**CHAPTER ONE**

**1.0 INTRODUCTION**

* 1. **BACKGROUND OF THE STUDY**

Food safety has been a growing concern in Nigeria today, most food service industry and food processing industry are very aware of the increasing cases pertaining to food poisoning and how it affects the industry and its image. The location of some restaurants and food processing industries contributes the transmission of food poisons.

According to Professor Alfred Ihenkuronye, more than 100,000 persons die every year in Nigeria as a result of food contamination during processing, preservation and service. Food contaminants are mostly substances from our environments. According to Nigerian health experts, inadequate water supply may affect food safety. Drinking water may also be polluted by human activities therefore, to protect human health is to ensure hygiene, sanitation and adequate drinking are in place. The joint monitoring Program (JMP) for water and Sanitation of the WHO/ UNICEF, noted that only 58 percent of Nigerians have access to portable drinking water. Human activities lead to generation of wastes which constitutes a breeding ground for disease vectors and other microorganism that can contaminate food resulting to food poisoning. Pathogens gain access to (contaminate) food through improper handling, during preparation and storage. Food poisoning comes from eating food that have been contaminated with microorganisms like bacteria and viruses; Poisonous metals like cadmium or lead and chemicals.

It should be noted that contaminated food does not always taste bad but mostly smells and tastes very normal. Some food items tend to get contaminated more frequent than others so they need to be properly cooked or refrigerated. Examples are dairy foods, sea foods, chicken etc. Universal food safety practices are to be applied to prevent all food poisoning handling practices.

Denloye S.A., 2002 in his study on food safety noted that, 99% of working class Nigerians in urban settings eat outside their homes (mostly from food vendors) and therefore are vulnerable to poisoning if foods are not handled in hygienic conditions. These foods may pose significant public health problems due to poor knowledge of basic food safety measures and inadequate infrastructures. In Abuja, the Federal capital Territory of Nigeria, only the big food companies can afford the exorbitant rent and requirement for setting up a food restaurant with the minimum quality standard. Therefore, food vendors operate in various ways like pushing their food-laden carts, from one location to another; operating under tree shades to which tends to attract more customers than others because they provide a sort of affordable, convenient and often varieties of nutritious food for their customers. This is also the case for most areas of the country most significantly seen is in the rural areas were food vendors set up stands in the open, under trees or in significantly unhygienic environments where there is a high possibility of food poisoning happening.

With this been the case it shouldn’t be assumed that food poisoning only happens in food stalls or local establishments, major hotels around the country have also been victims of this problem with a lot of customer base suffering from this and it has led to a crumbling of the lot of hotel in the country. A major problem of food safety in Nigeria is lack of proper waste disposal and toilet facilities for the customers. Most of the hotels that offer on ground food service options are marked by unsanitary conditions, like poor drainage systems, overcrowding and poor waste disposal which leads to poor hygiene (personal and environmental) (Osagbemi G., 2010).

Aderibigbe S., 2010 also insinuated that of a great concern also is the food ingredients and the source foods. Raw materials and ingredients are usually purchased from the open markets, where the items are displayed openly on tables, ground during rain or shine, in muddy places and around filthy gutters. Buyers are mostly in the habit of touching the food stuffs for with unwashed fingers either to feel the texture or to ascertain the fineness of the powder in case of grounded stuff. Flies are most often found around the meat and fish areas perching all over the items with absolutely no source of protection. This also present high potential for contamination.

With the growth of the hotel industry and also most hotel now going into food service as an option for their increasing and diverse customer base, the need for enlightening and creation of an awareness for this hotels on food poisoning; its causes, preventive measures, problems that arise, solutions. It is for this reason that this research work is carrying out the research on the comparative analysis of causes of food poisoning in hotels, with reference to at least three hotels.

* 1. **STATEMENT OF PROBLEM**

With the increasing number of cases relating to food poisoning in major hotels globally that has led to major hotels been shut down. This has a result of poor kitchen environment and also kitchen maintenance. Negligence on the part of kitchen staffs and hotel managers have led to a lot of food related health issues for customers. Despite the fact that many studies have been done on employee’s knowledge and practice of food safety management, they have only been concentrated at assessing the knowledge level and its association with practice among foodservice employees within the hotel industry. This could lead to an assumption that food handlers in such facilities practice food safety and so there is no need for any empirical research. It was in this regard that this study attempted to assess the determinants of food safety management among food handlers in conventional hotels. Also most hotel owners don’t invest in creating a standard kitchen environment that has a proper drainage system, proper ventilation, and regular clean up and disinfection of the kitchen environment. This are just a few of the problems that lead to food poisoning in the hotel industry and also the staffs and workers in this hotels aren’t properly trained on the proper kitchen and food hygienic practice inside the kitchen (Adeleke S.I, 2009).

