

Assessment of Food Safety Practices among Food Vendors in and Around Takoradi Polytechnic Campus**Author's Details:**

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ABSTRACT

Foods vended on the street are readily available sources of meal for many people. However, the biological safeties of such foods are always in doubt. It was against this background that this study was undertaken to assess the food safety practices among food vendors in and around Takoradi Polytechnic campus. A total of 60 food vendors were selected from in and around Takoradi Polytechnic (66.7% females and 33.3% males). The age ranges of respondents were between 15 and 41 years, and the educational levels were between tertiary education to as low as primary school leavers. Majority (73.3%) of the vendors handled food when they had cuts and bruises while 26.7% did not handle food when they had cuts and bruises. About eighty three percent went for medical check-up whereas 16.7% did not go for medical check-up at all. Forty percent went for medical check-up every year, 23.3% went for check-up when they were sick 13.3%, went to the hospital at the middle of the year and every month. Almost three percent went for medical check-up weekly. Seventy percent did not wear rings and nail polish but 30% wear rings and nail polish during food production. Majority of food vendors observed good hygienic practices and also used good potable water for their food preparations. The study recommended that, there was the need for health education for these vendors in order to ensure food safety for consumers in and around the Takoradi Polytechnic campus.

Key Words: Food, Food safety, Food vendors, contamination.

1.0 INTRODUCTION

Restaurants have been implicated as one of the most frequent settings for foodborne illness outbreaks. These outbreaks have also been linked to a variety of foodborne pathogens and viruses which have claimed many lives and some causing severe suffering throughout the world (John, 1995). Unlike food prepared at home, one food safety mistake by a foodservice worker can affect many people. Food is one of basic needs of man on which his very survival depends. Despite the fact that individuals cook their own food, they sometimes eat outside for the fun of it. Knowles (2002) opines that, regardless of the reason for eating outside, this need is met by consuming food provided by food establishments. However, sanitary conditions of food vending and other food establishments is very important as people's lives depend on the extent of how such food vendors are hygienically clean.

Approaches to safe food production are being assessed on an expanding platform from cities to nations and beyond. These notwithstanding, food borne illnesses are still on the increase. A case in point was the incident about a Chinese restaurant where five customers were infected after eating contaminated fried rice in the recent past (Gaman and Sherington, 1996). Food borne illnesses are indirectly caused from contaminated water used for irrigation and adulteration of food such as addition of food additives, procedure employed in cooking, unhealthy attitudes of food handlers and inadequate storage facilities. Food safety is receiving heightened attention worldwide as the important links between food and health are increasingly recognized. Food safety has become a shared concern among both developed and developing countries (Unnevehr and Roberts, 2006).

In Ghana, there are regulatory bodies responsible for giving out food safety information, go on inspection, visits, license issue grade establishments and the certification of restaurant and other food establishments. Upon this basis, it is assumed that caterers are aware of safety measures which include good kitchen hygiene practices, approved handling of food stuffs which help them to produce safe food. On the contrary failure to observe these measures could result in food contamination and consequences of ill-health. It is in this light that the researchers seek to investigate food safety practices among food vendors in and around Takoradi Polytechnic campus. Whether the practice they undertake conform to government policies on food safety and

finally to come out with recommendation on possible practices of food safety to promote healthy standards among food vendors.

The hygienic state of a food establishment is an indication of the moral obligation that commercial food service operators have towards the provision of food that is safe from harmful bacterial and contaminants (World Health Organisation, 2003). Since food customers rank cleanliness and sanitation high on their list of priorities when dining out, it is important for the operators of these establishments to know how to maintain a clean and sanitary operation. This study was thus designed to analyze the food safety practices of food vendors in and around Takoradi Polytechnic campus.

1.3 Research questions

- i. What are the food safety practices among food vendors in and around Takoradi Polytechnic campus?
- ii. What are the available food safety measures enforced by Regulatory bodies?

1.4 Significance of the study

Food vending has been reported to be a major source of contamination (Feglo and Sakyi, 2012), since most students and public workers in and around Takoradi Polytechnic campus depend much on street foods. In view of this, the study would create awareness on the need for food vendors to undergo medical check-up. It will also help to identify the gaps in regulatory requirements for appropriate interventions to enhance food safety. Furthermore, it would create awareness of food safety practices and improve the efficiency of food vendors, as well as serve as a guide for further research on food safety practices.

