

Food Hygiene Practices among Food Vendors in Ikorodu Local Government Area of Lagos State

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Abstract

This study was to investigate hygiene practices among food vendors in Ikorodu Local Government Area of Lagos State. Three research questions were answered. Survey research design was employed. The population for the study was made up of all the 302 registered food vendors in Ikorodu LGA who have permanent locations. The sample consisted of 150 food vendors. Questionnaire was used for data collection. It was validated by three experts in Home Economics. Data were analysed using mean and standard deviation. Mean rating from 1.50 and above (>1.50) were considered as "agreed" while any mean less than (<1.50) was considered "disagreed". Results show that 100% of the food vendors are aware of food hygiene practices, 100% claimed they adopt food hygiene practices and 100% also claimed they usually adopt basic environmental food hygiene practices in Ikorodu Local Government Area in Lagos State. Based on the findings, it was recommended, among others, that food vendors must be monitored frequently to ensure proper handling of food and sustain environmental cleanliness.

Keywords: Food, Hygiene, Knowledge, Awareness, Vendors, Practices, Environment.

Introduction

Food hygiene deals with the prevention of contamination of food stuffs at all stages of production, collection, transportation, storage, preparation, sales and consumption. Food hygiene practice is a broad term used to describe the preservation and preparation of foods in a manner that ensures the food is safe for human consumption Soon *et.al*, (2011). Food handlers are persons who directly handle packaged or unpackaged food, food equipment and utensils or food contact surfaces and are

therefore expected to comply with food hygiene requirements Rosmawati, (2014).

The establishment and proliferation of fast food industries, food vendors and local eateries in nooks and crannies of Lagos state, has been recognized as one of the forces that boosted the economy of the state,(Bamidele, 2015). Westernization, urbanization and the need to struggle for daily survival has made many Nigerians especially in Lagos to abandon the culture of cooking at home. Foods at these eateries are

available, accessible and sometimes affordable (Soon *et al.*, 2011). These food premises also employ a significant number of staff who handles food items from the stage of processing to marketing. Food handlers in these food premises are responsible for food safety throughout the chain of producing, processing, storage and preparation (Chukwuochaet *al.*, 2009). Mishandling and disregard for hygiene measures on the part of these food handlers may result in food contamination and its attendant consequences including food poisoning and spread of diseases with resultant morbidity and occasional mortality (Bamidele *et al.*, 2015).

As a matter of public health importance, food hygiene practices employed in this food marketing sector would play an important function in ensuring that safe food is available for consumption (Majara, 2010). Safe foods ensure minimal risks and hazards to human health through protecting and preventing edible substances from becoming hazardous in the presence of chemical, physical and biological contaminants that deteriorate or spoil the food. Contaminated food represents one of the greatest health risks in a population and a leading cause of disease outbreaks and transmission. Factors contributing to poor food hygiene practices among food handlers include ranging ignorance, uncaring and poor attitude to personal hygiene, lack of basic hygiene infrastructure and sanitary facilities such as water, soap and toilets and lack of appropriate food storage and preservation facilities. Unavailability of trained staff has also been identified as one of the barriers to

effective practice of food hygiene. Many food handlers ignorantly believed that their products were of relatively low risk to the consumers (Bamidele *et al.*, 2015).

A study carried out among food handlers in a Nigerian community showed a predominantly poor level of food hygiene knowledge, very low frequency of hand washing practices and low level of personal hygiene generally (Ekanem, 1998). Unfortunately, the agency of government saddled with the responsibility of regulating food sale and marketing, National Agency for Food and Drug Administration and Control (NAFDAC) acts centrally, and little or no emphasis is placed on such regulation at state and local council levels. Past epidemics of food borne diseases outbreak in the region usually do not focus on food handlers in local eateries despite common knowledge that they may be carriers of infectious diseases. In 2008, NAFDAC commenced nationwide crackdown on fast food outlets following an outbreak of food poisoning in Nigeria and consequently the closure of some popular eateries (Bamidele *et al.*, 2015).