This present research intends to fill such a gap in the body of existing knowledge by analyzing the causes of food poisoning in hotels (A case study of Bano, Valid and Sterline Hotel, Mubi, Adamawa State).

**1.3 AIMS AND OBJECTIVE OF THE STUDY**

The major aim of the study is the “Comparative analysis of the causes of food poisoning in hotels (A case study of Bano, Valid, and Sterline Hotel, Mubi, Adamawa State)”. The aim would be achieved through the following objectives:

1. To analyze the various causes of food poisoning in hotels in Nigeria.
2. To analyze the impact on food poisoning on the hotel establishment.
3. To examine the problems faced by hotels in tackling the issues of food poisoning.

**1.4 RESEARCH QUESTIONS**

The following research questions were generated to achieve the above mentioned aims and objectives:

1. What are the various causes of food poisoning in Bano, Valid and Sterling Hotel?
2. How has food poisoning affected the hotel establishment?
3. What are the problems faced by hotels in tackling the issues of food poisoning?

**1.5 SIGNIFICANCE OF THE STUDY**

This research work will be of great significance and benefit to future/other researchers who would like to carry on further research on the topic. And again this research work will be a trusted source of information hotels on how to prevent food poisoning within the establishment and also educate them on kitchen ethical behavior that promote a safe and healthy working environment.

**1.6 SCOPE AND LIMITATION OF THE STUDY**

This research work is limited to the “Comparative analysis of the causes of food poisoning in hotels (A case study of Bano, Valid and Sterline Hotel, Mubi, Adamawa State)”.

In the process of carrying out this research as is expected while carrying out any form of research work the researcher was faced with a few limitations such as finance, time and availability of materials for the research work.

**1.7 DEFINATION OF TERMS**

The following terms were defined and explained to assist in the further understanding of the research work:

* **Comparative analysis:** Comparative analysis is the process of comparing items to one another and distinguishing their similarities and differences.
* **Food poisoning:** Food poisoning, also called foodborne illness, is illness caused by eating contaminated food. Infectious organisms — including bacteria, viruses and parasites — or their toxins are the most common causes of food poisoning.
* **Hotel industry:** The hospitality industry is a broad category of fields within the service industry that includes lodging, food and drink service, event planning, theme parks, travel and tourism. It includes hotels, tourism agencies, restaurants and bars.
* **Diseases:** A disease is a particular abnormal condition that negatively affects the structure or function of all or part of an organism, and that is not immediately due to any external injury.
* **Food Contamination:** Food contamination refers to the presence of harmful chemicals and microorganisms in food, which can cause consumer illness. This article addresses the chemical contamination of foods, as opposed to microbiological contamination, which can be found under foodborne illness**.**
* **Food safety measures:** This are basic procedures that are meant to be followed so as to ensure the proper handling and preparation of meals within the hotels.

**CHAPTER TWO**

**LITERATURE REVIEW**

**2.0 INTRODUCTION**

Food poisoning means illness resulting from ingestion of food with microbial or non-microbial contamination. The World Health Organization estimates that there are more than 1000 million cases of acute diarrhea annually all related to food poisoning in developing countries, with 3-4 million deaths. According to the Food Standards Agency (FSA) there are nearly 900000 cases of food poisoning each year. Our lifestyles have changed over the last few years which include an increasing reliance on ready prepared meals, eating out rather than cooking and taking more holidays abroad (WHO/UNICEF, 2017).

We all lead busy lives and as a result of that tend to spend less time preparing and cooking food. People often cook several meals in advance and freeze them for a long period of time or buy convenience food which only has to be put in a microwave oven. This is the reason for increasing food poisoning cases in present scenario. Knowing where your food is sourced from and the standards of care and safety that have been applied may help to reduce the incidences of food poisoning.

Food poisoning (also known as foodborne illness or foodborne disease) is any illness that results from eating contaminated food. Food contamination may be defined as the presence of harmful substance (microorganism or chemical) that can cause illness in food. Food poisoning is an issue of public concern. Over the years, there have been several cases of food borne disease outbreaks and these in turn has kept the public and researchers alert that harmful microbes may be present in food that may cause diseases (Parashnath M., 2016).

