

PRESBYTERIAN UNIVERSITY COLLEGE, GHANA

FACULTY OF DEVELOPMENT STUDIES

DEPARTMENT OF ENVIRONMENTAL AND NATURAL

RESOURCES MANAGEMENT

PERCEPTION OF FOOD VENDORS ON MEDICAL
EXAMINATION AT KASOA IN CENTRAL REGION,
GHANA



BY
HUSSEIN OSSUMAN

SEPTEMBER, 2019

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GHANA

A dissertation submitted to the Department of Environmental and Natural Resources
Management of the Faculty of Development Studies, Presbyterian University College,
Ghana in partial fulfillment of the requirements for the award of Master of Science
degree in Environmental Health and Sanitation

BY

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SEPTEMBER, 2019

DECLARATION

Candidate's Declaration

I hereby declare that this project work (dissertation) is the results of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

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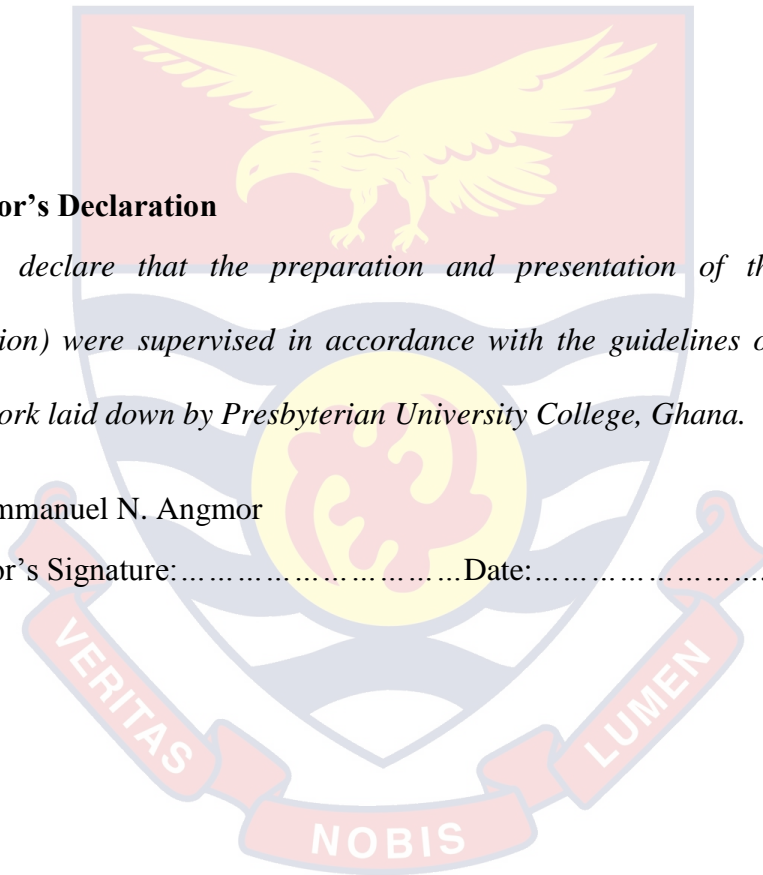
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Supervisor's Declaration

I hereby declare that the preparation and presentation of the project work (dissertation) were supervised in accordance with the guidelines on supervision of project work laid down by Presbyterian University College, Ghana.

Name: Emmanuel N. Angmor

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ABSTRACT

Medical examination is very essential in controlling and preventing many communicable diseases such as cholera, typhoid fever, etc. among cooked food vendors and since they can aid in the transmission of communicable diseases, there is the need to understand the necessity of food vendor undergoing medical examination to help in control and prevention of such diseases. This study was done to assess the perception of medical examination among food vendors at Kasoa. Specific objectives were to assess the knowledge level of cooked food sellers, assess the challenges encountered by cooked food sellers, assess the socio-economic effects of and determine efforts made by stakeholders to encourage cooked food sellers to undergo medical examination. The study adopted a descriptive cross-sectional design. A total of 120 respondents were selected using snow ball sampling technique from cooked food sellers in Kasoa, Ghana and structured questionnaires with open and closed ended- questions were administered. The major findings of the study were, generally there was adequate knowledge level among the cooked food sellers about medical examination in Kasoa, Ghana; expensive laboratory charges are among other challenges encountered by cooked food sellers when undergoing medical examination in Kasoa; lack of money was the main socioeconomic constrain that influence cooked food vendors when participating medical examination; and although health education was the tool used by the municipal assembly to promote undergoing medical examination by food vendor, it was not enough to achieve the target objectives. The study recommended that the municipal assembly should put in place programs to increase awareness on medical examination among food vendors in the communities and subsidize the cost involved in undergoing medical examination.

ACKNOWLEDGEMENT

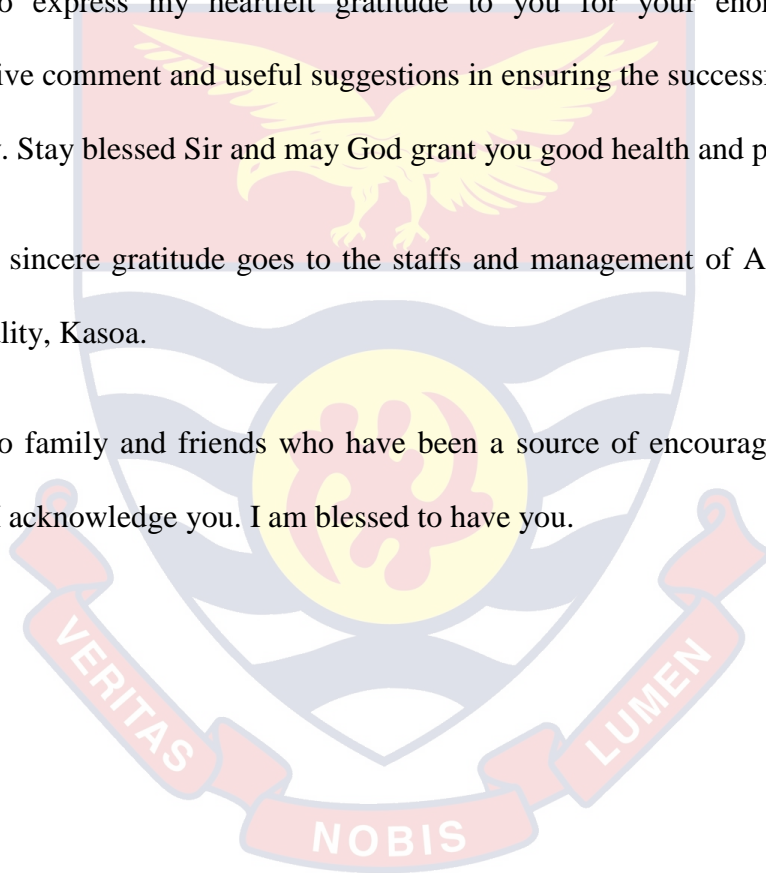
I am very thankful to Allah for the mercy and grace upon me to complete successfully. The outcome of the study is not the work of the author alone but also contributions by great individuals.

My sincere gratitude goes to my supervisor, Mr. Emmanuel Angmor, for all the help and guidance he has given me. He has not just been a supervisor, but a father as well.

I wish to express my heartfelt gratitude to you for your enormous guidance, constructive comment and useful suggestions in ensuring the successful completion of this study. Stay blessed Sir and may God grant you good health and prosperity.

Also, my sincere gratitude goes to the staffs and management of Awutu Senya East Municipality, Kasoa.

Finally, to family and friends who have been a source of encouragement, love, and support, I acknowledge you. I am blessed to have you.



DEDICATION

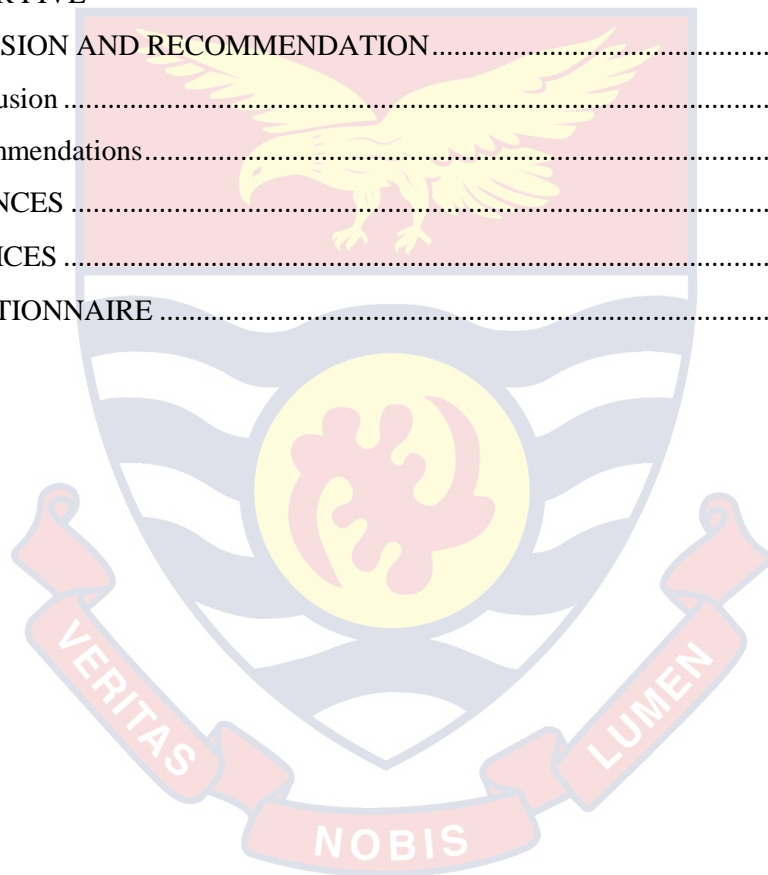
I dedicate this work to Allah and to my lovely family



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LIST OF ABBREVIATION

FAO	Food and Agriculture Organization
FDA	Food and Drugs Authority
GHS	Ghana Health Service
NAFDAC	Nigerian Food and Drug Administration and Control
PHC	Population and Housing Census
SMES	Small and Medium Size Enterprise
WHO	World Health Organization



CHAPTER ONE

INTRODUCTION

1.1 Background

Medical examination of food vendors is an examination of persons engaged in the sale of food, in which a medical officer ascertains their health status. Food is essential to life and can be helpful or harmful if food handlers do not undergo medical examination to ensure that they do not harbor disease organisms that can be transmitted through food to consumers. According to Abdella et al., (2009) food handling personnel play a significant role in maintaining the safety of food throughout the food production and storage stages. Bad hygienic practices by the vendors may allow bacteria to come into contact with food and cause food poisoning. Failure to maintain equipment and utensils hygienically and in good repair may cause food poisoning. The world health theme for 2015 was ‘Food Safety’ and the slogan was ‘Farm to plate, make food safe. This highlights the importance that the World Health Organization places on the need to globally address in a coordinated manner, the potential threats posed by unsafe food which is a consequence of the breakdown of food hygiene with the subsequent risk of the emergence of food borne illnesses along the pathway of the entire food supply chain, of which the food is a critical component.

