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**Hygiene and Food Safety Practices of Traditional Caterers: A Case Study of  
Kantamanto Market in Accra, Ghana.**

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**Abstract**

The study aimed at the activities of traditional caterers and how it affects the food safety of their customers. The population was ‘chopbar’ operators (traditional caterers) and customers at the Kantamanto Market in Accra. Using simple random sampling, twenty (20) chopbar operators were selected while eighty (80) customers who patronized these chopbars were conveniently selected. The instruments used were questionnaires, interview schedules and checklists. Poor sanitary conditions, poor personal hygiene, and pest infestation were identified. Findings uncovered revealed Traditional caterers as unprofessional operators in the food industry who are in need of in-service training to help them operate professionally. It was further revealed that, 100% of these chopbar operators had undergone medical screening, but felt reluctant to get their staff medically examined due to high staff turnover and the fact that they (the operators) had to foot the medical bills. This revealed an alarming situation as the employees could be carriers of communicable diseases. Furthermore, though 100% customers had not experienced any food borne illness they desired improvement in chop bar businesses due to the high possibility of contamination. It is recommended, that Government through its agencies should intensify education to ensure good sanitary practices and service delivery. Food policies and bye-laws should be reinforced and monitored by Food and Drugs Authority and Ghana Tourism Authority.

**Keywords:** traditional caterers, food safety, sanitary practices, food policies

## INTRODUCTION

Food-borne diseases like cholera, typhoid, salmonellosis, staphylococcal poisoning and many of such have become the concern of world governments in recent times. Food-borne illnesses have been described as one of the most widespread problems of the contemporary world (Newell et al., 2010; Monney, 2013). In 2010 for instance, it was estimated that food-borne diseases in Ghana was about 420,000 per year with an annual death rate of 65,000 and total cost to the economy at USD 69 million (Adoma, 2010). A quote by Kuffour (2001) states that, "Strong families make strong communities and strong communities make strong nations." Thus, the possible sources of contamination and mode of transfer of such food borne illnesses should not be over looked.

Due to the large numbers of population at market places, demand for food is high thus putting pressure on chopbar operators and other utilities. Health facilities in Greater Accra, particularly Korle-Bu Teaching Hospital, Ridge Hospital and La Polyclinic, receive and report cases of cholera and typhoid fever, often during the raining seasons ([www.myjoyonline.com>news>ghanas](http://www.myjoyonline.com/news/ghanas)). Both illnesses are caused by contaminated food and drinking water. When the quality of the water and food we drink and eat are contaminated our health is seriously affected. Workers, students, traders, travelers and many others eat from various food providers for one reason or the other. One of the hardest hit in the past 30 years in Ghana is the recent Cholera outbreak that recorded 150 deaths and 1,700 reported cases ([www.myjoyonline.com>news>ghanas](http://www.myjoyonline.com/news/ghanas), 2014). A study done by Samapundo, Climat, Khaferi, and Devlieghere (2015) on food vendors and safety practices found out that most of the food vendors were uneducated and therefore had little knowledge on food safety practices. This draws attention to food safety and health research.

The economic demands in the urban centers in Ghana such as Accra has made it necessary for more people to eat at least one meal a day outside the home. Customers who buy food from chopbars and food vendors are members of the community and for that matter, members of individual families. The family depends on various external systems and vice-versa (Deacon and Firebaugh, 1988). Some external systems include businesses, schools, churches, markets, food outlets among others. All these systems operate in an environment and whatever goes on in the environment affects the family (Osei-Agyekum and Quartey, 1999). For example, if services provided by chopbar operators and other forms of food vending are not safe, the public, to whom these services are offered would be affected negatively and could consequently cause death thus affecting human capital. Some traditional caterers cook food around choked and uncovered drains exposing the food to the filth around them. The service and eating areas of some chopbars are almost always untidy; a condition which attracts flies to settle and transfer germs and bacteria unto food. One may also wonder where some food vendors and food hawkers cook their food before sending them to the market for sale. The study aimed at finding out the knowledge and practice of traditional caterers in hygiene and food safety and how they possibly contribute to the outbreak of food-borne diseases in the communities using Kantamanto market as a case study.