Food poisoning is caused due to consumption of contaminated food. It is caused due to presence of infectious organisms-such as bacteria (E.coli, Listeria, and Salmonella), parasites (Toxoplasma, Giardia intestinalis), toxins and viruses (Norwalk virus) in food. This contamination of food may occur during production, transportation, storage of food. Contaminated water and meat/fish are main causes for illness, as long storage of meat products especially when unrefrigerated leads to its contamination (Mahajan & Gupta, 2013).

Hotel kitchens are kitchens are in most cases infested with rodents, as this rodents are attracted to any location where they is loose food items and hotel kitchen provide them with the surplus food they require to survive. So hotel kitchen staffs are required to clean out any remaining food or left overs that re in the kitchen at the end of the day to ensure that rodents don’t enter the kitchen area which will lead to contamination of the kitchen and other food items that will be used to prepare meals for customers and eventually lead to food poisoning among the guests.

This chapter looks to review literatures related to food safety, food safety management, food poisoning, effects of food poisoning, food safety practices, factor’s affecting food safety management, problems to food safety management. The chapter also presents theoretical framework, and conceptual framework for the study.

**2.1 FOOD SAFETY**

Food is an essential part of life, but if it is contaminated it can cause illness even death, and food can be contaminated with toxic substances from outside or even it is already in the food itself hence the needed study of the causes of food poisoning. There are possibilities of contamination with microbiological, chemical and/or physical hazards with or without the growth of microorganisms in each step of food preparations.

Griffith (2006) noted that according to Roberts (2002) there could be some confusion due to a range of terms known in the literature as food poisoning, food borne illness and food borne disease. Some of the food are naturally poisonous, but some other may go through a prolonged and increasingly process from farm or producer to the point of consumption. According to Schmidt (1995), the World Health Organization (WHO) defined the food and water borne illness as regardless of the presenting symptoms and includes any disease of an infectious or toxic nature caused by or thought to be cause by the consumption of food or water. Therefore food and water borne disease is caused by various microbiological, chemical and physical hazard includes illness which may be present in food or water. Food safety synonymous with food hygiene embracing anything in the processing, preparation or handling of food to ensure it is safe to eat (Griffith, 2006). While Yeung and Morris (2001) noted that a hazard is an activity or process which can result in negative consequences and thereby provide a source of risk to receiving environment or population. Furthermore they suggested that the identification of food hazard can be used as the beginning of analyzing the risk relating to the food safety.

Food safety is a scientific discipline describing handling, preparation, and storage of food in ways that prevent food-borne illness. This includes a number of routines that should be followed to avoid potentially severe health hazards. WHO (2006) defines food safety as actions aimed at ensuring that all food is as safe as possible and outlines the five key principles of food hygiene (five keys to safer food) which should be observed by all food handlers. These five keys to safer food include: keep clean, separate raw and cooked; cook thoroughly, keep food at safe temperature; use safe water and raw materials. Food handlers should ensure personal hygiene which include issues such as washing hands before handling food and often during food preparation, washing hands after going to the toilet, washing and sanitizing all surfaces and equipment used for food preparation, protecting kitchen areas and food from insects, pests and other animals.

When handling food it is important to separate raw meat and seafood from other foods using separate equipment and utensils such as knives and cutting boards for handling raw foods and storing food in containers to avoid contact between raw and prepared foods (WHO, 2006).

The foods should be cooked thoroughly especially meat, poultry, eggs and seafood to a temperature of 700C to ensure they are safe for consumption. This temperature kills even highly concentrated microorganisms in 30 seconds. A thermometer should be used to check the internal temperature of cooked foods which should be placed in the center of the thickest part of food. In the absence of a thermometer, cook the meat until the juices are clear and inside no longer pink. Cooked foods should also be reheated thoroughly (WHO, 2006).

Cooked food should never be held at room temperature for more than 2 hours but should be promptly and appropriately cooled and refrigerated. Also all cooked and perishable foods should be stored below 50C, hot foods should be kept piping hot (>600C) prior to serving, and generally keep foods out of the danger zone (between 5 0C and 600C), not storing food longer than 3 days in the refrigerator, and not thawing frozen food at room temperatures (WHO, 2006). Determination of how food safety is managed in hotels is important in ensuring that foods prepared in the hotels do not pose any danger to the customers.

