JHER Vol. 29 (2), December 2022, pp. 163 – 170

Hygiene Practices Adopted By Food Vendors in Public Secondary School in Asaba Metropolis, Delta State

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Abstract

The purpose major of this study was to investigate food handling practices among food vendors in public secondary schools in Asaba Metropolis. Specifically, the study determined personal and food hygiene practices adopted by the food vendors. The study adopted survey research design. The population for the study comprised registered 116 food vendors operating in 10 public secondary schools in Asaba Metropolis. Instrument for data collection was questionnaire. Findings reveal 10 personal hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis include: Do not use aprons to dry your hands (2.90), Do not smoke in food preparation areas (3.28), Always wear hand glove while cooking (3.47), Always properly cut their finger nails (8.85), Always cover their hair while cooking (2.95), and others. Other findings are 10 hygiene practices. These include, Store foods appropriately both before and after cooking (2.90), Always clean the cooking utensils after cooking (2.95), Use tools or utensils to serve food whenever possible (2.98), Always wash the vegetables before cutting (8.85) among others. Based on the findings, it was recommended; among others that government through the school management should sensitize the food vendors in their premises on the importance of personal and food hygiene practices so as to reduce the occurrence of food borne diseases in and around the school.

Keywords: Food, Handling, Hygiene, Personal, Practice, Vendors, Students

Introduction

Food is one of the basic needs of man. It is any substance which when ingested by an organism and assimilated by the organism's cells to provide energy, maintained life, or stimulated growth (Chaudhari, Landin and Roper, 2019). The importance of food and its consumption at various times and in various places necessitate business of food vending, since individuals might not be able to prepare their food always. Food vendors abound along streets and premises including schools. Street foods are foods supplied by food vendors often along streets for immediate consumption or later use without further processing or preparation.

Any food that is ready for consumption requires hygienic handling to promote health thus, food handling personnel play an important role in ensuring food safety throughout preparation and service chains (World Health Organization (WHO), 2013). Hygiene involves many practices that help people stay healthy (Boyce *et al*, 2010). It is the practice of preventing illness or stopping it from spreading by

keeping things clean. Furthermore, hygiene is the practice of keeping oneself as well as one's living and working conditions and areas clean in order to prevent illness and diseases (WHO, 2015). Poor hygiene practices by food handlers (vendors) may expose food to pathogenic bacteria which can constitute danger to the health of consumers. To avert the danger of food poisoning, hygiene practices are adequately needed while handling food. Food hygiene practices involve actions carried out in the processes of preparation, preservation and service of food in a manner that ensure the food is safe for human consumption. Food hygiene seen as a set of basic principles employed in the systematic control of the environmental conditions during production, packaging and delivery of food in such a way that ensure the food is safe to consume and it is of good keeping quality. Okeke (2009), referred to food hygiene as a practice for constant vigilance and strict observation of absolute cleanliness and safety with the food in order to prevent food contamination or poisoning. The process of food hygiene include proper storage of food items prior to use, maintaining of clean environment when preparing food and personal hygiene of the food handlers (vendors). Food contamination can occur at any point during its preparation, and service. This emphasizes the importance of food safety and hygiene in the prevention of food borne diseases (Osagbemi, Abduyllahi and Aderibigbe, 2018).

Food is said to be hygienic when it is free of a hazardous substance that could be harmful to human or animal health, however, microbiological hazards in ready-to-eat food and chemical hazards, mostly pesticides from agricultural products including fresh vegetables and fruits have been reported (Preetha, 2015). Ensuring food hygiene and safety practices among vendors is one challenge that has existed for decades, and therefore the need for vendors to adhere to high standard food safety regulations and hygiene practices cannot be emphasized (United Nation International Children Emergency Fund (UNICEF), 2013). Preventive strategy based on thorough analysis of prevailing conditions to ensure the achievement of quality assurance programme objectives is also recommended. According to WHO (2013), it is estimated that more than 200,000 people die of food poisoning and food borne pathogens annually in Nigeria. Practices identified as contributing to foodborne outbreaks include improper refrigeration, prolonged handling and inadequate reheating of cooked food and contamination of food by commercial or household food handlers who worked while ill or had poor personal hygiene.