Food borne diseases are an important cause of morbidity and mortality worldwide with significant public health impact. The global burden of food borne diseases in 2010 was 33 million with about 600 million food borne illnesses and 420,000 deaths. Of which food borne diarrhea diseases, the most frequent cause of food borne illnesses contributed about 230,000 deaths. The burden of food borne diseases is borne by individual of all ages, particularly children under the ages of 5 years who constitute about 40% of the global burden and also by individuals living in

low-income regions. With considerable regional differences in the global burden of food borne diseases, Africa stands out as having the highest burden per population of food borne diseases. In sub Saharan Africa especially Nigeria, despite the effort of government through its National Agency for Food and Drug Administration and Control (NAFDAC), to improve the safety of food supply, food safety still remains a major issue that has been exacerbated by the peoples' ignorance of food hygiene, government's uncoordinated approach to food safety and control and the poor enforcement of food safety legislation and regulations. In addition, climate change resulting in temperature changes has been predicted to influence the risk associated with food production, storage and therefore has played greater responsibility on food vendors to ensure the safety of food that they prepare for public consumption.

Unsafe food creates a vicious cycle of disease, diarrhea and malnutrition which significantly impedes public health and socioeconomic development. The number of people buying and consuming food prepared in public places has increased as a result of population migration, changes in consumer demand and behavior with urban dwellers needing cheaper foods in the face of harsh economic realities and as a consequence, the risk of food borne illnesses is more prevalent due to challenges in food safety especially in regions where adequate resources have not been allocated for food safety control and intervention efforts. Food can become contaminated at any point of production distribution along the farm to plate continuum and as a result, food safety control is a responsibility shared by all components in the food supply chain; so with each component operating responsibly, the supply of safe food to the consumer is supposed to be guaranteed. But unfortunately, a large proportion of food borne diseases are caused by improperly prepared and mishandled food by food vendors and also food handlers at home. The challenge in food safety is that these

food handlers lack understanding of their role in ensuring proper personal and environmental hygiene accompanied with the basic food hygiene practices when they buy prepare and sell food (Adae, 2008). The role of the food handlers especially the food vendors in effectively reducing the risk of food borne diseases is critically important as they are in direct contact with the consumers and also, they are the least challenging in terms of implementing food safety control measures. So assessing the perception, knowledge, attitude and practices of food vendors will enable the development of coordinated, effective, integrated and preventive strategies in line with the WHO “Five Keys to Safer Food” with the aim of reducing the risk of contamination as they buy, prepare, store and serve food to the consumers (Adae, 2008). However, food handlers do not undergo medical screening and therefore may harbor disease organism which may cause a lot of harm. Some of the diseases transmitted through food are cholera, typhoid, fever, dysentery, and poliomyelitis and helminthes infection. These infections are among the highest recorded cases at Kasoa health post, so there is the need for food sellers to keep themselves fit as far as food is concern.

Medical examination for the purpose of the study may be defined as the diagnostic inspection of the body of a person to determine the state of health using palpation, percussion and diagnostic test (Ackah et al., 2011). Basically, medical examination is done to ascertain the state of health that is being sick or healthy. Food handlers, particularly cooked food for public consumption. Many communicable diseases such as cholera, tuberculosis, infective hepatitis, Lassa fever, typhoid fever, etc are disease transmissible from one person to another.

Since communicable disease are on the increase in the world and cooked food sellers are capable of transmitting these diseases, there is the need for every cooked food seller to undergo medical examination is done in every part of the world.

In most part of the world, communicable disease such as cholera, tuberculosis typhoid fever, etc have made a dramatic comeback in Zimbabwe where cholera epidemic claimed over, 1,500 lives in August 2008 (WHO, 2009) with additional 29, 131 suspected cases reported. Efforts at reducing food borne disease are under way and they include enforcement of law on food safety, health education interestingly, some people view the shift towards eating food outside the home as a mark of affluence. Although street food vending is source of livelihoods and meets food demand of many, it also has public health concerns mainly without break of cholera; typhoid and diarrheal diseases and deaths especially in low-income countries. For instance, Ghana recently reported street food related deaths, about 14 deaths recorded in at least 3 regions nationwide. Moreover, a study in one of the larger cities in Ghana by Feglo & Sakyi (2012) show that most street food are contaminated with microbes potentially linked to any or all these conditions: wearing of dirty clothing, improper cleaning of dishes, unhygienic handling and serving practices elsewhere.

Ahmed et al., (2009) cited a report where there is widespread of low health and hygiene standards among street food vendors. The chief reasons for low hygiene and safety practices among a large section of street food vendors include their poor knowledge on personal hygiene, insufficient training illiteracy or uneducated background and perhaps lack of knowledge and / or appreciation of hygiene and safe food handling, low skills level and poverty.

This definitely directly or indirectly compromises the potential barriers to food contamination. Clearly street food vending must be regulated with provisions like

licensing, initial and periodic medical examination, trainings, law enforcement and prosecutions. This process exists in Ghana under the jurisdiction of local authorities (city, metropolitan, municipal and district).

In Ghana, it is mandatory as a public health policy for food venders to be screen before preparing food for sell (Feglo & Sakyi, 2012). A research conducted by Ackah et al., (2011) showed that only 40% of sampled food handlers for their study had health certificates and there was absence of periodic screening in the capital city of the country. Ababio and Adi (2012) equally reported of higher level of screening, but lack of renewal in Kumasi of the Ashanti Region.

In Ghana, the problem of undergoing medical examination exists and has caused many Ghanaian communities to suffer tremendously from communicable diseases. In Accra, for instance, which is the capital of Ghana; many cooked food sellers sell food without undergoing medical examination. A report from the Accra Metropolitan Assembly states that many of the cooked food sellers have expired medical certificates for selling food while some even have not undergone the process of diagnostic test. This problem of medical examination is no news to the Kasoa which is the study area.

Decision makers and environmental technologist always presume that people do not understand the essence of undergoing medical examination. With these, there is the need to know the rationale behind this problem and this has prompted the researchers to research into the perception of cooked food sellers on medical examination.

1.2 Problem statement

Medical examination among cooked food sellers is very essential in controlling and preventing of many communicable diseases such as cholera,

tuberculosis, typhoid fever, etc. Ottah-Atikpo & Tomlins (2013) found that food from hotels sampled in Accra showed acceptable levels whiles street food from the same city had detectable level of enteric pathogens by infected vendor. This knowledge clearly shows that food vendors are capable of contaminating food and at the same time infecting consumers with diseases. Records collected from Kasoa health post within Ewutu Senya East Municipal Assembly indicated that in 2009, the total number of communicable disease reported within the municipality which has increased to 5,223 in 2010 (GHS, 2010). Ackah et al. (2011) found that a means of regulating street food is for vendors to undergo medical test. Some countries insist that food handlers undergo medical screening to test for infectious disease such as typhoid fever, tuberculosis and cholera and other airborne disease. Periodic screening is also a requirement by metropolitan, municipal and district environmental health officers and inspectors.

It was deduced from the 2009 Ghana Health Service report that the incidence of food-borne disease is on the ascendancy in the Ewutu Senya East Municipality. It was also identified that food sellers in Kasoa handled food (both cooked and raw) in a manner which may have detrimental effect on consumers. The situation is alarming as most food seller even lack basic infrastructure and service such as pre-medical screening therefore resulting in the transmission of food borne diseases. Since food sellers can aid in the transmission of them, there is the need to understand the necessity of food vendor undergoing medical examination to help in control and prevention of such disease. Also, most studies cover areas like food hygiene, sanitary conditions surrounding food preparation and eating premises as well as the safety of the food itself. It is in light of these that the research is being conducted to ascertain the perception of medical examination among food seller in Kasoa.

1.3 General objectives

The study is to assess the perception of medical examination among food vendors at Kasoa.

1.3.1 Specific objective

1. To assess the viewpoint of cooked food sellers on undergoing medical examination.
2. To assess the perceived challenges encountered by cooked food sellers when undergoing medical examination in Kasoa.
3. To assess the perceived socio-economic effects of undergoing medical examination on cooked food sellers in Kasoa.
4. To determine efforts made by stakeholders to encourage cooked food sellers to undergo medical examination.

1.4 Research questions

1. Are cooked food sellers in Kasoa aware of medical examination in their community?
2. What are the challenges encountered by cooked food sellers when undergoing medical examination in Kasoa?
3. What are the socio-economic effects of undergoing medical examination on food sellers in Kasoa?
4. Are stakeholders making any efforts to encourage medical examination among cooked food sellers within Kasoa?

1.5 Significance of the study

The study into the perception of medical examination among food vendors at Kasoa in the Ewutu Senya East Municipal Assembly in Central Region will be greatly

beneficial to the community, municipal Assembly, Non-Governmental Organizations and the nation as a whole in the following ways;

The study will help the community to value their health in relation to what they eat and where they should eat. Many cooked food sellers and the community members will get to understand the reasons for medical examination and it will broaden people's knowledge on how cooked food sellers can transmit diseases.

It would help the Municipal Assembly to standardize policy for people to undergo medical examination. The study would also help many Non-Governmental Organizations that would like to research into medical examination among food sellers. The study can therefore be of importance to any health institutions who wish to assist in solving this health problem like cholera and typhoid fever in any community.

The study will present an empirical evidence for the Municipal Assembly to know the risk that food sellers can cause and formulate programmes to address the problem. The Environmental Health Staff would find this study useful because it will enable them to find new approaches to issues of hygiene education programmes and also use it as assessment tool for health programmes on the field.