**2.1.1 FOOD SAFETY PROCEDURES FOR HOTELS**

According to Marriott, N. G., (2006) basic food safety behaviors and practices that are to be carried out in the hotels are as follows:

1. **Keep clean:** Kitchen staffs in hotels should be advised to wash up before they handle food items and also all surfaces in the kitchen on which food items are placed on should be cleaned every day before the kitchen activities commences.
2. **Separate raw food and ready-to-eat food:** All raw food items should be separated from already cooked food in the kitchen as the bacteria’s in raw food items especially meat and fish can be transferred to the already cooked food and that can lead to food poisoning to the guest and clientele of the hotels. And all cutting areas in the kitchen should be cleaned and separated for both cooked and raw food.
3. **Cook food thoroughly:** Foods served to customers should be cooked thoroughly especially meat, poultry eggs, and seafood. And proper reheating of food should be carried out at 75◦C or above before consumptions and all leftovers should be discarded if any.
4. **Keep food at safe temperatures:** Do not leave cooked food at room temperature for more than two hours. Cold dishes and perishable foods such as meat, milk and egg products in refrigerator at below 4°F. Hot food in heating containers (above 60°C) prior to serving.
5. **Use safe water and raw materials:** Buy raw materials from reputable shops or licensed premises. Select fresh and wholesome food item for preparation in the kitchen. Potable water to clean raw materials. Fruits and vegetable should be washed thoroughly, especially if there are to be eaten raw.

**2.2 FOOD POISONING**

According to Mahami, T. and Odonkor, S. T. (2012), Food poisoning is defined as an illness caused by the consumption of food or water contaminated with bacteria and/or their toxins, or with parasites, viruses, or chemicals. The most common pathogens are *Norovirus, Escherichia coli, Salmonella, Clostridium perfringens, Campylobacter,* and *Staphylococcus aureus.*

Food poisoning is the term used to describe a wide variety of food borne illnesses. These are illnesses caused by eating food contaminated by toxic chemicals and toxins produced by microorganisms. Food poisoning can also be seen as health problems arising from eating contaminated foods. The foods can be contaminated by bacteria, viruses, environmental toxins or toxins present within the food itself. According to Clayton, D. A., (2002) food poisoning can also be seen as a common, usually mild but sometimes deadly illness which occurs after consuming a contaminated food or drink.

***Salmonella***

*Salmonella enterica* is a bacterium that causes salmonellosis – a particularly nasty type of gastroenteritis. Young children, older adults and people with a weakened immune system are most susceptible to salmonella bacteria.

Food can become contaminated with salmonella in many different ways, some of which are:

1. From coming into contact with an infected food handler
2. From faecal matter, both human and animal, transferred from unwashed hands, utensils or surfaces
3. From handling food after touching small rodents, reptiles and some birds
4. Beef, dairy, eggs and poultry are foods most likely to be contaminated with salmonella; however other foods, like fruits or vegetable, can also carry the bacteria.

***Listeria***

*Listeria monocytogenes* is bacteria that can cause acute food poisoning. Pregnant women, people with a lowered immune system, young children and older adults are the groups most at risk of infection.

Some examples of foods with a high risk of contamination are:

1. Raw and cooked seafood
2. Precooked deli meats
3. Premixed raw vegetables
4. Unpasteurized milk
5. Soft cheeses and soft-serve ice cream

The Health Department estimates that food poisoning affects around 5.4 million Australians each year – that’s close to one-quarter of the entire population. There are many different types of contaminations that can cause cases of food poisoning and it is usually difficult to detect the source. Often food smells and tastes fine but can actually contain bacteria, chemicals or viruses. These are just a few causes of food poisoning and they could make you very sick if you consume food contaminated with them.

***Staphylococcus***

Staphylococcus aureus, also known as S. aureus or golden staph, is a common bacterium that lives on the skin, in the mouth and in the nose. Golden staph infections often begin with a minor cut that then becomes infected and can vary from a small sore to a flesh-eating infection.

***Trichinosis***

*Trichinosis* is a roundworm infection that lives and reproduces inside a host body. The worms are usually found in meat-eating animals and can spread to humans through the consumption of trichinosis eggs found on raw or undercooked meats. If the trichinosis eggs are ingested, they can live in the intestines and hatch into adult worms. The adult worms then produce more eggs that can travel to various different types of tissue in the body.

***E. coli***

*E. coli, or Escherichia coli*, is a bacteria that lives in the digestive systems of humans and animals. Although of the many different types of E. coli, not all are harmful to humans, some can cause severe illness and even lead to death.

