

FOOD SAFETY AND HYGIENE PRACTICES OF FOOD VENDORS IN PUBLIC AND PRIVATE SECONDARY SCHOOLS IN OMOKU, RIVERS STATE NIGERIA

AKUGBO, Charity N. , EGBUJOR, Gloria Chinyere & OKOROMA ,Asa-uloma Ethel

Department of Home Economics Education,
School of Secondary Education (Vocational),
Federal College of Education (Technical) Omoku, Rivers state
Corresponding Email : channamdiakugbo@gmail.com

Abstract

This study investigated the food safety and hygiene practices of food vendors in public and private secondary schools in Omoku, Rivers State Nigeria. The study employed the descriptive survey design. The population of the study consisted of 400 street food vendors in ten (10) public and ten (10) private secondary schools selected in the area. Using stratified random sampling, sample size of 200 respondents was obtained and used for the study. Instrument for data collection was a 20-item questionnaire validated by experts in the department of Home Economics for face and content. The study was guided by four research questions. Frequency count, Mean and standard deviation were used to answer the questions. The findings of the study showed that there was a moderate compliance of street food vendors with safety and hygiene regulations in Omoku. The study thus recommends that only trained and certificated food vendor be legally engaged in food vending practices in public and private secondary schools in Omoku, Rivers state

Keyword: *Food vendors, hygiene practices, safety*

Introduction

Food, a basic necessity of life and it is important because it stimulates the appetite and supplies a variety of ingredients (carbohydrates and dietary fibres) that give energy, replace worn out tissues. Food safety is a corporate social responsibility as food is a product where consumption is met (Peaie, 2016). It is the number one non-negotiable priority to the food industry (Lee, 2015). And, is equally a priority for governments worldwide as food borne diseases, with related deaths and economic losses is occurring in countries worldwide, (Thurston, 2016). Food borne diseases have been increasing 'in recent years with a greater impact on the health and economy of developing countries such as Nigeria. According to the World Health Organization, in 2015, 1.8 million people died from diarrheal diseases and most of these cases were attributed to the .ingestion of contaminated food and drinking water. To that fact food prepared and distributed in schools should receive special attention because, pupils are exposed to disease due to microbial pathogens in foods. Hence to ensure high quality meals for student, catering services need to follow the regulation set forth by the health surveillance committee. The safety measures taken during school meal preparation are still inadequate as most school do not take into consideration the specific sanitary requirement needed for the various stages of food preparation. (Samtana et al., 2019). Awareness of the consumer about the development in food safety may only be raised through

Cite this article as

Akugbo, C. N., & Egbujor, G. C. (2020). Food Safety And Hygiene Practices Of Food Vendors In Public And Private Secondary Schools In Omoku, Rivers State Nigeria. THE COLLOQUIUM, 8(1), 69-77

information programmes tailored to their needs. Therefore a flow of information should be provided consumers which include school children and parents about food safety in schools. Food safety is a term describing handling, preparation and storage of food in ways that prevent food borne illness. According to Food Safety Services (FSS, 2019). These include a number of routines that should be followed to avoid severe health hazards. Vanguard (2015) disclosed that food safety is the utilization of various resources and strategies to ensure that all types of foods are properly stored, prepared and preserved so they are safe for consumption. Practicing this level of food safety in homes and schools include the proper storage of leftovers for future use. According to World Health Organization (2019) food safety is the degree of incidence that food will not cause sickness or harm to the consumer when it is prepared, served and eating according to its intended use. Food safety awareness is important to all that handle and eat food especially the food vendors and students in schools. It is therefore the responsibility of government, food industries and consumers who prepare food in the schools and homes to employ measures to keep food safe for school children.