## Objectives

The objectives of the study were to:

1. Find out who traditional caterers are.
2. Identify the knowledge and practice of traditional caterers in hygiene and food safety.
3. Explore the environment in which traditional caterers work.

## Research Questions

1. Who are traditional caterers?
2. What is the level of knowledge of traditional caterers in Kantamanto market?
3. What practices of traditional caterers contaminate food?
4. What environment do traditional caterers work in?

## Justification

- The study was to create awareness on how traditional caterers contribute to the outbreak of food-borne diseases.
- The exposure generated by the results of this study was meant to lead to further debates and suggestions on how best to curb the situation.
- The researchers hoped that this study would serve as an encouragement for further research into the topic.

The researchers assumed that the problem of harmful practices of traditional caterers has not been dealt with extensively. Thus, even though some amount of research has been done, much more needs to be desired.

**Ethical considerations**

Necessary permissions were sought from Ghana Tourism Authority, Environmental Health Department of the Accra Metropolitan Assembly, and Traditional Caterers Association.

**Pretesting**

The instrument was pretested on two (2) chopbar operators and three (3) of their customers each at Tudu and all necessary corrections made before actual field exercise.

**Limitations**

Data for the study was scattered in small bits. Lack of time and money compelled the researchers to limit the study area to the Kantamanto Market. Respondents may have considered the researchers as intruders and cover up their unhealthy practices, if any.

**LITERATURE REVIEW****Traditional Catering/Chopbars**

Traditional caterers, informally known as 'chopbar' operators provide a greater percentage of the populace with meals especially during the day and in some cases at night. The Integrated Tourism Development Plan (ITDP, 1996) describes chopbars as traditional inexpensive restaurants in Ghana. Oti-Awere (1998) claims that the name chopbar came up as a Ghanaian vernacular English, because eating and drinking goes on

at the same place. Traditional catering is now the formal name to describe chopbars and this includes all forms of food vending such as those who sell 'waakye', 'gari' and beans and fried fish and 'kenkey', to mention a few. Food hawkers also carry food on their heads, roaming about in market places to sell. For the purpose of the study traditional caterers and chopbar operators would be used interchangeably.

### **Hygiene and Sanitation**

Hygiene matters are those that directly affect a person's health, while sanitation is related to the contamination of the environment, which affects the health of the people generally (Andrews, 2008). He claims that this subject has become a very important aspect of the food service industry as it involves food and beverage that are served and consumed by customers, thereby benefiting or adversely affecting health. Most governments have legislations and by-laws to protect the consumer, such as the *Bye-laws of the Accra Metropolitan Assembly on Processed or Cooked Food* which gives the Health Unit of the Assembly the authority to inspect all food establishments (including chopbars) with the view to licensing, checking on hygienic standards and contamination or unwholesomeness of food. Establishments tagged as possessing poor hygiene standards is asked to close down. Andrews (2008) is of the view that the customer is very particular about those things that he or she is going to consume.

Hygiene and sanitation considerations start at the site selection stage. The site must not be open to air pollution or close to sewage dumps. The premises must be away from any sites where there are hazards of insects and pests (Andrews, 2008). He further states that, kitchen floors must be non-absorbent, not easily damaged and above all easy to clean; equipment and work surfaces for food preparation must be very clean at all times. Storage facilities are vital to ensure proper hygiene and sanitation conditions. According to Andrews (2008), kitchens and stores must be put through regular pest control schedules to eliminate rodents, insects and flies. He furthermore states that, a sick person could transfer bacteria through his breath; blood borne pathogens are transferred through cuts in fingers; and foreign matter like hair, wood, metals etc. could fall into food at the cooking, holding and service stages. When hygiene is neglected the health of the staff and patron is at risk from food poisoning and the spread of disease (Magris & McCreedy, 2001).

### **Food contamination**

The presence of unwanted substances in food (contaminant) that makes the food unfit for consumption is termed food contamination (Food and Drugs Act, 1996(Act 523)). Magris & McCreedy (2001) explain that, contamination of food is always a possibility when bacteria, moulds and yeast are present in the environment.