2.0 REVIEW OF RELATED LITERATURE

2.1 Food Vending in Developing Countries

The street food industry plays an important role in developing countries in meeting the food demands of the urban dwellers. Street foods feed millions of people daily with a wide variety of foods that are relatively cheap and easily accessible (Latham, 1997). However there are significant reports of health problems that have been associated with these street foods (Kaferstein, 1993, Abdussalam and Kaferstein, 1993; Ashenafi, 1995; Muleta and Ashenafi, 2001; Mensah et al, 2002 and Omemu and Aderoju, 2008). Street food vendors are often unlicensed, untrained in food safety, food hygiene and sanitation, and work under crude unsanitary conditions (FAO, 1990).

Food safety also largely depends on personal hygiene. Personal hygiene is important because according to Marriot (1985), human beings are the largest contamination sources of food. Handling food with bare hands may result in cross contamination, hence introduction of microbes on safe food. Chukuezi (2010) found in her study that 42.86% did not use aprons, 47.62% handled food with bare hands, and 52.38% wore no hair covering while 61.90% handled money while serving food. Nineteen point zero five percent wore jewelry while serving food and 28.57% blew air into polythene bag before use. This is in contrast with findings by Muinde and Kuria (2005) in Nairobi where they found that 81.3% of the vendors did not use aprons, 60% handled food with their bare hands and 65% had their hair not covered. All their vendors handled money while serving food and only 10% of them wore jewelry.

2.2 Food vending and its associated health issues

It is recognized that street food vendors are often poor and uneducated and lack an appreciation of safe food handling. Consequently, street foods are perceived to be a major public health risk. In 1993, the World Health Organization (WHO) undertook a survey in over 100 countries to assess the situation with regard to street-vended food (WHO, 1996). The survey noted that the majority of countries reported contamination of food (from raw food, infected handlers and inadequately cleaned equipment) and temperature abuse to be the major factors contributing to food-borne disease. This was partly due to the fact that infrastructure development was relatively limited, with restricted access to potable water, toilets, refrigeration and washing and waste disposal

facilities. Moreover, registration, training and medical examinations were not among the selected management strategies (WHO, 1996).

2.3 Hygiene features among food vendors

According to Martins (2006), the hygiene practices of street vendors support the findings of his microbiological survey. The survey among vendors showed that a high standard of hygiene was maintained by most of them during preparation and serving of the foods, while the microbiological tests showed relatively low microbiological counts and low incidences of pathogens tested for (in the case of salmonella, total absence). This finding is corroborated by the responses of customers. The results of 5 other studies done among street food vendors in South Africa came to similar conclusions. In a study of 6 vendors in Johannesburg (Mosupye, and Von Holy, 1999) where 51 ready-to-eat street foods, 18 dishwater and 18 surface scrub samples were collected and analyzed, it was found that the foods analyzed were of acceptable quality and safety.

2.3 The sanitary conditions of food service establishments and food safety knowledge and practices of food handlers

According to Mulugeta and Bayeh (2011) their study revealed poor food handling practices by food handlers and poor sanitary conditions of food service establishments in Bahir Dar town. In their study majority of the food handlers were found to be females and most of them were in the age range between 21 and 30 years and only 41.7% of them had completed a minimum of secondary school education. Safer food preparation and handling were reported by persons who were females, at least 40 years of age and with at least high school level education ((Klontz, Timbo, Feins , and Vevy, 1995). Food handlers are expected to have a substantial knowledge and skills for handling foods hygienically (FAO, 1997).

Food handlers are expected to have a substantial knowledge and skills for handling foods hygienically (Evans *et al*; 1998). Although most of the handlers responded positively for the food safety related questions, in reality they did not practice them and this has also been reported in other studies where food handlers did not usually translate their knowledge into practice (Howes, McEwen, Griffiths, and Harris, 1996, Clayton, Griffith, Price, and Peters, 2001). Studies have documented discrepancies between knowledge and practices among food handler (Zeru *et al* 2007, Omemu and Aderoju, 2008: Sun, Wang, and Huang , 2012)] and a study in the USA indicated that improper food handling practices contribute to 97% of foodborne illness in food service establishments and at home (Howes *et al* 1996: Manning , and Snider, 1993) and food safety training has been shown to have a positive impact on practices of handlers (Green, Radke, Mason, Bushnell, Reiman, Mack, and Selman, 2007). Therefore, training and motivation should be provided to the food handlers working in these establishments. Liquid and solid waste disposal systems were not proper moreover, domestic animals were found in some food establishments. It has been noted that foods should be prepared in places far away from the sources of contamination such as rubbish, wastewater, and animals (FAO, Geneva, 2000).