Environment has a significant role to play in food safety and hygiene practices. Environmental health has been defined by World Health Organization (WHO) as cited by Carvalan, (2000), as the control of all those factors in the physical environment that exercise or may exercise deleterious (harmful) effects on the physical development, health and survival of man. In like manner, Ademuwagun and Oduntan (1986)

defined environmental health as the provision and control of all those factors in people's physical surrounding which can affect their health. Following the establishment of the Environmental Health officers' Registration Council of Nigeria in 2007, efforts have been made to raise the level of environmental health practices in the country. Environmental health policies and programmes play major role in disease prevention, control and the sustenance of environmental health integrity worldwide, Muyanja et,al (2011). The reality as agreed by experts is that, over 70% of diseases causing the highest morbidity and mortality in the country are environment related, thus, making the control of environmental health practices crucial in the efforts of government to alleviate poverty and achievement of the Millennium Development Goals (MDGs).

Food vending has become a common feature of most cities and towns in Nigeria (Ekanem, 1998). The phenomenal increase in the patronage of food vendors is due to the growth industrialization and urbanisation which is forcing many city dwellers to eat their major daily meals out of home (Alimiet *al.*, 2014). In addition to the pressure of urban life, most urban dwellers patronises food vendors because of the relative cheapness of ready-made instant meals and their gustatory attributes, these attributes are linked to the culinary prowess of the vendors (Dimelu2019).

The economic importance of the activities of food vendors are not well appreciated due to the informal nature of the enterprise and lack of official data

on volume of trade involved (Alimi, 2016).Alimi (2016) reported the significant contribution of restaurants to nutrition and food security for millions of practitioners along the food chain. Draper (1996) also identified them as potential vehicles for micronutrient fortification. Food vendors, sometimes referred to as Street Food Sellers in Ikorodu, makes up a significant proportion of informal sector of the economy of Lagos state and most developing countries. Food vendors play major role in ensuring food safety throughout the chain of production, processing, storage and preparation of food, Olutayo (2009). Mishandling and disregard for food hygiene measures on their part may result to food contamination and its attendant consequences (Akinbode *et' al*, 2011).

Most of the food vendors in Ikorodu are not only appreciated for their unique flavours, convenience and tasty food out they have also become important and essential for maintaining regular, affordable and traditional dishes to the majority of people especially the low-income group. Urbanization has changed the pattern of living and eating in Ikorodu. Most working class people leave home very early and come back late at night, (Madah 2016). The easy availability of foods in the streets of Ikorodu has helped many workers, students and other people to cope with long periods of absence from home. Increase in the numbers of meals eaten outside the home has led to a large growth of the food service industries particularly in Ikorodu area.

Ikorodu local government area is one of the fast growing densely populated area in Lagos State. Lagos State polytechnic as well as a private university, two General Hospital and a lot of privates hospitals, a number of public and private high schools, primary schools, estates of various company, textiles and other foreign factories with many other industries that bring people into Ikorodu from far and near. In view of this, there is a rise in students and workers population and this has created the need for more food services which in tune led to increase in food vending. Though the environment in which the food is vended physically look clean, there is still a need to investigate the hygiene practices adopted by these food vendors.

Purpose of Study

The main purpose of the study was to investigate the hygiene practices adopted by food vendors in Ikorodu Local Government Area of Lagos State. Specifically, the study determined the extent to which food vendors:

1. are aware of food hygiene practices in Ikorodu Local Government Area.
2. adopt food hygiene practices in Ikorodu Local Government Area.
3. Adopt environmental food hygiene practices in Ikorodu Local Government Area.

Research Questions

The following research questions guided the study:

1. What is the extent of awareness of food hygiene practices by food vendors in Ikorodu local government area?

2. What is the extent of adoption of food hygiene practices by food vendors in Ikorodu local government area?
3. What is the extent of adoption of environmental food hygiene practices by food vendors in Ikorodu local government area?

Methodology

Design of the Study: Cross-sectional survey research design was employed in the study to gather data on the population. Cross-sectional surveys are studied aimed at determining the frequency of a particular attribute in a defined population at a particular point in time.