Food can be said to be safe when it contains no hazardous substance that could be injurious to health (Wallace, 2016). This can only be assured when stringent and careful measures are put in place to prevent, reduce and remove possible hazard to acceptable levels through effective training on methods and technologies available in food safety. There are large number of local eateries" in Nigeria where a significant number of people eat daily and most of them are located in school environment (Wogu et al., 2011). There has also been an observed increase in the patronage of ready- to- eat food within school environment. These circumstances make a survey of safety and hygiene of food being served in school environment important issues in order to prevent them from developing into health risks. Food poisoning and other food borne diseases could occur in school, hostels, hospital and prisons Where food and drinks are served or sold to group's by food vendors or other food handlers. Several factors are known to favour food borne disease or food poisoning during food handling process. These factors include poor personal and environmental hygiene, poor storage of food and drinks, improper preparation and cooking and unclean hand (WHO, 2019). Based on these risk factors the world Health: Organisation (WHO, 2019) developed preventive steps to enhance food safety, these steps are known as the golden rules for safe food preparation which include thorough cooking of food, thorough reheating of stored food, avoiding contact between raw food and cooked food and protection of food from insect, rodents and other animals. Despite these "Golden rules" Food borne disease continues to be a serious public health problem in Nigeria and often affect our school children. Also the number of women in the work force is on the increase and school children are away from home resulting in more meals being eating outside the home. The implication here is that children are exposed to hazards of purchasing food from vendors who may harbor dangerous pathogens or have the potentials of spreading infection to large number of students. According to Addo et al., (2017) most food vendors have barely any formal education. This corroborates with Osei and Duker (2018) that Africa alone account for 90% of cholera cases worldwide. Hence, Todd et al., (2017) suggested that good personal hygiene, as well as sanitary handling practices in the food processing areas are essential components of any prevention programmes for food safety. Nieto-Montenegro et al., (2018) noted that the educational lessons alone produced a significant increase in knowledge and hand washing after using the restroom. Barro et al., (2016) were of the view that foods when

Cite this article as

Akugbo, C. N., & Egbujor, G. C. (2020). Food Safety And Hygiene Practices Of Food Vendors In Public And Private Secondary Schools In Omoku, Rivers State Nigeria. *THE COLLOQUIUM*, 8(1), 69-77

prepared at very dirty surroundings with waste water and garbage disposed nearby, provides nutrient and breeding ground for rodents and could affect the health of those who eat such food negatively.. Nevertheless, researches on food safety in school environment in Nigeria are quite limited. This is a problem that needs to be tackled head on. The objective of the study is to analyze the safety and hygienic practice of vendors in public and private schools in Omoku, Rivers State Nigeria.

Statement of the Problem

Global incidence of food borne diseases is quite alarming. The Centre for Diseases Control and Prevention (CDCP, 2011) estimates show an annual occurrences of 47.8 million, 2 million and 750,000 food borne illnesses in the United States, United Kingdom and France respectively. It is also estimated that in Australia there are 5.4 million cases of food borne illness every year. It is doubtful if Nigeria food epidemiology has fared better. Unfortunately, many school children in Rivers State often fall sick during and after schools hours after consuming contaminated food sold by food vendors within the school premises. Most of the food vendors display poor hygiene in preparation of food. According to a report by Vanguard news paper of 17th January, 2022, many school food vendors in Nigeria sold food that were contaminated without considering the health implication of such food on the students. This situation if not tackle can lead to death of students. The problem of this study therefore is put in question form thus; do food vendors in school practice food safety and hygiene in preparation foods? To what extent has lack of practice of food safety and hygiene by food vendors affected the health of school children in Rivers State? Answer to these questions motivated the researchers to embark upon this study. Therefore the study determined food safety and hygienic practices of food vendors in public and private secondary schools in Omoku, Rivers State Nigeria.

Purpose of the Study

The study investigated food safety and hygiene practices of food vendors in public and private secondary schools in Omoku, Rivers State Nigeria. The investigation was guided by the following objectives:

1. Determine the awareness level of food vendors with regards to food hygiene and safety practices.
2. Examine the relationship between food vendors educational level and food hygiene practices.
3. Determine the environmental hygiene of food vending premises in secondary schools influences food safety.
4. Determine ways vendors and students can improve food safety and hygiene practices.

Research Questions

Four research questions were posed to address the problem of the study.

1. What is the level of awareness food vendors with regards to food hygiene and safety practices?
2. What is the intermingling factor between food vendors educational level and food hygiene practices?

Cite this article as

Akugbo, C. N., & Egbujor, G. C. (2020). Food Safety And Hygiene Practices Of Food Vendors In Public And Private Secondary Schools In Omoku, Rivers State Nigeria. *THE COLLOQUIUM*, 8(1), 69-77

3. To what extent does environmental hygiene of food vending premises in secondary schools influences food safety?
4. In what ways can food vendors and students improve on food safety and hygiene practices.