Ready to eat foods sold in insanitary locations are susceptible to contamination by flies and domestic animals and the link between, other animals and diarrheal diseases has been reported (Smith, 1986) where dogs and cats are known to carry pathogens such as *E. coli* and *Salmonella* (Bentancor, Rumi, Gentilini , Sardoy, Irinio, Agostini and Cataldi, 2007: Lefebvre, Waltner-Toews, Peregrine, Reid-Smith, Hodge, Arroyo, and Weese, 2006). Then again, there was statistically significant association between the license status and the sanitary conditions of the food establishments and this result as in agreement with other results of studies conducted in Ethiopia (Zeru *et al* 2007).

2.4 Food Contamination

In Ghana, diarrhea has been recognized as one of the major causes of hospital attendance and 16% of deaths in African children younger than five years are directly attributable to diarrheal diseases (Bruce *et al.*, 2005). This leads to a major ongoing campaign about hand washing to reduce the incidence of diarrhea. Despite the

commitment and dedication of the Ghana Food and Drugs Board, improved food safety systems have not been widely implemented which raises more concern about the probable role street vending food play in food poisoning (Kosek *et al.*, 2003; Soyiri *et al.*, 2008). Samples of macaroni, salad, fufu and cocoa drink had levels of contamination higher than the acceptable reference figures of Ghana Standard Board which prescribe values of $<5.0 \log_{10} \text{cfu/g}$.

In Ghana some of the common foods that are usually contaminated by food vendors include fufu, ice kenkey, cocoa drink, hot pepper sauce, macaroni and salad. A study conducted by Mensah *et al.*, (2002) in Accra, observed high bacteria count of $6.2 \pm 1.57 \log_{10} \text{cfu/g}$ in fufu and the isolates found were *Citrobacter freundii*, *Enterobacter cloacae* and *Enterobacter sakazkii*. In this current study these same bacteria in addition to *Pseudomonas aeruginosa*, coagulase negative staphylococci and *Aeromonas hydrophila* were also isolated. Though, the level of contamination in fufu in this study was high, most of the isolates were coagulase negative staphylococcus, which are known to be normal flora on the skin (Koneman *et al.*, 1988) and *Bacillus* species which are ubiquitous organisms (found in soil, skin, water and dust) which can be found in a variety of foods (Bergdoll, 1981). The research conducted by Feglo and Sakyi (2012) in Kumasi-Ghana also supported the above study. The level of contamination of ice kenkey compared to the national standard ($<5.0 \log_{10} \text{cfu/ml}$) was high (Adu Gyamfi and Nketsia Tabiri, 2007).

The presence of *E. coli* contamination in these food types result from faecal contamination probably at one stage of preparation or from the materials used. *Staphylococcus* contamination on the other hand might have resulted from man's respiratory passages, skin and superficial wounds which are common sources of *Staphylococcus aureus* (Burt *et al.*, 2003). When *Staphylococcus aureus* is allowed to grow in foods, it can produce a toxin that causes illness. Although, cooking destroys the bacteria, the toxin produced by *Staphylococcus aureus* is heat stable and may not be destroyed even by heating, let alone by refrigeration the main process of keeping ice kenkey prior to consumption. Contamination of ice kenkey with *Staphylococcus aureus* could lead to food poisoning and this could be attributed first to non-adherence to standard hygienic practices employed during food preparation (Ghana Standard Board, 2003) and second to the type of water used in mixing the food which is often not clean (Muleta, 2001). There is relatively high level of coagulase negative staphylococcus contamination (7.4%) in foods, which are likely introduced during preparation.