Area of the study: The area of the study was Ikorodu Local Government Area which is situated in the north-east of Lagos State. It is located along the Lagos Lagoon and share boundary with Ogun state. It is a city with fast growing population being a sub-burb in Lagos metropolis. There are five (5) Local council development area in Ikorodu. They are: Ikorodu North, Ikorodu West, Imota, Ijede, and Igbogbo-Bayeku. Ikorodu is inhabited by different religious and ethnic groups. Highly industrialized with a lot of foreign industries, institutions and factories which include: textile factory, production industries, PZ industries, housing estates, general/public and private hospitals, public and private schools, Lagos state polytechnics and private university. Ikorodu is the largest terminal of Lagos popular Bus Rapid Transport (BRT) station. With the increase rise of populace migrating from the Island and Mainland in Lagos

to Ikorodu, people working at the Island leave their homes very early to beat the traffic and come back late. This situation gives room to high patronage of food vendors in Ikorodu.

Population of the Study: The population of the study was made up of all the registered food vendors in Ikorodu LGA who have permanent locations. The total number of registered food vendors in Ikorodu LGA is 302 (Ikorodu Revenue office, 2017).

Sample for the study: The sample size for the study consisted of 150 food vendors which made up 50% of the population. Multistage sampling procedure was used. First step involved purposive random selection of six (6) food vendor outlet with up to five (5) workers and above from each of the five (5) local council developments. That is, 5 from Ikorodu North, 5 from Ikorodu West, 5 from Ijede, 5 from Imota and 5 from Igbogbo-Bayeku. Making a total of 30 food vendors' outlets. The second step involved random selection of five (5) regular staff from the 30 selected food vendors outlets in the 5 local council development in Ikorodu Local government Area; this making a total 150 respondents who constituted the sample for the study.

Instruments for Data Collection: Questionnaire was used for data collection. The questionnaire was divided into four (4) sections: Section A, B, C and D, covering demographic

variables, awareness of food hygiene practices, adoption of food and environmental hygiene practices. The instrument was validated by three (3) experts in Home Economics. Their suggestions were used to modify and improve the instrument. It was pilot tested on 20 food vendors from Ogun State for reliability. Internal consistency was determined. Cronbach alpha reliability coefficient of 0.89 was also obtained.

Data collection Method: the researcher and two (2) research assistants distributed 150 copies of the questionnaire at designated food vendor's outlets by hand. The 150 copies of the questionnaire were duly filled and returned representing 100% return rate.

Methods of Data Analysis: Data collected for the study were analyzed using mean and standard deviation. Mean rating from 1.50 and above were considered agreed while any mean less than 1.50 was considered disagreed.

Findings of the study

Research Questions 1: What is the extent of awareness of food hygiene practices by food vendors in Ikorodu local government area?

Research Questions 2: What is the extent of adoption of food hygiene practices by food vendors in Ikorodu local government area?

Table 1: Mean responses and Standard Deviation on the extent Awareness (aw) and Adoption (ad) of food hygiene among food vendors in Ikorodu Local Government Area of Lagos State.