Improper food handling can cause contamination. Contaminants could be biological, that is germs (yeast, and mould) that can be found on food contact surfaces like tables, boards and sinks, in raw food, on our bodies, and on vegetables and fruits; chemical contaminants include detergents, bleaches, pesticides and fumigates, kerosene amongst others; physical contaminants include grit, scourers, hair strands, ear rings, dead insects amongst others. Cross contamination can only occur when contaminants are transferred from raw food sources onto cooked or ready-to-eat food. Cross contamination, however is the major way by which bacteria is transferred Magris & McCreedy (2001).

### **Food Poisoning Bacteria and Some practices of traditional caterers**

Ronzio (1997) defines food poisoning as diseases caused by microorganisms and transmitted through food. He numerates the following bacteria as poisonous and the researchers explain how traditional caterers may contaminate food by them, thereby making food unwholesome for consumption:

*Salmonella* are spread by faecal exposure, contaminated raw meat or undercooked meat or poultry and eggs. Traditional caterers may contaminate food through improper handling of intestines during slaughtering of animals and poultry; raw meat left uncovered which attracts flies from insanitary places; juice from raw meat left to spread unto other foods; knives and boards used to cut meat when not properly washed but used for cutting other food items. Others include: the use of home-made mayonnaise



and improper washing of hands after visiting the toilet (Minnesota Department of Health, 2013).

*Staphylococci* are found in the body's nasal passage and on the skin. These organisms can be spread in the air, in drops of moisture during breathing, talking, sneezing and coughing and poor personal hygiene practices (Ghana School Feeding Programme Code of Practice: Food Safety Component, 2009). Some practices that can spread Staphylococci include: heavy sweat dropping from fufu pounders, wrong use of napkins and kitchen cloths as wipes and staff with influenza or cough.

*Clostridium botulinum* is a well-known bacterium that produces toxin and this can be fatal. They contaminate and grow in low acid foods (Heche, 1991). Leftover beans, okro stew, boiled rice or boiled yam are examples of food that can be contaminated by this bacterium if not stored properly and poorly reheated.

*Clostridium perfringens* are almost everywhere and, therefore, difficult to keep out of the food supply. They produce heat-resistant spores. If cooked food is not thoroughly cooked and served hot at least 60C, chances of their growth is high. Leftover foods that are not quickly cooled and refrigerated can also be affected (Heche, 1991).

*Listeria*: Sources are raw milk, raw meat, shellfish and even vegetables. Perhaps as much as one-third of meat is contaminated (Ronzio, 1997). Listeria survives and can grow in refrigeration and deep-freezing temperatures, pasteurization and salt treatment in salt-

cured meat. Food vendors of sausages and beef burgers which do not require lengthy cooking time may infest their customers with the bacteria. Raw vegetables if not washed thoroughly before using may carry the bacteria. Foods stored in refrigerator and deep-freezers for a long time require thorough reheating (Mehas and Roger,1994).

*Hepatitis virus type A*: Food can be contaminated by infected food handlers and shellfish infected by raw sewage. This disease can be fatal (Ronzio, 1997).

*Contamination by pests*: Rodents (rats and mice) and insects particularly flies and cockroaches carry diseases. These pests live in filthy conditions and can contaminate food simply by touching it. They can transfer germs and disease through their faeces and urine (Magris and McCreery, 2001). Poor precautions taken by food handlers to eradicate them in the storerooms, preparation and service areas can be dangerous.

### **How to Prevent Contamination**

There is a wealth of information on best-fit practices that reduce food contamination. Amongst which are, ensuring that the appropriate protocols are followed during purchasing and supply, food storage, food preparation, serving and how to handle leftovers (GSFP Code of Practice: Food Safety Component, 2009). The under listed, if strictly adhered to can reduce contamination to the barest minimum:

### *Hand washing*

According to the Minnesota Department of Health (2013), humans who handle food without washing their hands thoroughly contaminate food. Frequent hand washing is very important. These include: after visiting the toilet, attending to toddlers, coughing and sneezing, picking nose, handling garbage, shaking hands amongst others.

