



Hygienic practices of food vendors in food safety on the University of Ghana campus

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ABSTRACT

Although the food chain industry is regarded as a crucial component of the economy of many developing nations because it creates jobs and offers easily available cooked meals at relatively lower prices, there have been significant worries about the quality and safety of street foods. The goal of the study is to evaluate how well food vendors adhere to hygiene standards on the University of Ghana campus. A qualitative approach was used. Thirty-one food vendors and 2 grounds and environmental health services officers were selected using purposive sampling. The data were analysed using thematic analysis. According to the study's findings, a larger percentage of food vendors did not exhibit healthy food handling habits. Although there are organised pieces of training for food vendors, these pieces of training are insufficient to provide them with all the necessary information. To ensure food safety practices. To increase the degree of food safety, a comprehensive food safety policy and guidelines, regular training programmes and effective monitoring should be a priority for all stakeholders.

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1. Introduction

Street food is made and sold by hawkers or sellers on the streets and in other public locations as ready-to-eat food and beverages (1). Given that foodborne infections cause significant suffering and thousands of fatalities each year (2), food safety is a crucial concern in both

industrialized and developing nations. Therefore, food safety has emerged as a crucial public health priority, especially since a considerable number of people consume meals outside their homes (3-8).

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Many people have been exposed to foodborne illnesses that are brought on by food stands, restaurants, and other food outlets as a result of this lifestyle change (9–12). A report from the Centre for Disease Control and Prevention (CDC) estimates that there are 9.4 million cases of foodborne illnesses per year, resulting in 55,961 hospitalizations and 1,351 fatalities (3, 13).

In many developing countries, the food industry tends to attract individuals with low skills, training, and educational qualifications who may not be able to secure employment in the formal sector (14, 15). According to (4) and (5, 16), roughly 70% of cases of diarrheal disease in low- and middle-income countries are linked to the consumption of unhealthy food. This is mainly because in Africa and many other developing countries, most street food vendors lack awareness of basic food safety issues or training, and there is often a shortage of adequate food inspectors. Thus, street foods are highly vulnerable to unsafe practices.

Several studies conducted in Ghana over the past decade regarding food hygiene have highlighted the poor knowledge and attitudes of street food vendors, with those who are least educated showing the lowest levels of personal hygiene (6, 17). Most of these vendors have either received no formal education or have only had a few years of schooling, and as a result, they often lack proper knowledge of food handling, increasing their chances of transmitting pathogens (7). Furthermore, according to (18, 19), there is compelling statistical evidence suggesting that 70% of all bacterial food poisoning cases are caused by food vendors.

This particular study focuses on examining the hygienic practices of food vendors on the University of

Ghana campus, Legon, specifically during food preparation and the selling process.

The study also aims to identify the nature and effectiveness of food safety training needs for food vendors.

2. Materials and methods

To gather information from the study participants, an observation checklist and a structured interview guide were utilized. The study was conducted solely on the University of Ghana's main campus in Legon, specifically targeting food vendors at the "Night market" and "Bush canteen." These sites were put in place by the university to sell food. The study population consisted of food vendors operating at these two locations, with a sample size of 31 food vendors purposively selected from 10 food outlets (5 from each site). The sample included 16 vendors from the Night market and 15 vendors from the Bush canteen. In addition, two grounds and environmental health services officers, who are responsible for overseeing the activities of the food vendors on campus, were also purposively selected. An observation checklist was utilized to observe the food vendors' actions as they prepared and sold meals to determine their personal, food, and environmental hygienic practices. The ground and environmental health services officers were interviewed face-to-face to collect in-depth information concerning the nature and effectiveness of food training needs of food vendors. To ensure the reliability and validity of the research instruments, a pre-test of the observation checklist and the interview guide was administered at a different tertiary institution (University of Professional Studies).

The research instruments were afterwards examined by an expert and officers from the grounds and environmental health services, and the necessary revisions and modifications were made before using them for the study. Data from the Observation checklist were analysed using thematic analysis. Subsequently, data gathered from the interview were transcribed verbatim and analysed using thematic analysis. The study was approved by the Ethics Committee for the Humanities at the University of Ghana and consent was sought from officers in charge of the food vendors to conduct an observation and interview for the study.

3. Results

Data from interviews with officers from the grounds and environmental health services unit were analysed thematically. The objective was to ascertain whether food vendors receive any training on food safety and to evaluate the efficacy of that instruction.

a) In-service Training

Both interviewees said "yes" when asked if they offer in-service training for food vendors.

a) The frequency of training

Comments made by the interviewees are presented below:

"...Actually, training is done for food vendors once a year but we do a regular inspection to make sure they are doing the right thing, then quarterly, we organize a health talk for them..." (interviewee A)

a) Number of Times training is Organised

The participants in the study confirmed that food vendors on campus do not receive enough training on safe food practices.