| S/N | Indicators of awareness of food hygiene practices; | \bar{X}_{aw} | SD_{aw} | \bar{X}_{ad} | SD_{ad} | Remark |
|-----|---|----------------|-----------|-----------------|-----------|--------|
| | I am aware that: | | | | | |
| 1. | Proper washing of hands before handling of food items is necessary. | 2.65 | 0.33 | 2.72 | 0.30 | Agreed |
| 2. | Proper washing of food items before cooking is necessary. | 2.41 | 0.50 | 2.40 | 0.48 | Agreed |
| 3. | Proper washing of plates before and after serving of food to customers is necessary. | 2.64 | 0.32 | 2.22 | 0.59 | Agreed |
| 4. | Washing of hands and wearing of apron while preparing and serving food is necessary. | 2.46 | 0.42 | 2.36 | 0.49 | Agreed |
| 5. | Covering of food in warm up stainless plate before serving to customers is necessary. | 2.25 | 0.64 | 2.12 | 0.53 | Agreed |
| 6. | Preservation of food in fridge before use is necessary. | 2.20 | 0.72 | 2.52 | 0.39 | Agreed |
| 7. | Proper bath or shower daily before attending to customers is very necessary. | 2.39 | 0.46 | 2.45 | 0.65 | Agreed |
| 8. | Reheating of the food before serving to customers is necessary. | 2.34 | 0.60 | 2.21 | 0.61 | Agreed |
| 9. | Retraining staff on food hygiene is necessary. | 2.32 | 0.43 | 2.24 | 0.52 | Agreed |
| 10. | I always cover my hair when cooking | 2.34 | 0.56 | 2.41 | 0.46 | Agreed |
| 11. | Plates are properly washed and dried up for service immediately after usage | 2.34 | 0.56 | 2.00 | 0.50 | Agreed |
| 12. | Anyone with wounds or sore is not allowed to cook or serve food. | 2.35 | 0.57 | 2.56 | 0.44 | Agreed |
| 13. | Leftover foods are not to be served to customers | 2.48 | 0.61 | $\frac{2.4}{4}$ | 0.38 | Agreed |

\bar{X}_{aw} ; mean (awareness), SD_{aw} ; standard deviation(awareness); \bar{X}_{ad} ; mean(adoption); SD_{ad} ; standard deviation (adoption)

Table 1 shows that all respondents agreed to all items on the table indicating ranged between mean 2.20 to 2.65 which is greater than 1.50 as the cut-off point. This showed that Ikorodu food vendors are aware of all the personal hygiene practices they are to observe. Table 1 also showed the responses of the food vendors on the

adoption of the identified hygiene practices. They all agreed to items 1 to 13 with a mean ranging between 2.00 to 2.72 which is greater than the cut-off point of 1.50. This also showed that Ikorodu food vendors are not only aware of proper hygiene practices but they also adopt these practices.

Research Questions 3: What is the extent of adoption of environmental food hygiene practices by food vendors in Ikorodu local government area?

Table 2: Mean and SD of Respondents on the extent of adoption of environmental food hygiene practices among food vendors in Ikorodu Local Government Area of Lagos State.

| S/N | Environmental Food Hygiene Practices | \bar{X} | SD | Remark |
|-----|---|-----------|------|--------|
| 1. | Regular fumigation and application of disinfectants in area where food is prepared | 2.18 | 0.61 | Agreed |
| 2. | Regular washing of gutters and disposition of waste bins and stagnant waters | 2.33 | 0.46 | Agreed |
| 3. | Regular mopping of floors and surrounding where food is served to customers | 2.26 | 0.58 | Agreed |
| 4. | Wearing of white apron to maintain the highest level of cleanness while attending to customers | 2.66 | 0.32 | Agreed |
| 5. | Ensuring that food items are properly covered and protected against contamination | 2.58 | 0.39 | Agreed |
| 6. | All cooking and eating utensils must be washed daily | 2.52 | 0.37 | Agreed |
| 7. | Good branded hygienic drinking water must be maintained. | 2.74 | 0.82 | Agreed |
| 8. | Proper storage of drinking water is very important | 1.82 | 0.38 | Agreed |
| 9. | The Environment where the food is prepared and served must be clean and properly ventilated without pests | 2.37 | 0.53 | Agreed |
| 10. | Used item are disposed properly after usage | 2.39 | 0.60 | Agreed |
| 11. | Education or sensitization is regularly carried out on food hygiene and safety by government authorities | 2.21 | 0.71 | Agreed |
| 12. | Proper storage facilities must be put in place for perishable and non-perishable food items | 2.52 | 0.35 | Agreed |
| 13. | Cleaning of the environments and store is necessary. | 2.40 | 0.51 | Agreed |

\bar{X} ; mean; SD; standard deviation

The data presented in Table 2 indicates that all the mean scores for the variables measured are greater than the cut-off score of 1.50. The implication as evidently shown from the means score of 1.82 to 2.74 that, food vendors in Ikorodu adopted all the basic environmental food hygiene practices itemised on the table above.