1.6 Organization of the study

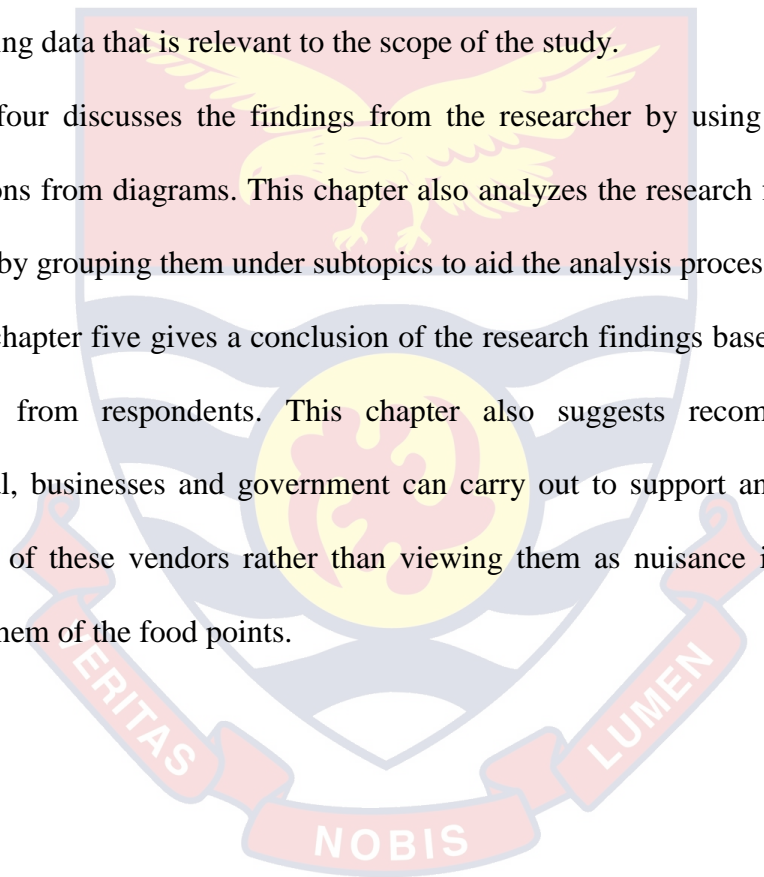
This dissertation presents with five major chapters. The first chapter introduces the thesis by medical examination among food vendors on the need to boost the food vendors sector. It is elaborated in this chapter that most causes of food vendors not to undergo medical screening before preparing food for sale is as a result of lack of awareness and low knowledge level among food vendors. The chapter goes on further to state that the sector employs sizeable number of the population in Kasoa even though the sector has been greatly overlooked.

Chapter two provides the literature studies done on the topic and how they relate to the study several literatures were researched on and different perspectives of why the sector has not improved were also observed. The chapter discusses review done on the study by grouping them under sub topics to aid the researchers address different areas that pertains to the objective of the study.

Chapter three describes the tools and methods used in the data collection process. Under this chapter, the writers designed interactive questionnaires, interviews to aid in gathering data that is relevant to the scope of the study.

Chapter four discusses the findings from the researcher by using percentages and illustrations from diagrams. This chapter also analyzes the research findings from the question by grouping them under subtopics to aid the analysis process.

Finally, chapter five gives a conclusion of the research findings based on information analyzed from respondents. This chapter also suggests recommendations that individual, businesses and government can carry out to support and help boost the activities of these vendors rather than viewing them as nuisance in the society by chasing them of the food points.



CHAPTER TWO

LITERATURE REVIEW

2.1 Street Food Vending

The World Health Organization (WHO) defines street foods as ready-to-eat foods and beverages prepared and / or sold by vendors on the street and in public places that can be consumed right away or eaten at a later time. These foods comprise of meat, fish, fruits, vegetables, grains, cereals, frozen produce and beverages (Apanga, 2014). Street food feeds millions of people daily with a wide variety of foods that are relatively cheap and easily accessible. Most of the time, many people prefer consuming foods from vendors to preparing food at home (Rahman, 2012). The street food industry offers a substantial amount of employment, often to people of lower educational levels (Muinde & Kuria, 2005).

In cooking for large populations, food passes through various hands, thereby increasing the chances of food contamination due to inappropriate handling. Deliberate or unintentional contamination of food during large production might jeopardize the wellbeing of buyers, and have very expensive repercussions on a country, as such outbreaks feature prominently in national statistics (Annor & Baiden, 2011). Food hygiene probably put too much importance on cleanliness but food safety requires much more than a clean premises. All around the world there is increase in concerns about food safety due to the high incidence of food borne illness Rahman (2012). Several food-borne disease outbreaks have been reported to be associated with poor personal hygiene of people handling foodstuffs.

In Ghana, street foods are diverse and include cooked beans, “koko”, “kenkey”, “banku”, soups, stews, rice, “waakye”, salad, “fufu” and plantain. In Accra, the capital city of Ghana, there is an estimated 60,000 food vendors who sell ready to eat

foods (Odonkor et al., 2011). Due to modernization and less free time, demand for processed and ready to eat food is increasing on daily basis. These foods are relatively cheap, easy accessible and also saves one's time from standing in the kitchen for long hours, (Ccebdm et al., 2013). Customers of street foods are much more concerned about convenience than the safety, quality and hygienic status of the food they buy (Nicolas et al., 2007).

There is an increase in food borne diseases in both developed and developing countries. It appears that in Ghana food vendors have been allowed to work without any periodic checks to determine whether they are practicing food hygiene (Odonkor et al., 2011). In a related study by King et al., (2008) results indicated that, among 160 street food stalls in Ghana, only three (1.85%) of the proprietors met the requirements for basic hygiene based on a five-point check-list. Food borne microbial pathogens which cause diarrhea, are leading causes of illness and deaths in the developing countries, killing an estimated 1.9 million people annually at the global level. Another study conducted in Malaysia also showed that approximately 10-20% of food-borne disease outbreaks are due to contamination by the food handlers (Mudey, 2010).

According to (Food And Agriculture Organization, 1997) the risk of serious food poisoning outbreaks as a result of street foods continues to remain as a threat in many parts of the world, with microbiological contamination being one of the most significant problems. Food-borne pathogens are recognized as a major health hazard associated with street foods, the risk being dependent primarily on the type of food, and the method of preparation and conservation. A lack of knowledge among street food vendors about the causes of food-borne disease is a major risk factor. Poor hygiene, inadequate access to potable water supply and garbage disposal, and unsanitary environmental conditions (such as proximity to sewers and garbage

dumps) further exacerbate the public health risks associated with street foods. Improper use of additives (often unauthorized colouring agents), mycotoxins, heavy metals and other contaminants (such as pesticide residues) are additional hazards in street foods. Although many consumers attach importance to hygiene in selecting a street food vendor, consumers are often unaware of the health hazards associated with street vended foods.

According to (Monney et al., 2013), food vendors may contaminate food by poor personal hygiene, cross-contaminating raw and processed food, as well as inadequate cooking and improper storage of food. Maintaining high food safety levels in school food services is very important because any incidences of it can affect a high number of students. In the University most students and staff purchase their meals from food vendors. Street foods provide students and other customers with a wide variety of foods that are relatively cheap and easily accessible.

2.2 Licensing of Food Vendors

In May 2007, the Municipal Corporation of Delhi placed a ban on street food vending with the hopes of reducing the risks associated with poor hygienic practices of food vendors (Ramesh, 2007). As expected many critics disagreed with this directive as did both national and international media houses who argued that the ban would not encourage the preservation of the ancient food culture in Delhi (Dhariwal, 2007; Ramesh, 2007; Sanghvi, 2007; Sengupta, 2007).

Prior to the ban in 2007, licensing was the principal technique for preventing food hygiene risks. In addition to this, regular inspections were conducted at food joints. Food vendors were to put on protective clothing including head gears, gloves and aprons and should have been declared medically fit by a health practitioner (MCD, 1979). Unfortunately, most of these licensing agreements had designs that did not

benefit street food vendors. Additionally, most of these rules and regulations had grown outdated and were not responsive to economic and social change.

A typical example of such is the Municipal Corporation of Delhi requires food handlers to be vaccinated against typhoid, cholera and small pox. The licensing rules were perceived by critics as partial in that they privileged a number of large-scale enterprises, as they had provisions that were biased towards some businesses based on their facilities. For instance, the Health Department linked the issue of licenses for water trolleys with the cooling capacities of and storage space available at the water plant sites. This resulted in the concentration of water trolley businesses among plant owners to the demise of small business entrepreneurs who did not have the adequate capital to set up such facilities. Similarly, licenses for ice-cream trolleys were only issued to ice-cream factories (MCD, 1999). In 2000, an evaluation by the MCD of restaurants, eating houses, roadside eateries and hotels revealed that a large number of such businesses were still running without a license (MCD, 2000).

Also, nearly 60 to 70 percent of residential buildings did not comply with land use or building regulations (Government of India, 2006). Some other problems including the subjective nature of measuring compliance of food vendors with hygienic criteria remained a headache for the government. This was because the food hygiene officers had not yet developed any scientific approach to measuring food hygiene criteria. The Municipal Corporation of Delhi (MCD) increased extensively, the amount of money charged vendors as fines for selling foodstuffs without a health trade license (under Section 421).

However, this measure did not have the desired effect as inspections were not conducted frequently enough (probably due to human resource constraints as against the hefty workload) and the tendency of municipality officials to succumb to bribery

attempts by food vendors was imminent. As a last resort, the Health Department workers carried out daily raids affecting 10–15 street food vendors (per zone) and evicting 50–60 vendors for months at a time. Raiding teams consisting of food inspectors and six to eight strong workers chased and caught food vendors.

Vendors' property rights were blatantly infringed upon, as their food stuffs, vending carts and cooking equipment were destroyed or confiscated to their dismay (Dolf, 2008). Thus, the May 2007 ban will not necessarily improve food hygiene, but will merely safeguard public spaces from permanent encroachment by the urban poor (Voyce, 2007). In the light of this, food vendors have remained present in unauthorized vending sites, despite being unlicensed or banned, because of the continued demand for their affordable, tasty and convenient foods provided.

In South Africa, the government in an attempt to safeguard street food and vending activities approved the implementation of some by-laws at the municipality levels. In order to enforce these, municipalities registered all food vendors within their jurisdictions and allocated food vending sites to be strictly used for food vending activities. These food-vending sites are limited to the indicated areas to serve as a control measure with respect to the number of vendors per area. The rationale behind this arrangement is to ensure that effective monitoring and coordination of food vendors is carried out. In the Ethekwini Metro street food vendors operate in allocated areas, thus resolving the problem of public nuisance in Durban City to an extent.

In addition to these, periodic training sessions and food hygiene awareness programs are organized for the benefit of food vendors. Moreover, the vending sites are inspected as part of compliance monitoring procedures. Today, the Metro ensures that before vendors are issued with certificates of acceptability, they have undergone the required food hygiene training, which informs them of the safest food handling

procedures and helps them appreciate the various regulations surrounding food vending (Anon, 2000). In an attempt to ensure that vendors do not store prepared meals for longer than necessary, the use of refrigerators have been restricted. This is to ensure shorter holding times and ensure the safety of street vended foods (Mosupye and von Holy, 2000). In the Western Cape of South Africa, authorities depend largely on the National Hygiene Regulations as a regulatory mechanism (Anon, 1999). Vendors within this area are also expected to possess a Certificate of Acceptability.