The knowledge of food handlers about the food borne infections and their safety practices is an important issue in the prevention of outbreaks of food borne infection. In Nigeria, Bhowmick (2015), found out that food vendors' in their study are aware of food and personal hygiene and a greater percentage of the vendors adhered to basic hygiene practices. Considering that a percentage of vendors are yet to adopt basic hygiene practices, it will be necessary to ensure continuous education and enforcement of policy regulations within the food industry. Earlier, Abah & Abah (2015) found out that in Nigeria, 27.7 percent of food handlers do not wash their hands before preparing food and 28.1 percent use only water without soap to wash

hands after using the toilet. They also found out that 90 percent of food handlers have heard about typhoid fever but only 15.6 percent of them know how it is contracted. Similarly, Codex (2017), in a related study carried out among food vendors in primary schools in Jos, Plateau State, North Central Nigeria, found out that 60.9 percent of participants in the study had good knowledge of good food handling hygiene practices. Age of the vendors was found to be related to their food safety and hygiene practices. The scenario among secondary schools in Asaba metropolis is a source of concern. Most food vendors may not have proper knowledge of good food handling practices. This could be as a result of neglect of the school management as well as the State Ministry of Health. Lack of proper knowledge of food safety and hygiene practices could constitute danger to the health of the students. It is therefore necessary study the hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis.

Purpose of the Study

The main purpose of this study was to investigate hygiene practices among food vendors in public secondary schools in Asaba Metropolis. Specifically, the study determined:

1. personal hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis.
2. food hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis.

Hypotheses (HOs)

There are no significant differences between the mean responses of male food vendors in the public secondary schools on:

HO_1: Personal hygiene practices adopted by the food vendors

HO_2: Food hygiene practices adopted by the food vendors.

Methodology

***Design of the Study*:** The study adopted descriptive survey design.

***Area of the Study*:** Area of the study was Asaba metropolis. The study was carried out in thirteen (13) public secondary schools in Asaba Metropolis.

***Population of the Study*:** The population for the study was 116 registered food vendors operating in 13 public secondary schools in Asaba Metropolis. They were both male (42) and female (74) vendors. Due to the small size of the population, the entire 116 food vendors were involved in the study. Therefore, there was no sample size and sampling technique for the study.

***Instrument for Data Collection*:** Questionnaire was used for data collection. The questionnaire was divided into two sections A and B. Section A sought information on the personal hygiene practices, while Section B was on the food hygiene practices. The instrument had a- four point rating scale of Very High Extent (VHE) 4, High Extent (HE) 3, Low Extent (LE) 2, and Very Low Extent (VLE) 1. It had appropriate instructions for the respondents. It was validated by three Home Economics lecturers in Colleges of Education. The internal consistency of the instrument was determined using Cronbach Alpha method, which yielded a coefficient of 0.87 showing that the instrument was reliable for the study.

***Data Collection Methods*:** One hundred and sixteen copies of the questionnaire

were administered to the respondents by hand with the help of two trained researcher assistants. The respondents were properly instructed on questionnaire items and how to respond to the instrument. It took the respondent one to two hours to complete the questionnaire. All the 116 copies of questionnaire were retrieved. There was 100 percent return rate.

***Data Analysis Techniques*:** Data were analyzed using mean ( ) to answer the research questions while t-test was used to test the null hypotheses at 0.05 level of significance. A mean of 2.50 was used as basis for decision making. Also, if calculated t-value was greater than the table value for the given degree of freedom (df) the null hypothesis was regarded as significant otherwise not significant.

Results

Table 1: Mean Responses and t-test Analysis on Personal Hygiene Practices Adopted by Food Vendors in Public Secondary Schools in Asaba Metropolis.