### *Cross contamination*

Food that is fully cooked can be re-contaminated if it touches other raw foods or drippings from uncooked food that contain pathogens. As much as possible, food establishments must prevent cross contamination (Minnesota Department of Health, 2013).

### *Storage and cooking temperature*

Use the first in first out policy of food storage to ensure that food is safe at all times. Heat is a good method to kill bacteria. If food is heated sufficiently, parasites, viruses and most bacteria are killed. Store cooked food when at cooler temperatures (Andrews, 2008).

### **Personal Hygiene and Nutrition Education/Behavior Change Communication**

Health, nutrition promotion and education, and behavior change communication are essential components for the successful running of food establishments to promote hygiene and prevent cholera outbreak. ([http://www.who.int/water\\_sanitation\\_health/hygiene/emergencies/envsanfactsheets/en/index3.html](http://www.who.int/water_sanitation_health/hygiene/emergencies/envsanfactsheets/en/index3.html), 2015). Problem behaviour that needs redress can be done by education to

cover thematic areas such as the poor hygiene of the hands, hair, bathing, nose and mouth, smoking and spitting, cuts, and burns (Agble and Rahaman, 2012). Edima *et al* (2014) also stressed the need for food handlers to endeavor to practice regular hand washing with water and soap . Others were improper temperatures for storage and holding food and food contamination by staff (Sauer, 2014). Absence of potable water, lack of proper storage facility and unsuitable environments for food operations, inadequate facilities for garbage disposal posed further hazards. In addition, poor sanitary practices in food storage, handling, and preparation can create an environment in which bacteria and other infectious agents are more easily transmitted. (Knowles, 2002).

## **METHODOLOGY**

### **Location of Study:**

The study was conducted at the Kantamanto market which is found in the Asiedu-Keteke Sub-Metro of the Accra Metropolis. This was because the market attracts thousands of people every day.

### **Population, Sample and Sampling Technique:**

The population of the study consisted of all chopbar operators and their customers at Kantamanto Market. To sample the population the list of traditional caterers who operate at the market was obtained from the Traditional Caterers Association (TCA) in Accra, the names were written into a basket and randomly twenty (20) were chosen. This was done to give a fair chance of selection. Eighty (80) customers who were willing to give

responses to the researchers were conveniently sampled i.e. four customers from each chopbar visited.

### **Instruments, Data Collection and Analysis:**

Separate questionnaires and checklists were developed for each of the target groups, interviews were used where necessary and observations with regard to personal and food hygiene, sanitation and food service were also conducted. The secretary of the TCA led the team and two research assistants were trained to assist in collecting the data which is presented in pie charts, histograms and frequency distribution tables. These were analyzed by comparing results in the study with literature.

## **RESULTS AND DISCUSSIONS**

For the purpose of this paper, the following responses from the chopbar operators and their customers have been discussed:

### **Members of the Traditional Caterers Association (TCA)**

The survey revealed that 70% of those interviewed, were members of the Traditional Caterers Association (TCA) while 30% gave reason for non-membership such as uncertainty of their location at the market and unpreparedness to join. Since members get the opportunity to attend workshops, 30% would not get education on best practices and would operate without caution.