Discussion of Findings

The findings in Table 1 show that the respondents agreed to all the awareness items on the awareness and adoption of food hygiene practices among food vendors in Ikorodu. These items includes: proper washing of hands before and after handling foods, wearing aprons, preservation of food in freezer/ refrigerators, proper personal

hygiene among others. They all obtained mean scores above 1.50 which is the cut-off point. This implies that, the food vendors in Ikorodu local government area agreed that they are aware of food hygiene practices and they also adopt all these practices in their various food vending outlets. This findings contradicts the findings of Madah (2016) who reported that most street vended foods, especially in densely populated poor areas have been reported to harbour a huge range of bacteria due to their unhygienic practices. The findings however was in line with the finding of Chukwuocha (2009) who reported that food vendors in urban areas of Anambra state want to keep to proper hygienic practices to avoid being closed down by the government officials. Items 1 to 7 which was on personal hygiene were rated high by the respondents, Ihensekhian et,al (2019) corroborated to the findings of this study when they stated that food handlers are expected to maintain good personal hygiene in other to prevent the outbreak of food borne diseases. Poor personal hygiene, primarily improper hand washing has been recognized as a significant risk factor of food contamination that leads to food poisoning. Hand washing is the most basic yet critical criterion for ensuring safe food handling by food handlers. Hand hygiene could also serve as an indicator of food vendor's adherence to safe food practices during food preparation. These are in agreement with Anyakoha (2015) who recommended that in order to avoid food being contaminated by disease causing bacteria, food handlers and

vendors must observe personal and kitchen hygiene.

The findings in Table 2 show that the respondents agreed to all the items from No 1to 12 as environmental hygiene practices they adopt in the course of their food vending. This implies that the environment most of the food vendors operate are regularly fumigated, gutters are washed, the floors and surrounding where food is being served are always mopped. Anyakoha (2015) supported this by stating that adequate environmental hygiene is important to prevent an outbreak of food poisoning. In addition, Hiemstra *et' al* (2006) reported that street food vending is a common income generating venture that should be practiced in an environment that is clean and litter free to safeguard public health which in turn will make the environment attractive to more customers. No wonder Dimelu (2019) opined that food vending or catering is an enterprise done in a safe disease free environment that provides member with business skills in cooking for sustainable family income. For food vending business to survive, clean and disease free environment is one of the most important criteria.

In item-12 of Table 2, which was on storage facilities was also agreed to with a mean response of 2.52 which is greater than 1.50. Good food storage facility according to Anyankoha,(2015) is to ensure safety and quality of food. Proper food storage requires the use of good storage facilities which include plastic containers, food cupboard, refrigerators and deep freezers. No wander, Medah (2019) noted that an outbreak of food poisoning is likely to

occur in canteens and other public eating places where foods are cooked and stored under poor conditions which allows pathogens to multiply, this is because, poor storage facilities can easily lead to food poisoning .

Conclusion

Food vending has become a norm in every nook and cranny of Ikorodu Local Government Area in Lagos state because of the abilities in meeting food demands of every busy person who leaves home early and get home late. The study investigated hygiene practices adopted by food vendors in Ikorodu Local Government Area of Lagos state. The study determined the awareness, adoption and environmental food hygiene practices by food vendors in Ikorodu. The findings of the study revealed that registered food vendors in Ikorodu are aware of food hygiene practices, adopt food hygiene practices and as well as environmental food hygiene. However, it is necessary to regularly train and retrain food vendors and to ensure compliance to relevant food hygiene and environmental health laws and regulations without compromise.

Recommendations

The following recommendations are made:

- ❖ The food and environmental health regulatory agency should ensure only trained and certificated food handlers are registered to engage in food vending ventures.
- ❖ Every fast food industry should be registered with government and environmental health department.

Regular check by environmental health officers should be sustained.

- ❖ The law enforcement agencies should ensure compliance with relevant food hygiene and environmental health laws and regulations without compromise.

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