S/N	Personal Hygiene Practices	$_m$	SD_m	$_f$	SD_f	$_g$	SD_g	t-cal	Decision
1	Do not use aprons to dry your hands	2.91	1.20	2.88	1.18	2.90	0.89	0.59	Sig.
2	Do not smoke in food preparation areas	3.26	2.23	3.29	0.87	3.28	1.55	0.77	Sig.
3	Always wear hand glove while cooking	3.04	2.97	3.89	1.01	3.47	1.75	1.49	Sig.
4	Always properly cut your finger nails	2.86	2.96	2.83	1.01	8.85	0.52	1.52	Sig.
5	Always wear apron while cooking	2.91	2.83	2.89	1.00	2.90	1.63	0.75	Sig.
6	Always cover your hair while cooking	3.03	2.95	2.86	0.96	2.95	1.45	1.05	Sig.
7	Cover any cuts with a bandage and wear clean gloves	2.93	3.02	3.03	1.13	2.98	1.46	0.18	Sig.
8	Wear hair nets to help prevent loose hair from falling on food	2.83	2.98	2.88	0.99	2.86	1.36	1.10	Sig.
9	Report immediately any symptoms of illness or infection to your supervisor	2.94	2.84	2.85	1.08	2.90	1.47	0.12	Sig.
10	Wash hands before and after handling raw food, especially meat and poultry	2.91	2.91	2.98	0.93	2.95	1.46	0.79	Sig.
	Total	2.81	1.00	2.41	0.98	2.58	1.65	0.08	Sig.

No of male vendors 42; No of female vendors = 74; $_m$ = mean responses of male vendors; SD_m = Standard deviation of male vendors; $_f$ = mean of responses of female responses, SDf = Standard of female vendors, $_g$ = Grand mean, t-cal = calculated t-test result

Table 1 shows male food vendors had higher mean (= 2.81; SD = 1.00) than female vendors (= 2.41; SD = 0.98). The Table also reveals that there was

significant difference in the mean responses of male and female food vendors on the personal hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis. Therefore, the hypothesis that stated that there is no significant difference in the mean responses of male and female food vendors on the personal hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis was rejected.

Table 2: Mean Responses and t-test Analysis on Food Hygiene Practices Adopted by Food Vendors in Public Secondary Schools in Asaba Metropolis.

S/N	Personal Hygiene Practices	$_m$	SD_m	$_f$	SD_f	$_g$	SD_g	t-cal	Decision
1	Store foods appropriately both before and after cooking	2.41	1.53	2.34	1.18	2.90	0.89	0.59	Sig.
2	Always properly cook and prepare foods	1.26	2.26	2.29	0.87	3.28	1.55	0.77	Sig.
3	Always serve the food with clean plates and dishes	2.41	2.43	3.45	1.01	3.47	1.75	1.49	Sig.
4	Always wash the vegetables before cutting	2.64	2.25	2.53	1.01	8.85	0.52	1.52	Sig.
5	Do not leave used pots and plates overnight	2.52	2.36	2.35	1.00	2.90	1.63	0.75	Sig.
6	Always clean the cooking utensils after cooking	2.63	2.83	2.24	0.96	2.95	1.45	1.05	Sig.
7	Use tools or utensils to serve food whenever possible	2.26	2.43	2.03	1.13	2.98	1.46	0.18	Sig.
8	I do not wear jewelry in food preparation areas especially rings	2.92	2.54	2.34	0.99	2.86	1.36	1.10	Sig.
9	Keep the kitchen and canteen clean	2.45	2.28	2.42	1.08	2.90	1.47	0.12	Sig.
10	Keep raw meat and other raw animal products away from other foods	2.91	2.51	2.34	0.93	2.95	1.46	0.79	Sig.
	Total	2.62	1.08	2.39	1.00	2.58	1.47	0.08	Sig.

No of male vendors 42; No of female vendors = 74; $_m$ = mean responses of male vendors; SD_m = Standard deviation of male vendors; $_f$ = mean of responses of female responses, SDf = Standard of female vendors, $_g$ = Grand mean, t-cal = calculated t-test result

Table 2 shows that food vendors had higher total mean (= 2.62; SD = 1.08) than female vendors (= 2.39; SD = 1.00).The Table further shows that there was no significant difference in the mean responses of male and female food vendors on the food hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis. Therefore, the hypothesis that stated that there is no significant difference in the mean responses of male and female food vendors on the food hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis not rejected.

Discussion of Findings

The findings reveals that there is no significant difference between the mean responses of male and female food vendors personal hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis. The study discovered that the personal hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis include: do not use aprons to dry your hands, do not smoke in food preparation areas, always wear hand glove while cooking, always properly cut their finger nails, always cover their hair while cooking, cover any cuts with a bandage and wear clean gloves, wear hair nets to help prevent loose hair from falling on food, report immediately any symptoms of illness or infection to your supervisor and wash hands before and after handling raw food, especially meat and poultry. This view was supported by Ebirim (2015) who posited that food contamination can occur at any point during its preparation, bringing to bear the importance of food safety and hygiene in the prevention of food borne diseases. Good hygiene practices have been documented to prevent several food-borne diseases when practiced. It is broadly acclaimed that deliberate or accidental contamination of food due to inappropriate handling of food might endanger the lives of consumers.