Bacillus species are also introduced into foods during its preparation and packaging because the entire process is performed in the open and dirty environment which promotes contamination as observed in many reports from many parts of the world [(Black *et al.*, 1991; Bryan *et al.*, 1992; Burt *et al.*, 2003; Ghosh *et al.*, 2007). The mean bacterial count in macaroni samples analyzed was $5.48 \pm 0.97 \log_{10} \text{cfu/g}$. Though, this is higher than the national reference value of $< 5.0 \log_{10} \text{cfu/g}$, it was less than a value of $6.0 \pm 1.64 \log_{10} \text{cfu/g}$ obtained in Accra (Mensah *et al.*, 2002) and similar to results observed in India (Olukoya *et al.*, 1991; Tambekar *et al.*, 2008). *Klebsiella* species, *Pseudomonas* species, *Enterobacter* species and *Staphylococcus aureus* were the isolates obtained from macaroni. This food is often prepared by heating but gets cold by the time it is served because the sellers are not able to keep the food at a good holding temperature and therefore ambient temperatures provide a suitable condition for the growth of the microorganisms (Mensah *et al.*, 2002). *Shigella sonnei* was not isolated from macaroni in their study probably due to the relatively small sample size (10) as compared to 26 samples of macaroni studied in Accra, where *Shigella sonnei* was isolated (Mensah *et al.*, 2002).

The contamination of this food was not surprising because after cooking the food, serving was performed with bare hands (Mensah *et al.*, 2002). The vendors sell and dish out food with bare hands and also simultaneously handle currency as they take money from the buyers, a common practice implicated in introducing pathogens into the food (Kubhekar *et al.*, 2001). It was also reported in Manila, Philippines that, the consumption of such food served with bare hands led to cholera outbreak (Barry, 2005). The level of contaminant in salads was $5.13 \log_{10} \text{cfu/g}$ which is higher than the national reference value of $<5.0 \log_{10} \text{cfu/g}$.

3.0 METHODOLOGY

3.1 Study Population

The target population for the study was food vendors and regulatory bodies in Takoradi. Food vendors were selected above other eating outlets because they prepare variety of dishes which is affordable to both students and other workers around Takoradi Polytechnic. Regulatory agencies were also roped in to form part of the population for the study because they supervise and certify food establishments.

3.2 Sampling Technique and Sample Size

The sampling size used for the study was a non-probability sampling since not all the respondents had an equal chance of being selected. Purposive sampling was employed because the respondents have knowledge on food. This was also employed on the regulatory bodies because they are responsible for enforcing the laws governing food vending. Convenience sampling method was also used for the food vendors because responses were obtained from those who were available and willing to take part in answering the questionnaires. The sample size is made up of sixty food vendors including cooks and six regulatory bodies. In all sixty six respondents were used for the study.

3.3 Research Instruments

The researchers obtained information by designing questionnaires, interview guide and observation. The questions for food vendors were grouped under the issues that were of interest to the study and these included: Section A demographic background characteristics and Section B food safety practices. All of these were geared towards achieving the objectives of the study. The questionnaires were made up of close ended questions with answers to choose from and open ended questions which allowed respondents to provide answers which seemed appropriate to them. A structured interview guide was designed for the regulatory bodies. Questions were asked exactly as they appeared on the survey guide. Each interview lasted for five minutes. Since hygienic practices are more of behaviour, it was deemed appropriate to use observation to help capture every detail that was important for this study. In all, the study used these three instruments in order to achieve triangulation which leads to reliability and validity.

3.4 Data Collection Techniques

Primary source of data was used for the research and information was gathered through the distribution of questionnaires and an interview guide. The researchers visited some food vendors and sought permission to administer questionnaires. The questionnaires were administered personally to the respondents. Some respondents were able to answer the questions at the time it was given. Most respondents answered the questionnaire with an average time of ten minutes. Those who could not understand the content were assisted by research assistants. Respondents who were busy were given a time frame of three days to complete the questionnaire. The study also made out days to visit the regulatory bodies to conduct the interview.

3.5 Data Analysis

The data generated from the study was analyzed using SPSS software version 16.0 after which frequencies and percentages were used to represent the quantitative findings while thematic and descriptive analyses were used for the qualitative data obtained.

4.0 RESULTS AND DISCUSSIONS

Sixty-six respondents were sampled to access the food safety practices by these vendors. Since unhygienic practices among food handlers account for majority of food contamination, there is therefore the need for all those who come into contact with food to observe measures that would enhance the safety of the food they produce.