2.3 Awareness on Medical Examination

According to Ottah-Atikpo & Tomlins (2013) there are possibilities of contamination of food. Food from hotels sampled in Accra showed acceptable levels while street food from the same city had detectable level of enteric pathogens by infected vendor hence there is the need to create awareness on the essence of undergoing medical screening. This knowledge clearly shows that food vendors are capable of contaminating food and at the same time infecting consumers with diseases. If there is awareness creation on medical examination among vendors, there will be a low risk of food contamination.

Abdalla et al., (2009) found that food sellers represent a parasitic risk due to bad hygienic practices and their level of infection and typology of parasite they shelter many allow bacteria to come into contact with food and cause food poisoning. The study revealed that every food seller can harbour infection and there is the need to undergo medical examination or screening since medical examination can detect a parasitic risk of infection of food sellers, there is the need to undergo medical examination to know the state of health.

According to Adae (2008) food vendors should keep personal hygiene and workplace hygiene in order to prevent them transmitting certain communicable diseases to their

customers. She came in conclusion that, food vendors are capable of transmitting communicable diseases to consumers and there is the need for personal hygiene and medical screening before preparing food for public consumption. The impact of medical examination on health is very essential since undergoing medical examination or screening can prompt you of sickness to seek early treatment. Food vendors are more prone to food-borne infections and communicable diseases which they are likely to transmit them to their customers when they do not keep themselves away from unhygienic conditions that lead to the diseases.

According to Feglo & Sakyi (2012), in spite of these problem with food safety, in their work on salmonella carrier status of food vendors in Kumasi, Ghana supported the idea that in developing countries where money and time required to improve existing environmental standards might demand longer waiting periods the most efficient way to improve on the hygiene activities of food handlers will be through education and regular surveillance. Food handlers in the region were concluded to be of significant risk in the spread of enteric fever. Moreover, a number of vendors the spectator spoke to say they were not making any good profits to undergo medical examination. Therefore undergoing medical examination involves money and many food vendors are not making any good profit to conduct the medical screening or test to know their health status.

Public health policy for food handlers requires food handlers to be screened before preparing food for sale (Feglo & Sakyi, 2012). A research conducted by Ackah et al., (2011) showed that only 40% of simple food handlers for their study had health certificates and there was absence of periodic screening in the capital city of the country. Ababio & Adi (2012) equally reported of higher level of screening but lack of renewed in Kumasi of the Ashanti Region.

Konrandsen & Samuelson (2008) reported of some level of food safety and hygiene awareness in Kumasi but added that food handling practices did not reflect knowledge, so there is the need to highlight on the need of creating awareness among food sellers about various measures of maintaining food hygiene and ensuring their good health through pre-placement and in service medical examination. Awareness creations on food among food handlers bring about healthy people and healthy environment since most of the food handlers become aware of food safety control and prevention of food borne infections.

Ackah et al., (2011) found that a means of regulating street food is for vendors to undergo medical test. Some countries insist that food handlers undergo medical screening to test for infectious disease such as typhoid fever, tuberculosis and cholera and other airborne disease periodic screening is also a requirement by metropolitan, municipal and district environmental health officers and inspectors. The vendors are expected to carry out complete physical medical examination and obtain health certificates issued by the authorized health centers. The health certificate is to be kept by the vendors presented on inspection and renewed annually (Ackah et al., 2011). This medical examination helps to maintain good health and great awareness on dangers associated in Food and possible ways of preventing food infection and contaminations.

2.4 Undergoing Medical Examination as a Problem

Ahmed et al., (2009) cited a report where there is widespread of low health and hygiene standards among street food vendors. The chief reason for low hygiene and safety practices among a large section of street food vendors include their poor knowledge on personal hygiene, insufficient training, illiteracy or uneducated background and perhaps lack of knowledge and / or appreciation of hygienic and safe

food handling, low skills levels and poverty which also makes them unable to pay for undergoing medical examination. These definitely, directly or indirectly compromise the potential barriers to food contamination. And it is a clear indication why food vendors shunning away from medical test for themselves and their staff because the cost involved in undergoing medical examination is too high.

Clearly street food vending must be regulated and provide them with initial license and periodic training. According to Steyn et al., (2011) the sale of foods on the street is a common aspect of lifestyle in many countries, street food vendors are a ubiquitous and conspicuous presence in most cities and they usually have a variety of wares for sale which include snacks, drinks and even full meals the street food trade has evolved into a large and involved food sector that provides a means of income for the vendors and reasonably priced food to millions of people from all walk of life. This industry plays an important role in the cities and towns of many countries in meeting the demands of the city dwellers (Campbell, 2011). These indicate that periodic medical examination among food vendors is low because of ignorance and lack of time by the food vendors to undergo the medical examination. Many food sellers are aware of undergoing medical examination in some way, but do not know the essence or the relevant of undergoing medical examination (FAO/WHO, 2009), enabling them to compete in the international market small and medium size enterprise (SMEs) support systems could be initiated by the Government's appropriate agencies and educational institutions to help them establish acceptable food safety management systems, government and local authority intervention in the form of free or subsidized training and medical examination of food vendors for safety standards by appropriate agencies. This revealed that in many developing countries medical system are ill equipped to support and monitor outbreaks. Regularly

falling prey to food –borne disease such as cholera, diarrhea and hepatitis A. it is here that real tragedy manifest itself. In many countries hospitals are not well equipped with laboratory equipment to check and or monitor outbreak of disease or infection. Many food sellers travel miles before they undergo medical examination which sometimes lead to time wasting.

Steyn et al., (2011) stated that the sale of food on the street is a common aspect of lifestyle in many countries. He preceded that majority of food vendors refuse to undergo medical examination not because of ignorance but also lifestyle and habit of the food vendors. Many cooked food sellers know the essence of medical examination but refuse to conduct medical test before preparing food. Many food sellers are stubborn in such a way that, they know the reasons for undergoing medical examination but pretend not to undergo the examination because of their habitual characters.

2.5 Socio-Economic Influence of Medical Examination

Chukuezi (2010) asserts that street food patronage has become part of the cultural and survival strategy by many regardless of age, ethnic or socio –economic status. In many countries including Ghana, street food vending has grown insufficiently in the past few decades and will continue into the next century due to urbanization and population growth. While these foods are appreciated for their unique flavors’ and their convenience, they are also often essential for maintaining the nutritional status of the population. There are increasing numbers of food vendors and many consumers prefer eating of street food(s) due to urbanization and population growth. These have had influence on medical examination due to the fact that there are no quantitative data on food vendors to know the number of food sellers or food vendors in a particular location.

Abdalla et al., (2009) found that food handling personnel play a significant role in maintaining the safety of food throughout the food production and storage stage street food vendors assure food security for low income urban population and provide livelihood for a large number of workers who would otherwise be unable to establish a business for want of capital. It also offers business opportunities for developing entrepreneurs.

The economic status in the urban areas of developing countries due to limited job opportunities and high unemployment rate bring about street food vendors which provide a source of inexpensive, inconvenient and often nutritious food for urban rural poor, a source of attractive and varied food for tourists and the economically advantage, a major square of income for vast number of persons, particularly women and a chance for self-employment and the opportunity to develop business skills with low capital investment, this shows that many street food vendors are economically poor and have low capital income to carter for him or herself.

2.6 Health Effects of Medical Examination

Ackah et al., (2011) came into conclusion that a means of regulating street food is for vendors to undergo medical test “some countries including Ghana insist that food handlers undergo medical screening to test for infectious disease such as typhoid fever tuberculosis and cholera and other airborne diseases. Periodic screening is also a requirement by metropolitan municipal and district environmental health officers and inspectors. In addition to this, he said, screening should obligatory 6 months and also monitor those to be infected and prevent them from spreading the infection. There is the possibility of every cook food seller to harbour infection in one way or the other. Hence there is the need to undergo medical examination.

Ackah et al., (2011) testified that a means of regulating street food is for vendors to undergo medical test in conjunction with pre-employment screening examination help to determine biologic trends that may mark early signs of adverse health effects and thereby facilitate appropriate protective measures. Medical examination and pre-employment examination are very essential to determine the state of health of a person and seek for appropriate control measures to curb the infections or the problem when one found out to be sick.

Campbell (2011) states that there is an assumption that by the nature of street food, contamination is inevitable, yet many developing countries, some segments of the population depends entirely on street foods and these people largely depend on foods generally prepared and sold under unhygienic conditions. Hence street foods pose a high risk of food poisoning due to microbial contamination as well as improper use of food additives, adulteration and environmental contamination. Many people depend on street foods which encourage food vendors to prepare and sell food even under unhygienic conditions without the fear of being punished.

Gorden-Daus (2011) interprets hygiene as “the preservation of health and it involves all measures that ensure the safety and quality of food during its handling”. Gorden-Daus (2011) identifies these measures as “correct storage of both raw and cooked foods as well as correct preparation and cooking methods” unhygienic preparation of food provides plenty of opportunity for transfer of bacteria as well as growth or survival of bacteria and other pathogens street food vendors are often unlicensed, untrained in food hygiene and sanitation and work under crude unsanitary conditions which may lead to food contamination and the spread of food-borne disease. Food sellers lack knowledge on food safety that leads to many microbial contaminations of food venders

Abdalla et al., (2009) found out that food handling personnel play a significant role in maintaining the safety of food throughout the food production processing storage and preparation. Bad hygienic practices by the vendors may allow bacteria to come into contact with food to cause illness in the consumer. This clearly shows that there is a link between food vendors and consumers in diseases transmission. Hygienic measures should be adopted by the food vendors and the consumers to prevent the spread of diseases.

In Ghana, the Food and Drugs Authority (FDA) is the national regulatory body under the Ministry of Health with the responsibility of implementing food policy and ensuring the safety and wholesomeness of food for consumers. FDA roles include food manufacturing and processing site inspections. Licensing product registration and monitoring. They also provide good hygiene practices training for food handlers. The Ghana Standard Authority develops and promotes international and locally acceptable standards for the industry. Other supporting agencies include the ministry of health, Ministry of Agriculture, Ghana Tourist Board and the environmental agencies.

The government of Ghana has also given directives to the local authorities including metropolitan assemblies and their districts to actively control and monitor food safety practices of food vendors who are individual or group of people who sell ready to eat foods at readily accessible areas including caterers nightclubs, bear bars, chop bars, cold stores, hotels restaurant operators and bagged water processors. The water and food hygiene unit of the environmental health department of the district is responsible for the health monitoring and certification of food vendors which is subject to renewed on the yearly basis this process is require food handlers to undergo some form of medical examination or screening test before they can be employed as

food vendors. Periodic testing is also frequently required to ascertain the state of health of the food vendors medical screening should be compulsory for every food seller to know his or her state of health before they are allow to prepare food for public consumption.