Findings on the food hygiene practices adopted by food vendors in public secondary schools in Asaba Metropolis as contained in research question two and hypothesis two include: always properly cook and prepare foods, always wash the vegetables before cutting, do not leave used pots and plates overnight, always clean the cooking utensils after cooking, they use tools or utensils to serve food whenever possible, they do not wear jewelry in food preparation areas especially rings, keep the kitchen and canteen clean, keep raw meat and other raw animal products away from other foods. This finding is in line with Uzoka (2018) observed that it is also a common practice for most food vendors to communicate without wearing mouth and nose cover to prevent droplets of saliva from entering the food while selling. Food vending is increasingly becoming popular perhaps due to some vital roles it plays such as providing of quick and cheap food services to the people as well as creating employment opportunities for women. Ohiokpehai (2018) while acknowledging the vital role played by food vendors to the city dwellers observes that such foods can pose significant health hazards to the people due to the vendors lack of food hygiene practices. Agba (2019) observes that unhygienic practices by food vendors expose children to diseases like vomiting, abdominal pains, diarrhea and other forms of health risks in the environment. Although school children enjoy food from these food vendors, in many cases the food is of poor quality and it poses a serious health risk to the school children. Also some of these food handlers wear long, polished nails, brackets and do not cover their hair while preparing and selling food, these could serve as a medium for germ transfer into the food.

Haileselassie, Taddele, Adhana, Kalayou (2018) suggested that inadequate food safety laws, weak regulatory systems, lack of financial resources to invest in safer equipment, inadequate knowledge of food borne diseases and their causes, improper handling of food and unhygienic

environments among others have been identified as some of the causes of food borne diseases. Adewunmi, Ajayi and Omotoso (2019) also observed that many of the vendors who sell both raw and cooked food items are not regulated. They operate haphazardly without any monitoring of what they prepare and how they prepare it. The altering patterns of food consumption have had a great influence on the increasing incidence of food borne diseases. Traditionally, foods were produced and consumed locally. This is inline with Daniels, Mackinnon and Rowe (2016) who posited that food vendors play important role in ensuring food safety throughout the chain of food production and storage. Mishandling and pay no attention to hygienic measures on the part of the food vendors may enable pathogenic organisms to gain entry and in some cases survive and multiply insufficient numbers to cause illness in the consumer. Akintaro (2012) submitted that large quantity of food produced and distributed gets to the consumers in an unwholesome condition due to poor handling methods, inefficient processing equipment and storage practices, high ambient tropical temperature and humidity conditions.

Food contamination can occur at any point during its preparation, bringing to bear the importance of food safety and hygiene in the prevention of food borne diseases. Good hygiene practices have been documented to prevent several food-borne diseases when practiced. It is broadly acclaimed that deliberate or accidental contamination of food due to inappropriate handling of food might endanger the lives of consumers. Annor and Baiden (2019) posited that several hygiene practices such as poor personal and environmental hygiene, inadequate storage of food and drinks, improper preparation and cooking are known to cooperate the safety of food. Food is said to be hygienic when it is free of a hazardous substance that could be harmful to human or animal health. Though this is the case, microbiological hazards in ready to eat food and chemical hazards, mostly pesticides from agricultural products including fresh vegetables and fruits have been highlighted.

Conclusion

The findings of the study have shown that both male and female food vendors in the public secondary schools in Asaba Metropolis of Delta state are aware of personal hygiene practices that are important to adhere to. They are not only aware of the practices, the findings show that they adopt the practices.

Recommendations

Based on the findings of the study, the following recommendations are made:-

1. That government through the school management should sensitize the food vendors in their premises on the importance of personal and food hygiene practices so as to reduce the occurrence of food borne diseases in and around the school.
2. That school management should regularly supervise the level of hygiene practices adopted by food vendors in their respective schools.
3. Food vendors should also avail themselves to available training and also implement the whatever they learnt so as to reduce the occurrence of food borne diseases in and around the school.

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