Table 4.1 below indicates the demographical backgrounds of respondents. The study gathered that, majority of respondents (66.7%) were females. Majority of the food vending operators were females, meaning more women are into food operating business than men in and around Takoradi Polytechnic. Findings that corroborates Mensa et al, (2002) suggesting that vendors were mainly found to be women. Ten (10 %) percent were between the ages 15 and 20 years, 40% were within the ages 25 and 30 years, 20% were within 35 and 40 years and 30% were 41 years and above.

This is supported by Muinde and Kuria (2005) that over thirty-five percent of the street food vendors belonged to the age category of 20-25 years. All of the 60 respondents of food vendors had different qualification, 6.7% had tertiary education, 13.3% had vocational education, 20% had senior high education, 36.7% were junior high school graduates and 23.3% had primary education others had never been to school before.

The study observed that vocational and high school added up to 33.3% which confirms Mulugeta *et al* (2011) observation that 41.7% of food vendors had completed a minimum of secondary school education while Omemu *et al* (2008) also noted that few vendors (12%) in Nigeria acquired the knowledge of food preparation by formal training. However, safer food preparation and handling was reported by persons with at least high school level education ((Klontz , Timbo, Feins , and Vevy, 1995).

Table 4. 1: Demographic Characteristics of Respondents

BACKGROUND INFORMATION	FREQUENCY N =60	PERCENTAGE (%)
<u>GENDER</u>		
Male	20	30.3
Female	40	66.7
<u>AGE</u>		
15-20	6	10
25-30	24	40
35-40	12	20
41 and above	18	30
<u>EDUCATIONAL BACKGROUND</u>		
Junior high level	12	20
Senior high level	8	13.3
Vocational level	4	6.7
Tertiary level	14	23.3
Others		

Source: Field Survey, 2016

4.1 Cuts and Bruises

Majority (73.3%) of the respondents handle food when they have cuts and bruises while the remaining 8 representing 26.7% do not handle food when they have cuts and bruises. It was realized that quite a large number of the respondents serve food when they have cuts and bruises. However, few vendors cover their cuts and bruises to cook and serve food. This confirms what Schlesselman, (2003) said, that cuts and bruises should be treated with antibiotic ointment and cover with bandage or waterproof dressing. The reason being that there are vast number of harmful bacteria which must not be permitted to get into food. A study conducted by Isara et al (2013) described that majority of the food vendors do not cook with bruises and cut on their fingers, which contradict this study.

4.2 Medical Check-up

Fifty of the respondents representing 83.3% go for medical check-up whereas 10 representing 16.7% do not go for medical check-up at all.

However, 24 out of the 60 respondents representing 40% go for medical check-up every year, 14 respondents representing 23.3% go for check-up when they are sick.

Eight respondents representing 13.3% go for medical check-up at the middle of the year and every month. Four out of the 60 respondents representing 6.7% did not give out their response but two respondents that is 3.3 go for medical check-up weekly. This implies that most of the women are cautious about their health because they always need to be fit to work and earn more. As to the time they visit the hospital, it was revealed that majority of the food handlers stay a whole year before going for medical check-up and this could pose a food safety problem in the sense that, within the year, the already examined food vendors can contract disease.

4.3 Wear Rings and Nail Polish

Majority of the respondents that is 42 representing 70%, do not wear rings and nail polish because it could fall into the food and cause contamination whereas 18 respondents representing 30% wear rings and nail polish during food production due to the reason that some did not see the reason why they should put off their rings since they were married and others did not see anything wrong with that. Finger nails are common sources of bacteria which when given the right condition for growth in food will cause illness. Most food handlers appeared to have good knowledge of food hygiene however, the researcher observed that they had poor knowledge because some were handling raw materials whiles handling foods without washing their hands, others wore hand jewelries during food preparation which is not a good practice. Work described by Isara et al (2013) support this study.

4.4 Wearing of Aprons and Caps/Hairnets

Forty four respondents representing 73.3% put on caps/hairnets and apron at the production area and 16 respondents represent 26.7% do not wear apron and caps. Majority of the respondents use aprons and caps for cooking and service but the 26.7% who do not use apron and caps could mean that personal hygiene is not practiced. It is therefore important for anyone handling exposed food to wear clean clothes, apron, hair net or cap to hold the hair in place. According to Soriano, (2010), aprons are significant parts of staff uniforms as they protect workers from spilling of drinks, soups, and other liquids shielding them from accidents in the kitchen and when serving. He also added that clothing must be sufficient to cover the entire body including arms if necessary to block body hair from getting into food. From Soriano's statement it is obvious that the responses made by the respondent are good since they are practicing good personal hygiene even though a few do not seem to be doing the right thing.