2.7 Measure to Encourage Medical Examination among Cooked Food Sellers

Ahmed et al., (2009) cite a report where there is widespread of low health and hygiene standards among street food vendors. The chief reasons for low hygiene and safety practices among a large section of street food vendors include their knowledge on personal hygiene, training, illiteracy or uneducated background and perhaps lack of knowledge and or appreciation of hygienic and safe food handling, low skills levels. This shows clearly street food vending must be regulated with provision like valid license to food vendors and medical certificate which would go a long way towards bringing about a measure of confidence to vendors. These measures of security could motivate them to improve their food handling practices through introduction of appropriate and simple practices and technologies suiting their specific operation. It is desirable that a single designated office within the local authority be responsible for all aspects of licensing of street food vendors.

The government of Ghana has given directives to the local authorities including metropolitan assemblies and their districts to actively control and monitor food safety practices of food vendors who are individuals or group of people who sell ready to eat food at readily accessible areas therefore it is considered necessary for training to continue to be integral part of the regulatory approach. Thus training of inspectors in street food inspection techniques and food vendors in good handling practices are considered essential for the reduction of food-borne infections. Training of vendors prior to medical examination, insurance of license, though desirable

depends upon the availability of local facilities and may not be possible in all cases. Health education for food vendors is a good approach in reducing food-borne infections. Food sellers should be given training and education on food safety and practices in the country.

Buah-Kwofie Boating (2011) stated that there is minimal information on physical contamination / hazards, food allergy and injuries caused by these. This could be due to less awareness and or lack of public education of these hazards. Therefore there should be awareness creation on food safety issues and therefore more discriminating and commence insisting on improved hygiene, sanitation and food handling practices they could greatly influence vendors to improve their food handling practices. This could be achieved through consumer's education in matters relating to safety and nutrition. There is the need for food consumer also to be educated on food issues in order to prevent the spread of infection. FAO (2006) meeting on food safety came to conclusion that, "education and training of food handlers, vendors and consumers of street food was a fundamental and most urgent need. The purpose of such program was to make them aware of hygienic, sanitary and technological aspect of street food vending and consumption". It is only through such training and subsequent monitoring of the situation that street food vendors could be integrated into and considered a regular part of a city's food supply system.

Ahmed et al., (2009) cite a report that "there should be enforcement and prosecution. This process exists in Ghana under the jurisdiction of local authorities (city, laws on food vendors on medical examination and those without medical certificates should be stopped from operating or to be taken to court). In food safety control program, law enforcement should be introduced when health education and training fail. There is also to educate food vendors on the essence of undertaking the

medical examination and those who refuse to comply may be enforced by the laws in the community and the country as a whole.

Ahmed et al., (2009) state that the chief reasons for hygiene and safety practice among a large section of street food vendors include their poor knowledge on personal hygiene, insufficient training, illiteracy or uneducated background and perhaps lack of knowledge and for appreciation of hygienic and safe food handling, low skills levels, and poverty. These definitely, directly or indirectly compromise the potential barriers to foods contamination. And it is a clear indication why food vendors shunning away from medical test for themselves and their staff because the cost involves in undergoing medical examination is too high.

Ababio, Adi & Commey (2012) stated that level of education (formal) which is considered to have direct positive effect on food hygiene practices among food handlers in Ghana. This indicates that the majority of food handlers lack the appropriate knowledge expertise in the application of food hygiene and good food handling practice. In a Peruvian study, it shows that the higher the educational levels of the food vendors, the better were the hygienic practices. In combating the problem of undergoing medical examination, there is the need to train both food inspectors and food handlers on food safety. The training will help the sellers to understand how food-borne infections occur and reason for undergoing medical examination.

Adotey (2006) agreed that “we have to regulate street food vendors to ensure that food consumption is safe. The city authorities should grant permits and health certificates to vendors after medical screening of vendors. Adotey (2006) testified that, government and banks should give loan funds to street food vendors to enhance smooth food preparation”.

Ahmed et. al., (2009) preceded that award such as appreciation of hygiene standard among street food vendors who successfully improve their various aspects of local food systems, food security, marketing home grown and labeled foods, nutrition education hygienic and safe food handling and restaurants and food stores that actively support food safety. Such encouragement as awarding of certificates, reduction of cost and training of food vendors will help them improve their food safety to reduce infections. This should be done at most yearly for all food vendors to motivate them.



CHAPTER THREE

METHODOLOGY

3.1 Study Area

The Senya East Municipal Assembly is one of the newly created municipalities in the Central Region. The municipality was carved out of the former Awutu Senya District in 2012 and established as municipality by Legislative Instrument (LI) 2015 with Kasoa as its capital. The rationale was to facilitate government's decentralization program and local government system. According to the 2010 Population and Housing Census (2010 PHC), the total population in the municipal stood as 108,422. This is about 4.9 percent of the central region's population. Awutu Senya East Municipal is mainly urban result of the 2010 Population and Housing Census indicated that the municipal has few rural settlements. The mission statement of Awutu Senya East Municipal is that it exists to facilitate the improvement in the quality of life of the people in close collaboration with the private sector and other development partners in the municipal.

The Awutu Senya East Municipal is located in the Eastern part of the Central Region it shares common boundaries with Ga South Municipal Assembly (in the Greater Accra Region) at the east, Awutu Senya District at the north and Gomoa District at the West and South respectively. The municipality covers a total land area of about 108.004 sqkm. About 1.1 percent of the total land area of the Central Region. Kasoa, the municipal capital is located at the South Eastern part about 31km from Accra, the national capital. The majority settlements of the municipal area are; Opeikuma, Adam Nana, Kpormerty, Ofaakor, Akweley, Walantu and Zongo Relief and drainage. The topography of the municipal is characterized by isolated undulating highlands located around the Ofaakor and Akweley area. The nature of the topography is directly related to soil type. The highland and lowland areas have loamy soil and clay

soil respectively. The drainage in the high areas is not intensive as compared to the lowland areas. Okrudu the major river, drains into the sea sand causes flooding during the rainy season. Temperatures are high throughout the year and ranges between 23oc to 33oc Rainfalls are heavy during the major season between March and September, the average rainfall is about 750mm.

3.2 Study design

A study design is procedural plan that is adopted in a study to answer questions validly, objectively, accurately and economically (Kumar, 2011). The study design adopted was a descriptive cross-sectional survey. This study design was chosen because, considering the purpose of this study, the research questions and the target population, it is the most appropriate design that suits the aim/objectives of the study and to collect data from respondents.

3.3 Population of the Study

The population of the study comprised of cooked food vendor in the Senya East Municipal Assembly, Ghana where the target population is cooked food vendor in Kasoa, a suburb in the Senya East Municipal Assembly. The choice of the target population was underscored by proximity of the researcher to Kasoa, easy access to the food vendors in Kasoa and the ability of researcher to obtain thorough, in-depth and insightful information from the cooked food vendors in Kasoa.

3.4 Sampling Procedure

The researcher utilized snowball sampling method which is a non-probability technique. The reason underpinning the use of the technique includes difficulty in

obtaining the sample frame for the participants within the study period because of the busy nature of their work, time constraints and cost.

3.5 Sample size

A sample is the selected subset of a population from which information is collected about a study. Sample size covers the number of respondents utilized by a researcher for a particular study. Using a sample size determination formula,

$$N = \frac{Z^2 \times P \times Q}{d^2} \text{ (Coleman et al, 1996).}$$

$$d^2$$

Where; N =sample size, Z= confidence level (95%=1.96), p = estimated prevalence of HBV (30% = 0.3, Ola et al. (2012))

d= margin of error (0.05), Q = (1-P) proportion of people without knowledge on the disease =1-

$$0.5 = 0.5$$

$$N = \frac{3.8416 \times 0.3 \times 0.5}{0.0025} = 231.$$

$$0.0025$$

Therefore the calculated sample size for the study was 231 participants.

In congruence with the sampling techniques, a representative sample of 120 respondents was used from the sample. Due to factors like determination of the sampling and time frame, the study was classified as a small-scale research, which normally involves between 30 and 250 cases (Denscombe, 2007). Also, according to Creswell (2009), quantitative study should have a sample size not less than 30. This makes the 120 sample size adequate for the study.

3.6 Data Collection Procedure

On the day of the data collection, the researcher was introduced to the leader of the market women by the municipal environmental health officer. The leader then helped the researcher to identify her colleague market women who sell cooked food. The researcher explained the concept of the study to them. The study participants were also assured of confidentiality and that, the data will not be released for any other purpose apart from the purpose it was meant for. After the explanations, the researcher, municipal chief environmental health officer and the leader of the market women then distributed the questionnaires to those who can read and answer the questions. The respondents were given the freedom and liberty to answer the questions from their own experience without the influence of the researcher, within a fifteen minutes time span. Those who cannot read and write were assisted by the researcher and the municipal chief environmental health officer. Afterwards, the completed questionnaires were collected by the researcher and municipal environmental health officer for data analysis.

3.7 Research Instrument

3.7.1 Questionnaire

The instrument used for the data collection was a structured questionnaire with closed and open ended questions. The data collection instrument was developed in line with the study objective; thus, focusing on assessing the perception of medical examination among food vendors in Kasoa. The questionnaire was divided into six major parts. Part A sought to know the respondents background information such as age, sex, educational level, occupation, and experience level. Part B basically talks about the awareness of medical examination among food vendors. Part C talks about the

challenges cooked food vendors faced when undergoing medical examination. Part D talks about the socio-economic influence of medical examinations. Part E talks about the health effects of medical examination and Part F also talks about measures to encourage medical examination among cooked food sellers.

3.7.2 Validity and reliability

For the purpose of validity, the content of the questionnaire reflects the objective of the study. Appropriate literature review was ensured. Reliability was ensured through the explanation of terms and concepts in clear and understanding form, collection of the right information and usage of systematic methodology.