**Table 1: Education of Chopbar Operators and Employees**

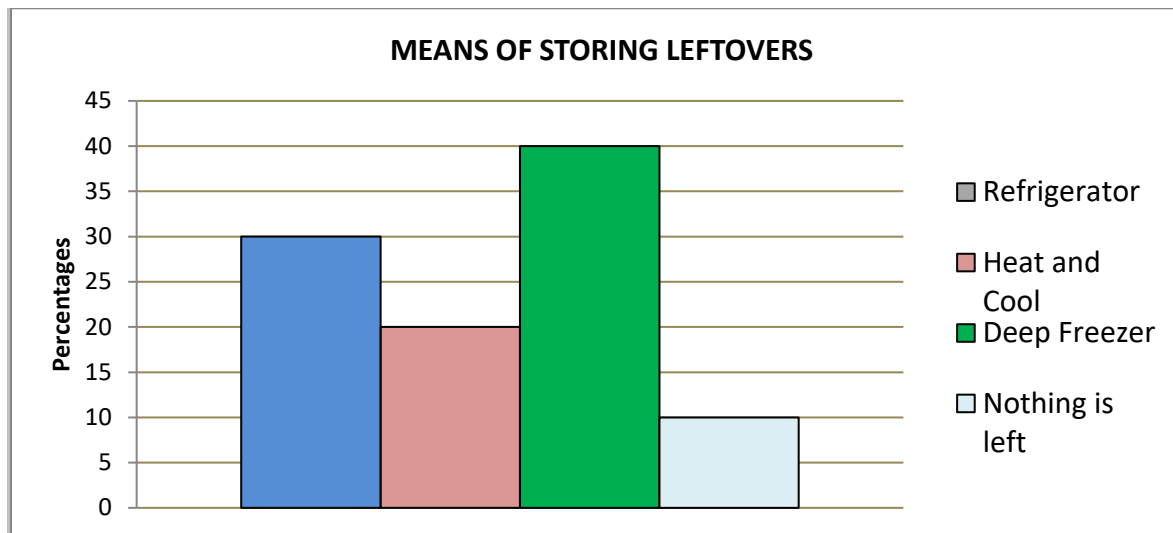
	Secondary		Middle/JHS		Primary		No Education	
	Freq	%	Freq	%	Freq	%	Freq	%
Operators	2	20	2	20	10	50	1	10
Employees	-	-	18	30	24	40	18	30

Source: Field survey (2018)

Table 1 revealed that 50% had primary education, 20% had middle school education and 20% had secondary school education and 10% did not have any formal education. Again, it is clearly seen that 30% of the total number of employees did not have any formal education. Forty percent had primary education and 30% had middle school or Junior High School education. This implies that the level of education, in general, was low.

### Medical Examination

All 100% operators had undergone medical examination with valid certification. On the contrary, only 34% of their staff had undergone medical examination. The remaining 66% had not been medically certified. Reasons for this percentage were due to high staff turnover and the fact that the employers had to foot the medical examination bills.

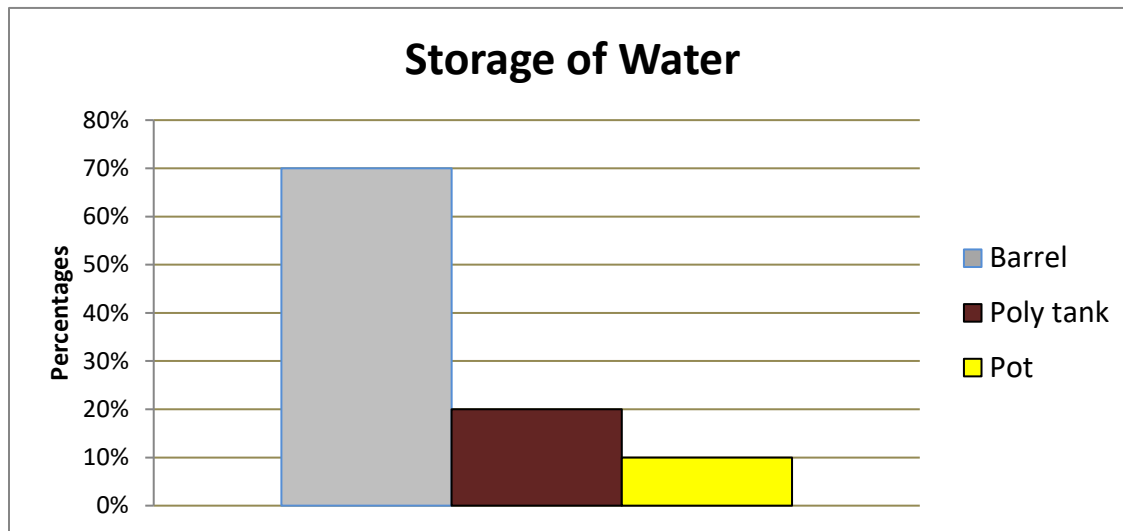


Source: Field survey (2018)