4.5 Sources of Obtaining Ingredients

Majority of the respondents that is 15 representing 50% obtain ingredients from the market whereas 2 representing 6.7% obtain their ingredients from the farm. Also, 9 vendors representing 30% responded that the ingredients are delivered at their premises and 4 others representing 13.3% responded that they obtain their ingredients from the market as well as from the farm.

Furthermore, 17 respondents representing 56.7% responded that they depend on fresh foods for meal preparation whiles 6 respondents representing 20% depend on frozen foods, 7 respondents representing 23.3% continued by saying that they depend on both fresh and frozen foods for meal preparation. All types of water are used for watering vegetables especially those grown in the cities where there are not many natural water bodies (Mensa *et al*; 2002), he further stated that untreated manure is also usually used to fertilize many vegetables (Mensa *et al*; 2001). Due to this it is recommended that all food from market and farm gate must be thoroughly washed before use because they may contain contaminants.

4.6 Storage of Fresh Foods

Most of the respondents that is 28 representing 46.7% refrigerate their fresh foods which were purchased and not used and 14 respondents representing 23.3% cook their fresh foods before refrigerating it with a reason that it enables them to finish cooking on time. Moreover, 18 respondents representing 30% responded that they do not cook the fresh foods neither do they refrigerate them rather, they are kept fresh until they are used the following day. From the interview and the researcher's observation, food vendors rather prefer to cook foods which were purchased and not used instead of refrigerating them due to power outages and cost of electricity which is in contradiction with the questionnaire administered.

4.7 Storage of Leftover Food

Twenty four out of 30 respondents representing 56.7% heat and freeze the leftover foods, whilst 14 respondents representing 23.3% prefer to refrigerate the leftovers without heating because they want to avoid overheating the food. Also 4 respondents representing 6.7% throw the leftovers away without any reason and 8 others representing 13.3% heat the leftovers without storing it in the refrigerator. During the study the researchers observed that they do not store leftover food as indicated in the questionnaire they rather heat the food due to high electricity bills. Abdalla et al; (2009) in their study in Sudan mentioned that 30% throw leftover foods away, 22% eat leftover food at home while 2% refrigerate and reheat leftover food which supports this study.

4.8 Protecting Food from Flies

It is clear from the analysis that 36 respondents represent 60% protect food from flies by covering the food, 20 respondents representing 33.3% use net proof to protect food from flies and 4 representing 6.7% respondents use napkins to protect food from flies. Although these vendors protect their food from flies using different methods, these methods are not able to prevent dust and fumes from vehicle and these can lead to contamination. Meuide et al (2005) confirm in his study that these sites do not give proper protection of street foods from dust and smoke from vehicles. Dust carries many microbes that may be pathogenic if left to settle on prepared foods.

4.9 Usage of Chopping Boards

Majority of the respondents that is 32 representing 53.3% do not use different chopping boards for different items with the explanation that they cannot afford using different chopping boards for different food items. Whereas 28 respondents representing 46.7% use different chopping boards for different food items explaining they want to prevent cross contamination of food. In some cases, during meat preparation as well as gravy and salad, raw materials were cut using the same chopping board without in between cleaning and at times invaded by flies (Bryan, 1998; Mensa et al, 2002).

4.10 Sources of water for cooking

Forty respondents representing 66.7% fetch pipe borne water for food preparation, 18 respondents representing 30% fetch water from borehole for preparing food and respondents representing 3.3% fetch water from the well to prepare food. However majority of the respondents that is 28 representing 46.7% clean their water storage containers daily. Again 20 respondents representing 33.3% clean their storage containers every week and 12 respondents representing 20% clean their water containers every month. Majority of the food vendors fetch pipe borne water for food preparation because they are in the towns and cities, others use boreholes and wells because they are restricted to rural areas and villages. Abdalla et al; (2009) confirmed this assertion in their study in Sudan that 60% of the vendors use tap water while 40% use well water.

4.11 Tasting of Food

Twenty two respondents representing 36.7% use ladle to taste food, 18 respondents representing 30% use wooden spoon and teaspoon to taste food but only 2 respondents uses the bare hands to taste food. Although they use appropriate tools for tasting food, it was observed by the researchers that the manner they used in tasting the food could be a source of contamination.