3.7.3 Pre-testing of questionnaire

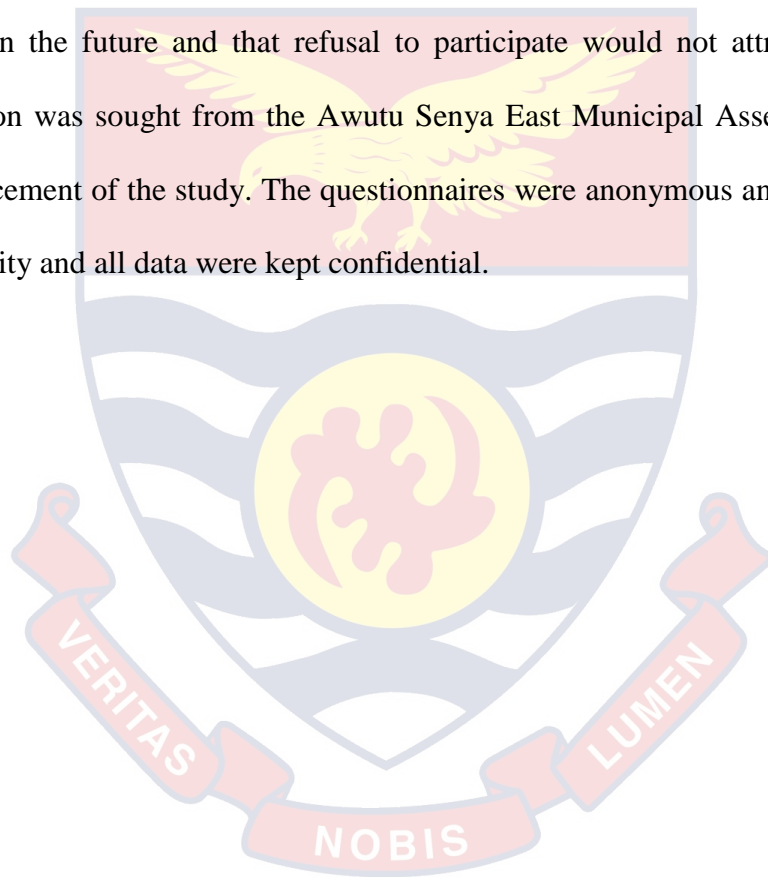
Pre-testing was done in Mallam Market to evaluate the reliability and consistency of the questions been asked, willingness of the respondents to answer the questionnaire, reliability of the questionnaire, the accuracy of the questionnaire, sequencing and clarity of the questions and ascertaining success of the training given to the research assistants. After the pre-testing, it was made sure the questionnaires were reviewed according to the information gathered from the pretesting with the supervisor before the main survey took place.

3.8 Data Analysis and Presentation

The data collected was presented in tables, bar graphs and figures to give a clear picture of the results. The data will be calculated in a form of percentages and frequencies for the quantitative data in order to come out with the findings.

3.9 Ethical consideration

Ethical clearance was sought from the Institutional Review Board of Presbyterian University College, Ghana. Introductory letter was obtained from the Faculty of Development Studies and the Head of Department of Environmental and Natural Resources Management. Informed consent was sought from the respondents of the study. They were assured of confidentiality of their responses. In addition, they were assured that their participation would not affect the relations with health institutions now or in the future and that refusal to participate would not attract any penalty. Permission was sought from the Awutu Senya East Municipal Assembly before the commencement of the study. The questionnaires were anonymous and did not require any identity and all data were kept confidential.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Demographic Characteristics of Respondents

The result shows that overall 120 questionnaires were distributed where 100 questionnaires were completed and returned to researcher (response rate of 83.3%). 10% of the respondents were male while the other 90% were female (Table 1).

It was also found that 8% of the respondents were aged < 20, 33% of respondents were aged 21-30, 25% of respondents were aged 31-40, 24% of respondents were also aged 41-50, while another 8% of respondents were aged 51-60. Also majority (33%) of the respondents were between the ages of 21-30 years (Table 1). This finding could be attributed to the fact that the population pyramid of the Awutu Senya district has higher population at the base between age 10-40 years and less population from the middle towards the peak thus; 40 years and above) (Ghana Statistical Service, 2010).

It was also extrapolated from the result that majority (33%) of the respondents are illiterate. While 26% of the respondents had tertiary educational background, 25% possessed have middle school/ J.S.S educational background with 16% of the respondents has S.S.S background. This is against the backdrop that majority (33%) of the respondents were between the ages of 21-30 years where this age group tends to pursue further education as compared to other age groups (Table 1).

In order to ascertain the marital status, the respondents were asked to disclose their marital status. Most (49%) of the respondents indicated that they are married, followed by 44% of those respondents who are single, then 5% in the category of been widow, then 2% of the respondents indicated they are divorced. This result also reflects on the youthful nature of the respondents in which majority of the respondents were in the ages of 21-30 years (Table 1). It could be said that most people in the

aforementioned age group just completed their tertiary education or about to complete and tend to marry usually after graduation.

Table 1: Demographic Information of Respondents

	Responses	Frequency	Percent
Gender	Male	10	10
	Female	90	90
Age	<20 years	8	8
	21-30	33	33
	31-40	25	25
	41-50	24	24
	51-60	8	8
Level of education	Illiterate	33	33
	Middle School/ J.S.S	25	25
	SSS	16	16
	Tertiary	26	26
Marital Status	Single	44	44
	Married	49	49
	Widow	5	5
	Divorced	2	2

Source: Field survey, 2019

4.2 Viewpoint of Food Vendors on undergoing medical examination

From the Table 2, 70% of the respondents indicated that they have medical certificate for food vendors; while 30% indicated that they do not have medical certificate for food vendors. The current finding is in contrast to research conducted by Ackah et al., (2011) in Accra, Ghana where only 40% of sample food handlers for their study had health certificates. This shows that there is improvement in the rate of acquiring

medical certificate by food vendors as more food vendors have acquired medical certificate compared to previous study by Ackah et al., (2011).

Table 2: Do you have medical certificate for food vendors?

Response	Frequency	Percent
Yes	70	70
No	30	30
Total	100	100

Source: Field survey, 2019

From Table 3, in responding to ‘how did you get the license to sell food’, 81.0% of the respondents indicated that they applied for the license, 12% chose others as answer, ‘I was called’ made up 4% and 3% of the respondents chose I searched for it. The finding shows that majority (81%) of the respondents applied for food vendors’ medical certificate as it is a mandatory public health policy in Ghana for food vendors to be screen before preparing food for purchase (Feglo & Sakyi, 2012).As such most food vendors who are aware of the policy were encouraged to apply for the medical certificate in which a person would be medically screened for food borne microbes before been issued with a medical certificate.

Table 3: Ways respondents got the license to sell food

Response	Frequency	Percent
I Applied	81	81
I Was Called	4	4
I Searched For It	3	3
Others	12	12
Total	100	100

Source: Field survey, 2019

From Table 4, 54% of the respondents indicated yearly in response to how often do food vendors undergo medical screening, 21% said every 6 months, 17% indicated monthly, 6% indicated every 3 months and 2% responded more than 2 years; thus more than half (54%) of the respondent know that they are to undergo medical screening yearly. Ackah et al., 2011 stated that food vendors are expected to carry out complete physical medical examination and obtain health certificates issued by the authorized health centers. The health certificate is to be kept by the vendors presented on inspection and renewed annually. Per the local government act, the medical certificate is to be renewed every 6 months but due to financial burden associated with it, yearly renewal have become the norm in most districts (Ackah et. al., 2011). Even though more than half (54%) indicated the medical certificate is renewable yearly, almost one fourth (21%) of the respondent attested that the medical certificate is renewable every 6 months. Could it be that the food vendors themselves are okay with the renewing the medical certificate every 6 months?

Table 4: Number of times food vendors undergo medical screening in order to get medical certificate

Response	Frequency	Percent
Monthly	17	17
Every 3 months	6	6
Every 6 months	21	21
Yearly	54	54
More than 2 years	2	2
Total	100	100

Source: Field survey, 2019

As indicated in Table 5, 67% of the respondents denoted that to prevent transmission of disease is the reason for undergoing medical examination, 12% indicated to ensure the vendor is well, 11.0% indicated to prevent and protect the customer, 9% denoted to prevent contamination of food and 1% chose others but did not specified, thus majority (67%) of the respondents know that it is to prevent transmission of disease. Similarly, Adae (2008) noted that food vendors should keep personal hygiene and workplace hygiene in other to prevent them transmitting certain communicable diseases to their customers. Adae (2008) concluded that, food vendors are capable of transmitting communicable diseases to consumers and there is the need for personal hygiene and medical screening before preparing food for public consumption. As such food vendors are more prone to food-borne infections and communicable diseases which they are likely to transmit them to their customers when they do not keep themselves away from unhygienic conditions that lead to the diseases.

Table 5: Reasons for undergoing medical screening

Response	Frequency	Percent
To prevent transmission of disease	67	67
To ensure vendor is well	12	12
To prevent and protect the customer	11	11
To prevent contamination of food	9	9
Others, specify	1	1
Total	100	100

Source: Field survey, 2019

From Table 6, 79% of the respondents denoted that health screening is a process involved in getting a medical license, 11% of respondents chose inspection by environmental health official as a process while 10% had no idea about the process involved in getting license. It is obvious that most (79%) of the food vendors know that in order to get a medical license, one has to undergo health screening. In contrast, Addison (2015) reported that 55.8% of the food vendors on University of Ghana, Legon campus had no idea about how to acquire license. The basic process involved in obtaining medical certificate for food vendors in any Metropolitan, Municipal, District Assembly (MMDA) in Ghana is undergoing periodic health screening (Ade, 2008). As inferred from the Table 6, most of the food vendors are aware of this process with a few of the respondents choosing inspection by environmental health officials. Is it that the small group of respondents who chose inspection by environmental health officials has included the routine inspection of food vendors' medical certificate as part of the process involved in obtaining the medical certificate?

Table 6: Processes involved in getting medical license

Response	Frequency	Percent
No idea	10	10
Health screening	79	79
Inspection by environmental health officials	11	11
TOTAL	100	100

Source: Field survey, 2019

4.3 Perceived Challenges Food Sellers Face When Undergoing Medical Examination

As shown in Table 7, in responding to the question ‘is it difficult to undergo medical examination’, 58% of the respondents indicated no, 22% chose yes, and 20% chose sometimes. This shows that more than half (58%) of the food vendors surveyed see no difficulty in undergoing medical examination. Difficulty in undergoing medical examination to obtain a medical certificate by food vendors have been underscored by more than half of the respondents. Whiles similar studies by indicated a high number of respondent reporting difficulty in undergoing medical examination, the opposite has occurred with food vendors at Kasoa in the Awutu East Municipal Assembly. Could it be that the local government responsible has instituted programs to make it easier for food vendors to undergo medical examination in the assembly?

Table 7: Is it difficult to undergo medical examination

Response	Frequency	Percent
Yes	22	22
No	58	58
Sometimes	20	20
Total	100	100

Source: Field survey. 2019

From Table 8, in response to the challenges food vendors face when undergoing medical examination, 57% of the respondents chose expensive laboratory charges, 31% of respondents chose other challenges which they did not specify, 7% indicated inconvenience to access the laboratory and 5% said high cost of issuance of medical certificate. Expensive laboratory charges remains the obvious challenge food vendors face when undergoing medical examination as indicated by more than half (57%) of the respondents (Figure 3). Similarly, Musa and Akande, (2002) concluded that the cost to be incurred by the vendor may be another reason, considering that the trade is a poorly paid job and the fact that a substantial part of the vendors' finance may be spent on medical examination thereby causing a financial burden on them.

