact on the hygiene practices of food handlers in the selected hospitality businesses in Osogbo. The

finding agrees with Wandolo (2016), whose study reported that food safety information is critical for the prevention of food-borne illness

Table 5: Impact of Food Safety Information

| | Impact of Food Safety Information | SA | | A | | D | | SD | | Mean \bar{x} | Std. Dev. | Rank |
|---------------|---|-------|------|-------|------|-------|-----|-------|---|----------------|-----------|-----------------|
| | | Freq. | % | Freq. | % | Freq. | % | Freq. | % | | | |
| i | I maintain strict personal hygiene when handling food because of the food safety information available to me. | 21 | 70.0 | 9 | 30.0 | 0 | 0 | 0 | 0 | 3.68 | .47 | 1 st |
| ii | I deliberately minimize the risk of food poisoning because I understand the implications | 21 | 70.0 | 9 | 30.0 | 0 | 0 | 0 | 0 | 3.68 | .47 | 1 st |
| iii | Availability and use of food safe information have enhanced my hygiene practices generally. | 20 | 66.7 | 10 | 33.3 | 0 | 0 | 0 | 0 | 3.65 | .48 | 2 nd |
| iv | I maintain strict environmental hygiene when handling food because of the food safety information at my disposal. | 17 | 56.7 | 12 | 40.0 | 1 | 3.3 | 0 | 0 | 3.55 | .57 | 3 rd |
| Weighted Mean | | | | | | | | | | | 3.64 | .49 |

Test of Hypothesis

There is no significant impact of information on hygiene practices of food handlers in selected hospitality businesses in Osogbo

From the results in Table 6, R^2 is 0.64, indicating that approximately 64% of the variance in the hygiene practices of food handlers can be explained by their utilization of food safety information. This is a strong effect size. The coefficient ($B = 1.41$) suggests that for every one-unit increase in the utilization of food safety information, the level of hygiene practices increases by 1.41 units. This demonstrates

a positive influence. The calculated p-value was found to be statistically significant ($p < .001$).

Therefore, the null hypothesis, which states that there is no significant impact of food safety information on hygiene practices of food handlers in selected hospitality businesses in Osogbo, is rejected, and it is concluded that utilization of FSI had a significant positive impact on hygiene practices of food handlers in selected hospitality businesses in Osogbo. This strong, quantified relationship provides empirical support to the theoretical argument made by Wandolo (2016) and others on the critical role of food safety information. It suggests that in this specific context, the utilization of information is a powerful driver of

behavior. However, this finding should be interpreted with caution, as it potentially conflicts with studies like Amenu et al. (2021) and Sneed et

al. (2014) that found knowledge and attitudes to be poor predictors of practice.

Table 6: Regression Analysis Summary for the Influence of Food Safety Information Utilization on Hygiene Practices

| Model | R | R ² | Adjusted R ² | Std. Error of the Estimate | Predictors | Unstandardized Coefficients (B) | Standard Error | t-statistic | p-value |
|-------|------|----------------|-------------------------|----------------------------|-----------------|---------------------------------|----------------|-------------|---------|
| 1 | .800 | .640 | .627 | .34 | (Constant) | -0.358 | .611 | 16.339 | .00 |
| | | | | | FSI Utilization | 1.410 | .026 | 20.581 | p<.001 |

Conclusion

This study affirms the foundational role of food safety information in achieving high standards of personal and environmental hygiene. While the local findings demonstrate the potential positive impact of awareness of FSI on hygiene practices of food handlers, their significance extends far beyond this specific context, resonating with a critical global public health challenge. The persistent gap observed worldwide between knowledge and behavior, of which this study provides a Nigerian example, underscores a universal truth: that information alone is an insufficient catalyst for change. This research, therefore, contributes to better understanding of the implications of food safety information for hygiene practices.

Recommendations

Based on the findings of this study, the following recommendations are offered:

1. Hospitality business owners and managers should provide regular training sessions for food handlers and indeed all employees on the importance of food safety and hygiene practices to keep staff informed about the latest food safety guidelines and best practices in line with international guidelines such as WHO, FAO, and HACCP
2. Supervisors should endeavour to post signs and reminders in the kitchen and food preparation

areas to remind employees of food safety practices. These reminders should include proper hand-washing techniques, food storage guidelines, and cleaning procedures.

3. Owners and managers of hospitality businesses should develop food safety protocols and standard operating procedures (SOPs) for their businesses. This will help ensure that everyone knows the appropriate steps to take to maintain food safety standards.
4. Supervisors should conduct regular inspections to identify potential hazards and ensure compliance with food safety standards. Inspections should cover all areas of the business, including food preparation, storage, and service.
5. The culture of cleanliness should be fostered by hospitality business owners and managers by promoting good hygiene practices. Encourage employees to wash their hands frequently, wear gloves when handling food, and maintain a clean work environment and regulatory agencies like NAFDAC should play their oversight role to ensure that standard is met for the benefit of the members of the public.

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