4.12 Waste Disposal

Majority of the respondents that is 56 representing 93.3% dispose of waste at the kitchen every day while the other 4 respondents representing 6.7% dispose of waste every two days. This implies that majority of the food vending operators practice good hygiene in the food service area. A study conducted by Chukuezi, (2010) describes that food vendors dispose the waste water carelessly around the vending site, 38.1% of the environment was dirty, 66.67% of them had garbage receptacle. The problem was mainly how they dispose of the garbage which is poorly done and littering of the environment most of the time which was not the same in this study.

4.13 Role by Regulatory Bodies

The Food and Drugs Authority, Ghana Standard Authority and Sekondi Takoradi Metropolitan Assembly were the regulatory bodies interviewed to ascertain their roles, duties and the challenges faced with food vendors. In all six respondents from three regulatory bodies were interviewed. Four were male and two were female with the age group between thirty and forty years (30-40). All the respondents had tertiary education.

4.14 Food and Drugs Authority

The role of the Food and Drugs Authority was to inspect kitchen facilities of catering establishments, license the kitchen of food service establishment and finally organize training programs for food vendors. It was clear from the study that they perform their duties by conducting inspections on scheduled basis to assess the application of good catering practices. They also identify non-compliance in the kitchen facilities in order to correct these. Again food operators are advised to improve the quality of the food sold. The challenge faced by the Food and Drugs Authority is that some food operators still fail to license their facilities with the authority as expected of them. The catering establishments they inspect include; hotels and restaurants and not food vendors like those operating chop bars and tabletop vending.

4.15 Sekondi Takoradi Metropolitan Assembly

The Sekondi Takoradi Metropolitan Assembly educate food vendors on how to keep their surroundings clean and how to go for medical screening and inspect the environment and surroundings of caterers. They organize impromptu visit to inspect the environment and surrounding and to check whether food safety practices and environmental hygiene are being observed. One of the challenge they usually face was, non-compliance of laws by the vendors, in that, some vendors hide in their homes and prepare food and sell because they are scared of the medical examination which might prove them not fit.

4.16 Ghana Standard Authority

This authority provides the necessary assurance that goods and services are of acceptable quality. They also organize educational campaigns to sensitize the public on issues such as management and trade practices and codes of good practices. Most vendors are semi-illiterate and they find it difficult to apply standards and this is a great challenge to them.

The responses from the regulatory bodies reveal that they insist on acquisition of health certificates and routine check-ups on the environment and surroundings especially the Sekondi Takoradi Metropolitan Assembly and these have been confirmed from the responses from food vendors.

5.0 CONCLUSION

It can be concluded that, though the sanitary inspectors go round to do their check-ups, these vendors make the work difficult since some vendors hide in their homes and prepare food and sell because they are scared of the medical examination which might prove them not fit.

It was evident from the findings that some vendors were found to be exhibiting unapproved food safety practices but majority of them maintained a certain level of food safety practices.

The researchers observed that some respondents were ignorant during food preparation by wearing rings and nail polish. This could generate a lot of health problems for the customers since finger nails are common sources of certain microorganisms.

Regulatory bodies are doing their possible best to achieve their aim for most vendors to practice food safety especially Sekondi Takoradi Metropolitan Assembly. They organize impromptu visits to these vendors to inspect their environment.

It can be concluded that few respondents use separate chopping boards for different food items and this can cause contamination to food especially when not cleaned regularly during food production. Other respondents cook food when they have cut or bruises and do not use waterproof dressing which poses danger to consumers.

6.0 RECOMMENDATIONS

Food regulations should be enforced by the Environmental Health Officers, Food and Drugs Authority and Ghana Tourist Authority for the operators to be aware of the need to undergo medical check-up at the end of the month.

Again workers who may have cuts and bruises should not be allowed to work at all since some cuts may not be well treated. Furthermore Environmental health and sanitation personnel who go out should educate food handlers on the dangers of cooking and serving food with painted finger nails.

Awareness must be created for the food vendors on the possible implication of unsafe food practices such as not exposing worktops which can attract bacteria thus, leading to food contamination. Regulatory bodies should impose laws on the food vendors to go for medical screening every three months.

Lastly Regulatory bodies should ensure that food vendors register and display their certificate at their work premises.

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