Table 8: Challenges faced when undergoing medical examination

Response	Frequency	Percent
Inconvenience to access lab	7	7
Expensive laboratory charges	57	57
High cost of issuance of medical certificate	5	5
Others, specify	31	31
Total	100	100

Source: Field survey. 2019

From Table 9, in response to how long it takes to get medical certificate after undergoing successful medical screening, 69% of the respondents denoted one day, 12% of respondents indicated 6 months, 10 % chose 3 months and 7% chose monthly. It is apparent that most (69%) food vendors receive their medical certificate in one day after successfully undergoing medical screening (Table 9). Waiting time in getting your medical certificate after successfully undergoing medical examination for food vendors can be a contributory factor in poor patronage in the annual screening programme. Would you conclude that because most of the respondents indicated that they received the medical certificate the same day after successfully undergoing the medical examination that encouraged them to periodically undertake the medical examination as compared to previous study by Ackah et. al., (2011) in Accra, Ghana?

Table 9: Waiting time to get medical certificate after undergoing successful medical screening

Response	Frequency	Percent
One day	69	69
Monthly	7	7
3 months	10	10
6 months	12	12
Yearly	2	2
Total	100	100

Source: Field survey, 2019

From Table 10, in response to how expensive to undergo medical examination, 51% of the respondents indicated that it's costly, 34% of respondents' chose it's not costly, 14% indicated it's very costly and 1% chose others. It is evident that about half (51%) of the food vendors perceive undergoing medical examination is costly (Table 10). Feglo & Sakyi, (2012) stated undergoing medical examination involves money and many food vendors are not making any good profit to conduct the medical screening or test to know their health status. Ahmed et al., 2009 cite a report where there is widespread of low health and hygiene standards among street food vendors. The chief reason for it among majority of street food vendors include their poor knowledge on personal hygiene, insufficient training and perhaps lack of knowledge and / or poverty which also makes them unable to pay for undergoing medical examination. These definitely, directly or indirectly compromise the potential barriers to food contamination. And it is a clear indication why food vendors shunning away from medical test for themselves and their staff because the cost involve in undergoing medical examination is too high (Ahmed et. al., 2009).

Table 10: Expensiveness to undergo medical examination

Response	Frequency	Percent
Very costly	14	14
Costly	51	51
Not costly	34	34
Others please specify	1	1
Total	100	100

Source: Field survey, 2019

4.4 Perceived Socio-Economic Influence of Medical Examination

From Table 11, in response to the reason why food vendors do not undergo medical examination, 31% of the respondents indicated that they don't have money, 27% of respondents denoted that they are afraid to go to hospital, 24% of the respondents indicated that the process is time wasting and 6% chose all. It is deduced from Table 11 that more than one fourth (31%) of the respondents attributed the reason for not undergoing medical examination to financial constrain. It is noted that few of the respondents (27%) attributed it to the fact that they are afraid to go to hospital to undertake it. Comparably, Steyn et al (2011) stated that the sale of food on the street is a common aspect of lifestyle in many countries. He preceded that majority of food vendors refuse to undergo medical examination not because of ignorance but also lifestyle and habit of the food vendors.

Table 11: Reasons why food vendors do not undergo medical examination

Response	Frequency	Percent
They don't have money	31	31
They are afraid to go to hospital	27	27
They don't understand the concept	12	12
The process is time wasting	24	24
All of the above	6	6
Total	100	100

Source: Field survey, 2019

4.5 Perceived Health Effects of Medical Examination

As indicated on Table 12, 74% of the respondents denoted that to prevent transmission of disease is the reason for undergoing medical examination, 13% chose to ensure the vendor is well, 7% indicated that to prevent and protect the customer and 10% denoted that is to ensure the vendor is well and 6% indicated to prevent contamination of food is the reason. It is clear that majority (74%) of the vendor chose to prevent transmission of diseases as the reason for undergoing medical screening (Table 12). Study by Abdalla et. al., (2009) found that food sellers represent a parasitic risk due to bad hygienic practices and their level of infection and typology of parasite they shelter many allow bacteria to come into contact with food and cause food poisoning. The study revealed that every food seller can harbour infection and there is the need to undergo medical examination or screening since medical examination can detect a parasitic risk of infection of food sellers, there is the need to undergo medical examination to know the state of health and prevent transmission. It is worth mentioning that many cooked food sellers know the essence of medical

examination but refuse to conduct medical test before preparing food (Steyn et. al., 2011).

Table 12: Reasons for undergoing medical screening

Response	Frequency	Percent
To prevent transmission of diseases	74	74
To ensure the vendor is well	13	13
To prevent and protect the customer	7	7
To prevent contamination of food	6	6
Total	100	100

Source: Field survey, 2019

Table 13 below indicates that out of the 100 respondents, 80% indicated that it is through talking, coughing, sneezing and spitting that people can contract disease from cooked food sellers, 13% of the respondents denoted is through eating contaminated food sold by an infected food vendor, 6% chose through touching of the infected food seller and 1% chose through eating of food sold by infected person. It is obvious that most (79%) of the respondents think that is through talking, coughing, sneezing and spitting that people can contract disease from cooked food sellers. According to Adaya (2008), “food vendors should keep personal hygiene and workplace hygiene in order to prevent them transmitting certain communicable diseases to their customers. She came in conclusion that, food vendors are capable of transmitting communicable diseases to consumers and there is the need for personal hygiene and medical screening before preparing food for public consumption. Since bodily fluid have been found to harbor infectious agents, coughing, sneezing and spitting may serve as means of transmitting communicable disease into the food and ultimately the consumer.

Table 13: Means through which people can contract diseases from cooked food vendors

Response	Frequency	Percent
Through talking, coughing, sneezing and spitting	80	74
Through touching of the infected food seller	6	13
Through eating contaminated food sold by an infected food vendor	13	7
To prevent contamination of food	1	6
Total	100	100

Source: Field survey, 2019

4.6 Measures to Encourage Medical Examination Among Cooked Food Sellers

Table 14 below indicates that out of the 100 respondents, 59% denoted that to prevent the spread of food borne diseases is the reason why those who do not undergo medical examination be stopped from operating in your area, can contract disease from cooked food sellers, 33% of the respondents denoted is to identify the healthy food vendors and 8% indicated is to prevent disease outbreaks. It is obvious that more than half (59%) of the respondents chose to prevent the spread of food borne diseases as the reason why those who do not undergo medical examination be stopped from operating in your area.

Table 14: Reason why those who do not undergo medical examination be stopped from operating in your area

Response	Frequency	Percent
To identified the healthy food vendors	33	33
To prevent the spread of food borne diseases	59	59
To prevent diseases outbreaks	8	8
Total	100	100

Source: Field survey, 2019

Table 15 below indicates that out of the 100 respondents, 71% indicated that authenticity is the reason why that certificate from only one source should be given to those who undergo successful medical examination, and 29% of the respondents denoted that it for legal reason. It is apparent that majority (71%) of the respondents said for authenticity is the reason why that certificate from only one source should be given to those who undergo successful medical examination. Though it is legal for food vendors to obtain medical certificate after successfully undergoing medical examination, it will be much authentic for all of them to obtain the certificate from one source, a designated hospital which should be accessible and less costly.

Table 15: Reason why certificate from only one source should be given to those who undergo successful medical examination

Response	Frequency	Percent
For legal reason	29	29
For authenticity	71	71
Total	100	100

Source: Field survey, 2019

From the Table 16, out of 100 respondents, 57% respondents indicated that to prosecute offenders of the law is the reason why bye laws should be enforced on medical examination, 35% of respondents also indicated to arrest and take offenders to court and 8% of the respondents chose others. It is clear that more than half (57%) of the respondents knows that bye-laws are the legal document which empowers the health officer to prosecute offenders of the law. Ahmed et al., 2009 cite a report that “there should be enforcement and prosecution. This process exists in Ghana under the jurisdiction of local authorities (MMDA laws on food vendors concerning medical examination and those without medical certificates should be stopped from operating or to be taken to court). In food safety control program, law enforcement should be introduced when health education and training fail. There is also the need to educate food vendors on the essence of undertaking the medical examination and those who refuse to comply may be enforced by the laws in the community and the country as a whole.

Table 16: Reasons why bye-laws should be enforced on medical examination

Response	Frequency	Percent
To prosecute offenders of the law	57	57
To arrest and take offenders to court	35	35
Others please specify		
Total	100	100

Source: Field survey, 2019

From Table 17, 70% of the respondents indicated that health education should be intensified in the municipality to increase awareness on medical examination, 28% denoted health education should be used to sensitize food vendors on medical examination and 1% of the respondents chose others but did not specify. It is obvious that majority (70%) of the respondent indicated health education should be intensified in the municipality to increase awareness on medical examination. As indicated by Ahmed et al., 2009 there is the need to educate food vendors on the essence of undertaking the medical examination and those who refuse to comply may be enforced by the laws in the community and the country as a whole. Health education for food vendors is a love approach in reducing food-borne infections. Food sellers should be given training and education on food safety and practices in the country.

Table 17: Reasons why health education should be intensified by Awutu East Municipal Assembly Environmental Health Officers in your area

Response	Frequency	Percent
To increase awareness on medical examination	70	70
To sensitize food vendors on medical examination	28	28
Others please specify	2	2
Total	100	100

Source: Field survey, 2019

The respondents were asked for other suggestions or measures that will encourage food vendors to undergo medical examination and this is what a respondent had to say: *‘Those who do not undergo medical examination should be arrested and prosecuted as scapegoat’*.

Another respondent who indicated that she undergoes the periodic medical examination annually said this: *“Those who do not undergo medical examsshould not be arrested but be educated”*.

Furthermore, this is what a woman had to say: *“It helps me to know the real health status of my body as such should be encouraged”*

Another respondent indicated that: *“It prevent spread of disease to general public”*.

Generally, it could be noticed from the responses of the last two women that they responded with information concerning benefit of undergoing medical examination.

Thus, it is that they did not understand the question asked or they do not want to provide the right answer to the question?

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The research assessed the perception of food vendors on medical examination in Kasoa, Ghana. From the results, the following conclusions were made:

Firstly, there was adequate level of knowledge among the cooked food sellers on undergoing medical examination in Kasoa, Ghana.

Secondly, it was concluded that expensive laboratory charges are among other challenges encountered by cooked food sellers when undergoing medical examination in Kasoa.

Thirdly, it was concluded that lack of money is the main socioeconomic constrain that influence cooked food vendors when undergoing medical examination.

Finally, although health education has been the tool to promote undergoing medical examination by food vendor, it can be concluded from the research that it was not enough to achieve the target objectives.