However, regular inspections are conducted to ensure compliance with safety standards. Below are the responses of the participants.

"...Not really but the regular inspection helps to control bad habits..." (interviewee B)

"...I think the number of times the training is done is not enough. It is done just once a year then we try to add regular inspections..." (interviewee A)

a) Challenges

Officers of the study lamented that; their major challenge is finance. Getting the funds to organize training for food vendors is always a problem. Another challenge has to do with the unavailability of washrooms, overcrowded food joints and the environment not being well structured. They also emphasized that they do not have complete operating authority from the school administration which affects their work. Comments are presented below:

"...Our first challenge has to do with funding. Food vendors pay rent, yet we have to take contributions from them to pay experts before they can get proper training. On the other hand, Bush Canteen is not fortunate. The place is not well structured, where they cook and where they sell is very crowded. In the case of Night Market, the place has no washroom, that is a big problem, it can cause so many health hazards, and food contamination can also be very high..." (interviewee A)

"The school authorities do not give us the full power to operate and prosecute. All our annual reports become paper works and are not enforced; this negatively affects our work in ensuring food safety on campus..." (interviewee B)

Table 1. Observation Checklist

Observation Checklist	Outcome
During food preparation	
Environmental hygiene	
Observed components	During the study, it was observed that the space where they cooked was cleaned before the preparation of food. However, the surrounding area was not cleaned again until after the food was cooked, resulting in an unkempt appearance. It was also noted that food handlers properly placed their garbage in designated trash cans but did not dispose of it until after cooking which attracted a high number of flies to the area where food was being prepared.
Personal hygiene	
Observed components	Most vendors who handled food started preparing it without first washing their hands. Although their nails were unpolished, food vendors wore no aprons or other protective clothing.
Food hygiene	
Observed components	Raw foods such as rice and tubers were not washed before cooking or peeling. Vegetables and legumes were rinsed only once with water before use. Cooking utensils, however, were found to be spotless. The food was not covered while being transported from the preparation area to the sales location, which was close.
At sales point	
Environmental hygiene	
Observed components	In contrast to where the food was made, the surroundings where the food was sold were clean and orderly. Almost every food vendor had a dustbin, but the bulk of them had no lid, encouraging flies to cluster around them.
Personal hygiene	
Observed components	Before food sales, half of all food vendors had their hands washed. During food sales, food vendors wore aprons but no headgear or gloves. Several vendors had their nails done. Nonetheless, the vendors had no open wounds.
Food hygiene	
Observed components	It was observed that food was covered during sales and all serving utensils used by the food vendors were clean. Bowls were quickly cleaned with soap and water after use. However, food vendors served consumers and collect payment from them with the same hand, which could cause cross-contamination.

Table 2. Organization of Theme and Subthemes

Theme	Subthemes
The nature and effectiveness of food safety training needs of food vendors.	In-service training. The frequency of training The number of times training is organized. Challenges.

4. Discussion

The most important discovery was that, despite their knowledge of food safety and sanitation, the performance of the majority of food vendors on campus was inadequate. During an interview, the environmental officers revealed that food vendors in some manner knew what the appropriate procedures were, but they disregarded them when preparing the food or selling it. This result was consistent with previous studies (1, 5, 14) that found that understanding food safety does not always result in best practices. When food vendors were observed, they hardly ever washed their raw ingredients before cooking, and when they did, they scarcely ever did it well. This supports a study by (8, 10, 17) that emphasizes that food vendors frequently subject food to various unsafe cases of abuse across all phases of handling food. During the cooking process, some meals were left uncovered, and the majority of the time, the waste that was produced went ignored. This finding agrees with that of (15, 16). It was also discovered that the biggest mistake the food vendors had made involved their disregard for personal cleanliness, notably their failure to wash their hands properly. This is alarming because numerous studies, including (1, 3, 7) revealed that regular hand washing was the single most effective way to stop the spread of foodborne illness. Nearly every vendor who sold food used the same hands to serve clients' food and handle money simultaneously. This is consistent with research by (4, 17) that claimed one source of contamination was the spread of bacteria from money to food, as vendors tried to multitask but instead contaminated food with bacteria found on banknotes and coins. Another issue was that the majority of vendors brought food

uncovered to the selling location, exposing the food to various types of contaminations (2, 13).

According to the findings of the study, the Grounds and Environmental Health Services Officers interviewed confirmed that they organize training for food vendors on campus. However, the officers stated that the training provided is not sufficient to adequately equip and empower the food vendors due to its inefficiency. Previous research by (6, 11, 12) has highlighted that education and training of food handlers is one of the best ways to prevent foodborne diseases. The socio-demographic data collected during the study indicated that the majority of the food vendors had no formal education, and a sizable portion had only rudimentary schooling. To ensure that food vendors create healthy and safe meals for consumption, there is a need for efficient and effective training because the food sector is primarily made up of uneducated employees in the nation's informal sector. (9, 12, 18) have also emphasized the importance of providing training to food handlers to improve food safety practices.