Methods

The study adopted a descriptive study design. The study population comprised of four hundred (400) food vendors in the 25 public and private school in Omoku, Rivers State Nigeria. The study utilized 200 respondents as sample size. Simple random sampling technique was adopted to select 10 public and 10 private secondary schools out of 25 secondary school in the area. A structured questionnaire comprising 20 items was used for data collection. The responses were scored on 4 Point Likert scale format of Strongly Agree SA = 4 point. Agree, A = 3 points Disagree D = 2 points and Strongly Disagree, SD = 1. The questionnaire was validate by expert in Home Economics Education. The reliability of the instrument was determined using the test retest method. The Cronbach alpha technique was used to obtained a reliability coefficient of 0.85. The data collection was analyzed using arithmetic mean.

Result and Discussion

Research Question One: What is the level of awareness food vendors with regards to food hygiene and safety practices?

Table 1; Analysis of Street Food Vendors Awareness of Food Hygiene and Safety

S/N	ITEM	SA	A	SD	D	\bar{x}	Remark
1	I ensure that food is not exposed to personal sweat, sneezing and coughing.	70	50	50	30	2.30	Disagreed
2	It is appropriate to use separate utensils for raw products and Cooked foods	80	60	40	20	3.00	Agreed
3	Washing of hands and wearing of apron while preparing and serving food	57	63	55	25	2.70	Agreed
4	Previously held raw meat and fish should be properly cooked	90	70	20	20	3.15	Agreed
5	Food items must be well conserved	85	55	30	30	2.9	Agreed
.	Grand mean					2.66	

From table 1 above, all the mean scores for all the variables are greater than the cut-off mean score of 2.50. Given the grand mean score of 2.66 is also greater than the cut-off mean score of 2.50. It is empirically proven that these variables represent the key elements of food hygiene among food vendors. It thus implies that awareness food vendors with regards to food hygiene and safety practices is moderately encouraging.

Cite this article as

Akugbo, C. N., & Egbujor, G. C. (2020). Food Safety And Hygiene Practices Of Food Vendors In Public And Private Secondary Schools In Omoku, Rivers State Nigeria. THE COLLOQUIUM, 8(1), 69-77

Research Question Two: What is the intermingling impact between food vendors educational level and food hygiene practices?

Table 2 :Analysis of Educational Level and Food Safety criterion

S/N	ITEM	SA	A	SD	D	\bar{x}	REMARK
1	I was trained on food hygiene and safety	100	60	30	10	3.25	Agreed
2	Enrolling in catering school will help street food vendors to maintain hygiene environment when preparing food	99	70	20	20	3.15	:Agreed
3	Seminars which aims at educating food vendors should be regularly organized in primary schools	80	70	40	10	3.10	Agreed
4	Only trained food canteens should be legally engaged in food vending so as to apply basic environmental health practices	70	90	20	20	3.05	Agreed
5	I am well trained on food preparation and service to customers	80	70	30	20	3.05	Agreed
	Grand Mean					3.12	

From table 2 above, all the variables" mean scores are greater than the cut-off mean score of 2.50. However, the grand mean score of 3.12 is higher and also greater than the cut-off mean score of 2.50. Thus, it can be deduced that there was a positive relationship between educational level and application of food hygiene among food vendors.

Cite this article as

Akugbo, C. N., & Egbujor, G. C. (2020). Food Safety And Hygiene Practices Of Food Vendors In Public And Private Secondary Schools In Omoku, Rivers State Nigeria. *THE COLLOQUIUM*, 8(1), 69-77

Research Question Three: To what extent does environmental hygiene of food vending premises in secondary schools influences food safety?