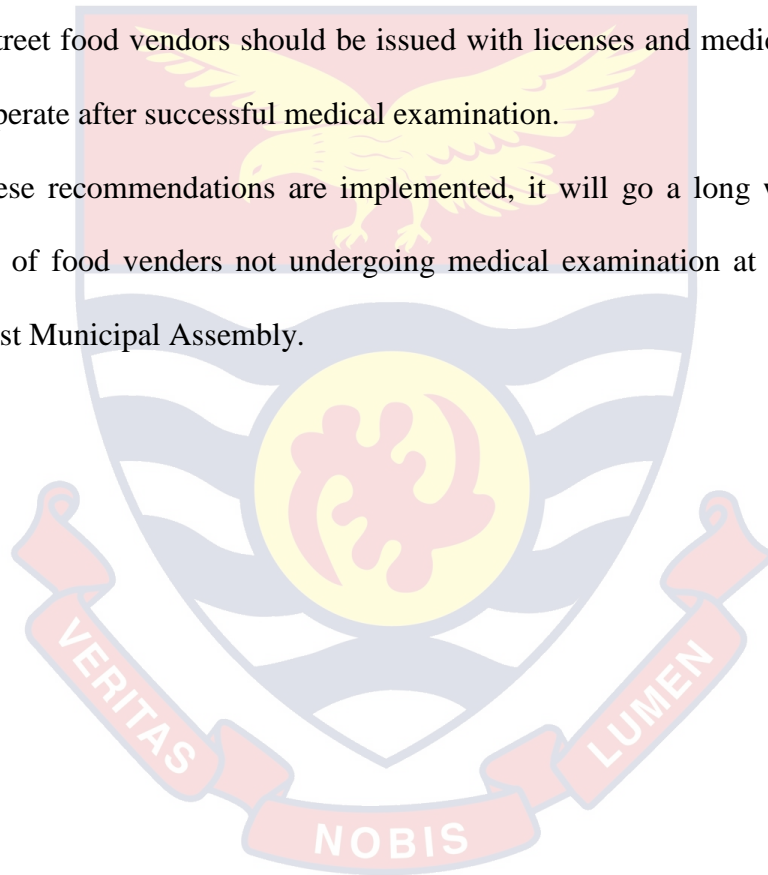
5.2 Recommendations

In the interpretation of the findings and the subsequent conclusions drawn therein, the following recommendations have been put forward for consideration.

1. The Municipal Assembly should put in place programmes or projects to increase awareness on medical examination among food vendors in the community.
2. The cost involved in undergoing medical examination should be reduced
3. There should be a specific regulations prepared and implemented by District, Municipal and Metropolitan Assembles to ensure sustainable improvement of street food vending.

4. Environmental Health Officers should intensify health education campaign on food safety to food sellers in the community.
5. There should be participation of No-Governmental Organizations and opinion leaders to strengthen, design developmental programmes and mobilization of medical resources for examining food vendors in the Municipal Assembly.
6. The Municipal Assembly should organize a training workshop for food inspectors and food vendors on medical examination and its effects on health.
7. Street food vendors should be issued with licenses and medical certificates to operate after successful medical examination.

When these recommendations are implemented, it will go a long way to solve the problems of food vendors not undergoing medical examination at Kasoa in Awutu Senya East Municipal Assembly.



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APPENDICES

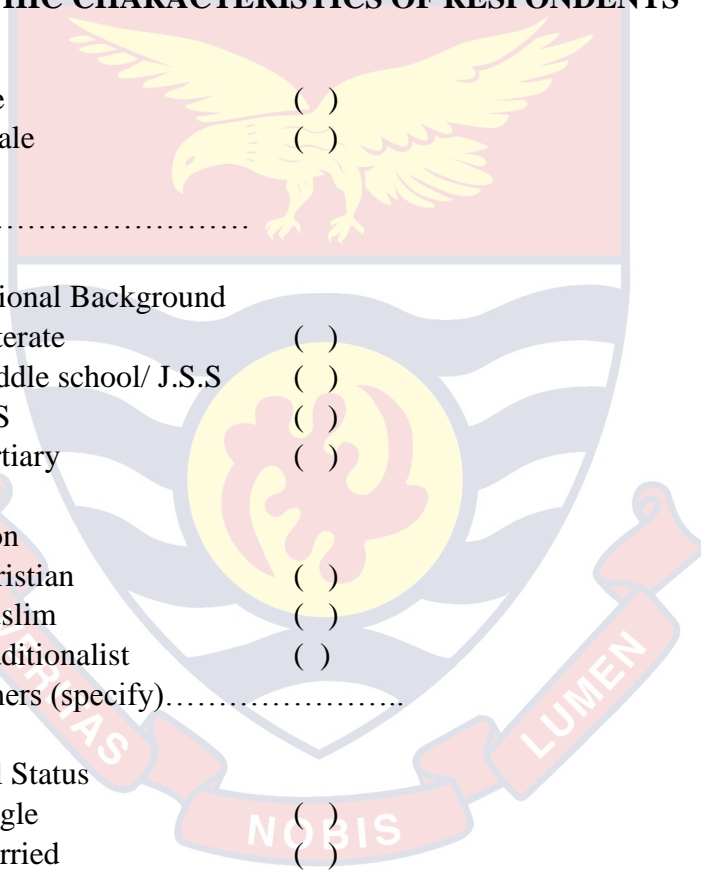
A: QUESTIONNAIRE

A STUDY INTO THE PERCEPTION OF FOOD VENDORS ON MEDICAL EXAMINATION WITHIN KASOA, CENTRAL REGION

NOTE: Respondents are assured that information given would be treated as confidential as possible, and only used for this study (Please fill, tick or complete where appropriate)

PART A

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

- 
1. Sex
 - a. Male
 - b. Female
 2. Age.....
 3. Educational Background
 - a. Illiterate
 - b. Middle school/ J.S.S
 - c. SSS
 - d. Tertiary
 4. Religion
 - a. Christian
 - b. Muslim
 - c. Traditionalist
 - d. Others (specify).....
 5. Marital Status
 - a. Single
 - b. Married
 - c. Widow
 - d. Divorced
 6. Occupation
 - a. Farming
 - b. Trading
 - c. Student
 - d. Others (specify).....

PART B

VIEWPOINT AMONG FOOD VENDORS ON MEDICAL EXAMINATION.

1. Do you have medical certificate for food vendors?
 - a. Yes ()
 - b. No ()

2. How did you get the license to sell food?
 - a. I applied ()
 - b. I was called ()
 - c. I searched for it ()
 - d. Others ()

3. How often do food vendors undergo medical screening in order to get medical certificate?
 - a. Monthly ()
 - b. Every 3 months ()
 - c. Every 6 months ()
 - d. Yearly ()
 - e. More than 2 years ()

4. Why do you think it is important to undergo health screening?
 - a. To prevent transmission of disease ()
 - b. To ensure the vendor is well ()
 - c. To prevent and protect the customer ()
 - d. To prevent contamination of food ()
 - e. Others, please specify.....

5. What are the processes involved in getting a license?
 - a. No idea ()
 - b. Assessment of food ()
 - c. Health Screening ()
 - d. Inspection by Environmental Health official's ()
 - e. Laboratory Technicians ()

6. Why do you think it is important for a vendor to be licensed
 - a. No idea ()
 - b. Health reasons ()
 - c. Legal matters ()
 - d. Preserve food hygiene ()
 - e. To ensure food safety ()

PART C.

PERCEIVED CHALLENGES FOOD SELLERS FACE WHEN UNDERGOING MEDICAL EXAMINATION

1. Is it difficult to undergo medical examination?
 - a. Yes ()
 - b. No ()
 - c. Sometimes ()

2. What are the challenges you face when undergoing medical examination
 - a. Inconvenience to access the lab ()
 - b. Expensive laboratory charges ()
 - c. High cost of issuance of medical certificate ()
 - d. Others..... ()

3. How long does it takes to get medical certificate for food vendors
 - a. Monthly ()
 - b. 3 months ()
 - c. 6 months ()
 - d. Yearly ()
 - e. More than 2 years ()

4. How is it expensive to undergo medical examination?
 - a. Very costly ()
 - b. Costly ()
 - c. Not costly ()
 - d. Others ()

PART D

PERCEIVED SOCIO-ECONOMIC INFLUENCE OF MEDICAL EXAMINATIONS

1. Why do you think that many cooked food sellers do not undergo medical examination in your area?
 - a. They don't prepare hygienic food ()
 - b. Their preparation food under unhygienic environment. ()
 - c. The serving and eating premises no kept clean ()
 - d. Others ()

2. What makes food vendors not to undergo medical examination?
 - a. They do not have money ()
 - b. They are afraid to go to hospital ()
 - c. They do not understand the concept ()

- d. The process is time wasting ()
 - e. All of the above ()
3. What do you think was the reason for food vendors not to do pre medical screening before operating?
- a. No knowledge about the screening ()
 - b. Lack of fund to do the initial lab ()
 - c. Others, please specify..... ()

PART E

PERCEIVED HEALTH EFFECTS OF MEDICAL EXAMINATION

1. Why do you think it is important to undergo health screening?
- a. To prevent consumers and food handlers from food borne diseases ()
 - b. To prevent food handler from spreading diseases ()
 - c. To protect the food handlers infection ()
2. What are the reasons for undergoing medical screening (tick where applicable)
- a. To prevent transmission of diseases ()
 - b. To ensure the vendor is well ()
 - c. To prevent and protect the customer ()
 - d. To prevent contamination of food ()
 - e. Others ()
3. Through what means do you think people can contract diseases from cooked food sellers
- a. Through talking, coughing, sneezing and spitting ()
 - b. Through touching of the infected food seller ()
 - c. Through eating of the food sold by infected person ()
 - d. Through eating contaminated food sold by an infected food vendor ()
4. What are the health effect of medical examination on food vendors
- a. It would expose infected cooked food sellers ()
 - b. It would tell who is fit to sell cooked food ()
 - c. Others (specify)..... ()

PART F

MEASURES TO ENCOURAGE MEDICAL EXAMINATION AMONG COOKED FOOD SELLERS

1. Why should those who do not undergo medical examination be stopped from operating in your area?
 - a. To identified the healthy food vendors ()
 - b. To prevent the spread of food borne diseases ()
 - c. To prevent diseases outbreaks ()

2. Why do you think that certificate from only one source should be given to one who undergoes successful medical examination?
 - a. For legal reason. ()
 - b. For authenticity. ()
 - c. Others..... ()

3. Why do you agree that bye-laws should be enforced on medical examination
 - a. To prosecute offenders of the law ()
 - b. To arrest and take offenders to court ()
 - c. Others..... ()

4. Health education on medical examination should be intensified by the Awutu East Municipal Assembly (E.H.O) in your area. What do you say?
 - a. To increase awareness on medical examination ()
 - b. To sensitize food vendors on medical examination ()
 - c. Others, please specify..... ()

5. What other suggestions do you have to encourage undergoing medical examination?.....