### Figure 1: Means of Storing Leftovers

Figure 1 indicates that 40% of the respondents used deep freezers while 30% used refrigerators and are knowledgeable in the correct use of the space in the freezers and refrigerators to avoid cross contamination as suggested by Minnesota Department of Health (2013) that as much as possible, food establishments must prevent cross contamination. These are modern means of storing leftovers and it shows improvement in the chopbar business. Twenty percent did not have such storage facilities; they therefore heat their leftovers and cool at room temperature till the following day. The remaining 10% claimed they had no leftovers because they managed to prepare just enough for each day. This is important as GSFP Code of Practice: Food Safety

Component, 2009) agrees handling of service and leftovers contribute greatly to spread of infections.



Source: Field survey (2018)

### Figure 2: Storage of Water

From figure 2, seventy percent was recorded for using barrel, while 20% used poly tank and 10% use pots. Those who used poly tanks had taps on the tanks. This provides a more hygienic way of fetching water which is in line with the GSFP Code of Practice: (Food Safety Component, 2009)

**First Aid:** In furtherance to this, 40% had first aid boxes while the remaining 60% did not have any tangible reason for not possessing first aid boxes.

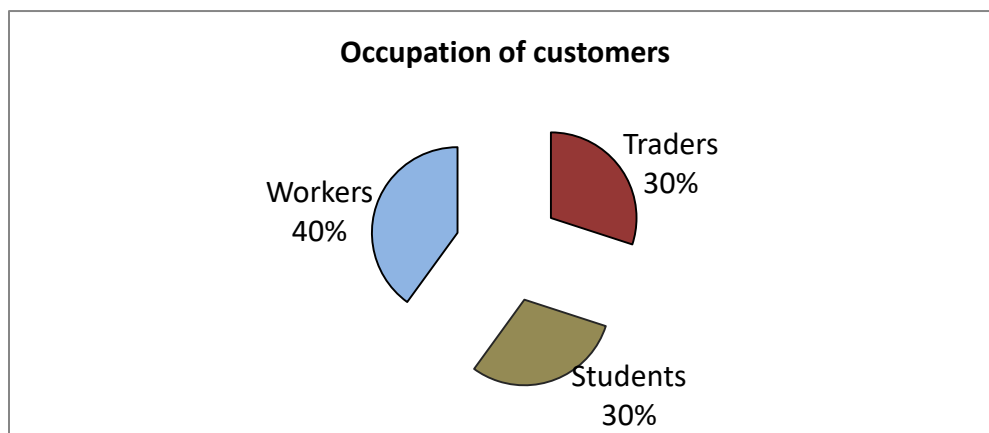
**Mode of Service:** Dishes prepared determined the mode of service. Ninety per cent sell fufu, amongst other dishes. Service of this food was, therefore, by the bare hands whiles



the other 10% used spoon and folk because of the type of food they sell. This practice was condemned by Knowles, (2002), that poor sanitary practices in food storage, handling, and preparation can create an environment in which bacteria and other infectious agents are more easily transmitted.

**Hand washing facility:** The data revealed that 80% used bowls for their customers while 20% used sinks for hand washing. This practice is agreed by Agble and Rahaman, (2012). Who stressed the need for food handlers to endeavor to practice regular hand washing with water and soap. Minnesota Department of Health (2013) also reported that humans who handle food without washing their hands thoroughly contaminate food.

**Food-borne diseases:** The chopbar owners claimed there had been no reported cases by their customers.



Source: Field survey (2018)

**Figure 3: Occupation of Customers**

From Figure 3, 30% of the respondents were traders who had to take at least one meal away from home. Another 30% were students. The remaining 40% were workers. In general, people from all walks of life were found to have visited a chopbar at one time or the other.

### **Suggestions and recommendations from Customers**

A hundred percent (100%) desired improvement in sanitation, quality of food service and customer care while 20% in addition, desired large space and sinks.

### **OBSERVATIONS**

1. Kitchen (100%) were poorly laid out, enclosed and congested because of limited space at the market per operator.
2. Storage facilities (100%) were poor giving way to very little practice of functional storage and the possibility of pest infestation. These practices have been condemned by Sauer, (2014) that improper temperatures for storage and holding food and food contamination by staff contribute to food contamination.
3. Pest infiltrations were likely cause of contamination due to the open nature of 100% of chopbar kitchens visited.
4. Eating spaces (100%) were also small causing poor ventilation and discomfort to the customers.