Table 3: Analysis of Environmental Hygiene of Food Vending Premises and Food Safety

	ITEM	SA	A	SD	D	\bar{x}	REMARK
1	Regular mopping of floors and surroundings where food is served to customers is important	100	45	25	30	3.07	Agreed
2	There must be regular environmental sanitation in every last day of the week in every canteen	70	90	20	20	3.05	Agreed
3	If the environment where food is served is dirty the food may be contaminated	25	35	90	50	2.17	Disagreed ;
4	Food prepared at very dirty surroundings with waste water and garbage disposed nearby will provide breeding ground for rodents	80	60	40	20	3.00	Agreed
5	Foods stored at humidity condition promotes fungal contamination	75	65	70	30	2.86	Agreed
.Grand mean						3.83	

The result in table 3 showed that all the mean scores are greater than the cut-off mean score of 2.50 except the item 3, the grand mean of 3.83 is also greater than the cut-off mean point: therefore, it was agreed that environmental hygiene of food vending premises in secondary schools influences food safety to great extent.

Research Question Four: In what ways can food vendors and students improve on food safety and hygiene practices?

Cite this article as

Akugbo, C. N., & Egbujor, G. C. (2020). Food Safety And Hygiene Practices Of Food Vendors In Public And Private Secondary Schools In Omoku, Rivers State Nigeria. *THE COLLOQUIUM*, 8(1), 69-77

Table 4 :Analysis of ways to Improve Food Safety and Hygienic Practices

S/N	ITEM	SD	A	SD	D	\bar{x}	REMARK
1	Regular inspection of food vendors. by environmental health officers must be sustained	70	90	20	30	3.05	Agreed
2	Two times environmental sanitation in every vending sites in a week should be maintained	85	55	30	20	2.90	Agreed
3	Vendors and pupils should be regularly educated by health and safety officers on proper handling of foods	57	63	55	25	2.70	Agreed
4	If your canteen or store is not properly ventilated it should be closed	80	60	40	20	3.00	Agreed
5	Food hygiene can be better improved then all vendor comply with environmental health practices	60	80	40	30	3.00	Agreed
Grand Mean						2.93 :	

Given that the mean scores for five items are greater than 2.50, the grand mean score of 2.93 is indicative of the fact that there are improved measures/strategies to enhanced food hygiene and environmental health practices among food vendors.

Discussion of Findings

Findings in Table 1.above showed that majority of food vendors used separate utensils for raw products and cooked foods. Again the respondents satisfactorily adhered to the principles that hands are to be washed before eating or preparing foods. In the issue of serving food on a plate that previously held raw meat and fish before using it to serve cooked food, the respondents strongly agreed there were aware that cross contamination could occur if plates are not properly cleaned. Cross-contamination occurs when harmful micro-organisms are spread between food surfaces and equipment- For example, if raw chicken is prepared on a chopping board and the board was not washed or insufficiently cleaned before preparing a ready-to-eat meal such as a salad or sandwiches, harmful bacteria could be spread from the chopping board to the ready-to eat meal. This is a proof of the assertion by Todd. Greig. Bartleson. &,Michaels, (2017) that good personal hygiene, as well as sanitary handling practices in the food processing areas are essential components of an prevention programmes for food safety.

Table 2 above revealed that all the items scores greater than the Cut-off mean of 2.50. Thus, it can be deduced that there was a very significant relationship between educational level and application of food hygiene practices among food vendors in Omoku. The improvement in food

Cite this article as

Akugbo, C. N., & Egbujor, G. C. (2020). Food Safety And Hygiene Practices Of Food Vendors In Public And Private Secondary Schools In Omoku, Rivers State Nigeria. THE COLLOQUIUM, 8(1), 69-77

hygiene standards directly related to education or training. This is buttressed by the finding of Nieto-Montenegro et al (2018) that the educational lessons alone produced a significant increase in knowledge and hand washing after using the restroom.

Table 3 showed that regular mopping of floors and surrounding where food is served to customers is important, regular environmental sanitation in every last day of the week in every canteen, food prepared at very dirty surrounding with waste water and garbage disposed nearby will provide breeding ground for rodents, had sec re; greater than acceptable mean of 2.5. This is indication that education brings awareness on food safety practices among street food vendors and where information on food hygiene is limited, food contamination will become widespread. This is in line with findings of Barro et al (2016) that foods when prepared at very dirty surroundings with \waste water and garbage disposed nearby, provides nutrient and breeding ground for rodents and are harmful; to health.