5. Conclusion

The findings of the study underscore the importance of improving the training and monitoring of food vendors on the University of Ghana campus. Adequate training sessions that are efficient and effective can equip food vendors with the knowledge and skills needed to produce wholesome and safe foods. Additionally, the recruitment of more health services officers can help to ensure that regular inspections are conducted, and food vendors are held accountable for their actions. It is also essential to emphasize the importance of hygiene practices and provide ongoing education and support

to food vendors to encourage them to adopt and maintain safe and hygienic practices. Overall, addressing the challenges identified in this study can contribute to reducing the incidence of foodborne illnesses and promoting a healthier campus community. Finally, there is the need to enhance both institutional and legislative framework that already exists concerning food hygiene and safety. Doing this will ensure that local authorities on food hygiene and safety have the requisite resources as well as the capacity to monitor and ensure that wholesome foods are available in the public space. Subsequent research could investigate the attitude, understanding as well as the perception of food safety practices among food vendors operating on the University of Ghana campus.

Conflict of interests

There are no conflicts of interest, according to the authors of this article.

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References

1. Chaitali C, Bornini B, Soumyadeep P, et al. Food safety challenges towards safe, healthy and nutritious street foods. *J Interacad* 2016; 20: 499-507.
2. Pilling VK, Brannon LA, Shanklin CW, et al. Food safety training requirements and food handlers' knowledge and behaviors. *Food Prot Trends* 2008; 28: 192-200.
3. Monney I, Agyei D, Owusu W. Hygienic practices among food vendors in educational institutions in Ghana: the case of Konongo. *Foods* 2013; 2: 282-94.
4. Kumie A, Zeru K. Sanitary conditions of food establishments in Mekelle town, Tigray, north Ethiopia. *Ethiop J Health Dev* 2007; 21: 3-11.
5. Mukhopadhyay P, Joardar GK, Bag K, et al. Identifying key risk behaviors regarding personal hygiene and food safety practices of food handlers working in eating establishments located within a hospital campus in Kolkata. *Al Ameen J Med Sci* 2012; 5: 21-28.
6. Ayeh-Kumi PF, Quarcoo S, Kwakye-Nuako G, et al. Prevalence of intestinal parasitic infections among food vendors in Accra, Ghana. *J Trop Med Parasitol* 2009; 32: 1-8.
7. Apanga S, Addah J, Sey DR. Food safety knowledge and practice of street food vendors in rural Northern Ghana. *Food Pub Health* 2014; 4: 99-103.
8. Annor, GA, Baiden, EA. Evaluation of food hygiene knowledge, attitudes and practices of food handlers in food businesses in Accra, Ghana. *Food Nutr* 2011; 2: 830-36.
9. Ifeadike CO, Ironkwe OC, Adogu PO, et al. Assessment of the food hygiene practices of food handlers in the Federal Capital Territory of Nigeria. *Trop J Med Res* 2014; 17: 10.
10. Feglo P, Sakyi K. Bacterial contamination of street vending food in Kumasi, Ghana. *J Med Biomed Sci* 2012; 1: 1-8.
11. Ababio PF, Adi DD. Evaluating food hygiene awareness and practices of food handlers in the Kumasi metropolis. *J Food Saf* 2012; 14: 35-43.

12. Afolaranmi TO, Hassan ZI, Bello DA, et al. Knowledge and practice of food safety and hygiene among food vendors in primary schools in Jos, Plateau State, North Central Nigeria. *J Med Res* 2015; 4: 16-22.
13. Nurudeen AA, Lawal AO, Ajayi SA. A survey of hygiene and sanitary practices of street food vendors in the Central State of Northern Nigeria. *J Pub Health Epidemiol* 2014; 6: 174-181.
14. Oghenekohwo JE. Pattern of food hygiene and environmental health practices among food vendors in Niger Delta University. *Eur J Food Sci Technol* 2015; 3: 24-40.
15. Sun YM, Wang ST, Huang KW. Hygiene knowledge and practices of night market food vendors in Tainan City, Taiwan. *Food Control* 2012; 23: 159-64.
16. Thakur CP, Mehra R, Narula C, et al. Food safety and hygiene practices among street food vendors in Delhi, India. *Int J Curr Res* 2013; 5: 3531-34.
17. Njaya T. Operations of street food vendors and their impact on sustainable urban life in high density suburbs of Harare, in Zimbabwe. *Asian J Econ Model* 2014; 2: 18-31.
18. Ababio PF, Lovatt P. A review on food safety and food hygiene studies in Ghana. *Food Control* 2015; 47: 92-97.
19. Annan-Prah A, Amewowor DH, Osei-Kofi J, et al. Street foods: handling, hygiene and client expectations in a World Heritage Site Town, Cape Coast, Ghana. *Afric J Microbiol Res* 2011; 5: 1629-34.