5. The urinal structures built by ninety-five percent (95%) of the operators were too close to the cooking and service area which gave off unpleasant smell.
6. Fifteen percent (15%) of chopbars were sited close to refuse dumps or other insanitary areas where flies easily fly across to contaminate food.

## DISCUSSION OF FINDINGS

Findings from Table 1 revealed the low educational background of the chopbar operators and their employees, which explains the lack of professionalism and the poor understanding of customer satisfaction in their businesses. Though they had some basic knowledge in food safety and hygiene by way of exposure to cooking by their parents and families they helped, they could not put them into practice due to the nature of their working environment. They need informal education in food preparation and customer service, food contamination, hand washing, and personal hygiene. As Agble and Rahaman (2012) attest to the fact that education to cover thematic areas such as the poor personal hygiene can be used to address such situations.

In summary the study revealed Traditional caterers as unprofessional operators in the food industry who are in need of in-service training to help them operate professionally. Sixty-six percent of the employees who were not medically examined revealed an alarming situation as they could be carriers of communicable diseases. *Bye-laws of the*

*Accra Metropolitan Assembly on Processed or Cooked Food* commits all food providers to be examined and certified as medically fit.

The use of deep freezers and refrigerators is in the right direction. They, however, need to know that it does not kill pathogens that find their way in food, but rather inhibit their growth (Magris and McCreedy, 2001). These operators should, therefore, not leave food at room temperature for a very long time before putting it into the refrigerator or deep freezer. Again, leftovers that are deep frozen should be thoroughly thawed before using to ensure that the inside of meat and fish have been well heated through. Also foods stored in refrigerator and deep-freezers for a long time require thorough reheating (Mehas and Roger, 1994). Those who do not have these modern facilities should be careful not to create a favorable environment for bacterial growth else they will cause food poisoning and their customers will suffer ill-health.

Figure 2 revealed another matter of concern in that 80% of water fetched from barrels and pots used small buckets which were not clean. This can contaminate the water and all chopbar operators should endeavour to use poly tanks with taps for storing water.

Possessing and using first aid boxes is the best way to ensure prevention of contamination from finger cuts and burns.

Using bare hands and cutlery as a means to serve food are likely sources of contamination if not appropriately washed.

The provision of decent hand washing facility for use by the customers is important to prevent communicable diseases.

## RECOMMENDATIONS

1. It is recommended, that Government through its agencies (Municipal, Metropolitan and District Assemblies), should intensify workshops/seminars/ open fora to ensure good sanitary practices and service delivery. Thematic area of consideration include: managerial and supervisory skills, behavior change communication, food and personal and kitchen hygiene.
2. Food policies and bye-laws should be reinforced and appropriated and jointly monitored by Ghana Tourism Authority and Food and Drugs Authority.
3. Medical certification should be captured under the National Health Insurance Scheme.

## CONCLUSIONS

In conclusion, chopbar operators at the Kantamanto Market in Accra were the main focus. The study lasted for 12 days. Simple random, purposive and convenient sampling techniques were used to select twenty (20) chopbar operators and eighty (80) customers who patronized these chopbars respectively. Questionnaires, checklist of predetermined variables and interview schedules were used for the data collection. The results revealed that the educational background of chopbar operators and their staff was low and this accounted for their low level of professionalism in their businesses. Findings uncovered,

that, though the chopbar operators had undergone medical screening, they felt reluctant to get their staff medically examined due to high staff turnover and the fact that they (the operators) had to foot the bills. The study revealed that there were no reported cases of foodborne diseases, yet 100% customers desired improvement in chopbar businesses due to the high possibility of contamination. In sum knowledge, practice and environment have a link to hygiene and food safety impact. Chopbars have come to play a very important role within the Ghanaian community. It therefore needs attention for it to play an excellent role in the Ghanaian society (Oti-Awera, 1998).

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