The findings in Table 4 revealed that respondents are aware of measures to improve food safety practices. Most of the respondents who had heard about food borne diseases had some idea of how; food borne diseases could be prevented. This could be due to their exposure to both formal and informal education. The implication being .that even though most of the food operators were offering high risk foods for sale. Their knowledge in the prevention of food borne illness could control the exposure of /students to food borne illnesses.

Conclusion

Based on the findings to this study, the researcher hereby draws the following: inclusion. The study found that food vendors generally adhered to food hygiene practices with regards to regular practices, protection of food from flies and dust, serving of good foods, hand hygiene and use of an apron. Training of food vendors on food hygiene and safety had a significant association with safety food from flies and dust. The importance of training among food vendors is to ensure perpetuation of best practices in the street food vending business thereby protecting public health.

Recommendations

The following recommendations are made.

1. The food vendors and consumers should maintain right temperature for freezing; always keep fridge below 50c.
2. Every food vendor should be registered with government and environmental health officers.
3. The law enforcement agencies should be very active after giving the rules and regulations so as to ensure that these regulations are being put into effect.
4. Regular check by environmental health officers should he sustained.
5. There should be only trained and certificated food vendor that should be legally engaged in food vending practices in public and private secondary, schools.
6. If canteen or store is not properly ventilated it should be closed. -.

Cite this article as

Akugbo, C. N., & Egbujor, G. C. (2020). Food Safety And Hygiene Practices Of Food Vendors In Public And Private Secondary Schools In Omoku, Rivers State Nigeria. *THE COLLOQUIUM*, 8(1), 69-77

References

- Addo mensah, K. K., Mensah, G. I., Bonsu C., & Ayeh. M. L. (2017). *food and -its preparation in hotels in Accra Ghana*. A concern for Food Safety, *AJFAND* ,(5), 23-36.
- Barro, I.F., Viggiani, N.M., Rizzo. L., & Bianco, A. (2016). Food Handlers and Food-borne Diseases: Knowledge, Attitudes and Reported Behavior in Italy. *Journal Food Protection*, 63 ,(3)381-38
- Lee, A. (2015). How Much Can a KAP Survey Tell us About People's knowledge Attitudes and Practices? Some Observations from Medical Anthropology Research on Malaria in Malawi. *Anthropology Matters*
- Nieto-Montenegro, S., Brown, L. & Rorde. L.F. (2018). Development and Assessment of Pilot Food Safety Educational Materials and Training Strategic; for Hispanic Workers in the Mushroom Industry Using the Health Action Model. *Food Control*, 19(6),616-633.
- Odugbemi T. (2012). Food poisoning: Cause, management control and recent advances. *Nig. Med. Practitioner*, 24, 41-45.
- Osei, F.B., & Duker A. A. (2018), Spatial and demographic patterns of cholera in Ashanti Region. *Ghana International Journal of Health and Gerographics*. 3(1),43-47.
- Peaie. B. (2016). How the Scope of Government shapes the Wealth of Nation. *Heritage Lectures*, No 925 Delivered December 1st.
- Samtana.G.,Almeida. R. C. C., Ferreira. I. S.,& Almeida, P. F. (2019). Microbiological quality and safety of meals served to children and adoption of good manufacturing practices in public school catering in Brazil. *Food Control*, 20, 255-261
- Todd, E.G., Greig. I. Burtleson. C.A., & Michaels. U.S. (2017). Outbreaks where Food Workers have been Implicated in the Spread of Food borne Disease. Part 3. Factors Contributing to 10 Outbreaks and Description of Outbreak Categories. *FoodProt*. 7, 2199-2217
- Vanguard (2022). Report on the Global Food Epidemic: 4th global report..
- Wallace . A. (2016). *Intermediate HACCP*. Highfield limited
- Wogu, M. D., Omoruyi. M. F & Odeh, H. O. (2011). Microbial load in ready-to eat rice sold in Benin City, *Microbiol and Anlimicrob*, 3 (2),29-33.
- World Health Organization (2019). *Background Paper: 'Developing food safety*. WHO Strategic planning meeting.

Cite this article as

Akugbo, C. N., & Egbujor, G. C. (2020). Food Safety And Hygiene Practices Of Food Vendors In Public And Private Secondary Schools In Omoku, Rivers State Nigeria. *THE COLLOQUIUM*, 8(1), 69-77