Humans can develop an E. coli infection when they come into contact with animal or human faeces. This usually occurs when contaminated water or food is consumed. E. coli can contaminate food throughout all stages of the food processing supply-chain and is often caused by poor food safety.

Particular high-risk foods are meat, poultry, dairy, fruits and vegetables. In some cases, entire towns have become ill after their water supply became infected with E. coli.

***Campylobacter***

Campylobacter bacteria can cause a food poisoning called campylobacteriosis. It is a very common cause of diarrhea and most often affects infants, young adults and men. Handling and then consuming bacteria, often found on raw or undercooked poultry, is the main cause of campylobacteriosis. The campylobacter bacterium is found inside live poultry is easily transferred during the initial processing stage. Studies indicate that a very high percentage of supermarket chicken is contaminated with traces of the bacteria.

Milk and water contaminated with campylobacter bacteria can also cause infection and unwashed hands can cause the infection to spread between humans and animals

***Clostridium***

Clostridium, often-called C. diff, is a bacterium that lives in the digestive tract. In small quantities it is often harmless however, if the bacteria overgrow, they can cause the release of a toxin that attacks the host’s intestines. This condition is called Clostridium difficilecolitis or C. difficile.

Other major causes of food poisoning in the hotel kitchen service industry are listed as:

1. Food improperly prepared.
2. Food improperly stored.
3. Food used after its use-by date.
4. Cross contamination.
5. Food handled by someone who is sick or with poor hand hygiene
   1. **PROBLEMS OF FOOD POISONING IN THE HOTEL INDUSTRY**
6. **Lack of proper disposal facilities in the kitchen:** Most hotel kitchen areas all lack proper waste and refuge disposal facilities and as such are forced to disposal their kitchen waste in the open and as such are breeding grounds for diseases and bacteria’s which can be transferred to the kitchen and unto the foods been served to the hotel guest and which will lead to food poisoning.
7. **Unqualified staffs:** Unqualified staffs who don’t have the knowledge of proper kitchen hygiene and ethics are all been employed by hotels as kitchen staffs as they are a lot more cheaper to pay than qualified staffs that have the knowledge and kitchen technical know how to run the kitchen properly and avoid contamination of the food items been used to prepare the meals for their guests and clientele.
8. **And Changes in our food production and supply, including more imported foods:** Changes in the source of raw food items and also the importation of food items from countries were the source or method of production is unknown, is another issue that leads to food poisoning in the hotels as using food items from unknown and untrusting sources is ill advised against.
9. **Changes in the environment leading to food contamination:** Changes in the kitchen environment like movement and transfer to an area that hasn’t been properly sterilized can also lead to food poisoning in the hotel kitchen.
10. **Better detection of multistate outbreaks:** The kitchen management of hotels lack proper management system of diseases out breaks and other food related issues that might affect their own kitchen and lead to cases of food poisoning.
11. **New and emerging bacteria, toxins, and antibiotic resistance:** There is poor update on new and upcoming cases of bacteria that might affect the service of the hotel industry and as such this leaves most hotels open to food poisoning related illness.

**2.4 SOLUTIONS TO THE PROBLEMS ABOVE**

1. Proper disposal system and facility for kitchen waste should be provided by the hotel managements and usually this facility should be far away from the kitchen so as to avoid transfer of bacteria’s from the dumps back into the kitchen area and unto the food items that are meant to be consumed by the customers and clientele of the hotels.
2. Qualified kitchen staffs should be employed in the hotel kitchen as there are most likely to follow the kitchen ethical rules that would ensure that cases of food poisoning are completely eradicated from the kitchen.
3. The hotels should adopt the practices of getting their food items from one particular and trusted source as the changing of food items suppliers by the hotel kitchen staffs can also lead to an increase in the cases of food poisoning in the hotel kitchen.
4. The kitchen staffs should have a better detection system for new bacteria outbreaks in other state as this will help caution the on which states suppliers to patronize and this will go a long way in eradicating the cases of food poisoning in the hotel

**2.5 PREVALENCE OF FOOD-BORNE DISEASES**

According to Centers for Disease Control and Prevention (CDC), in the United States of America, an estimated 76 million people contracted a food-borne disease each year. CDC further recorded that globally, 1,500 million episodes of diarrhoea occurred annually in children under the age of 5. Out of this number, over 3 million died every year. Even though about 70% of diarrheal disease episodes may have been food-borne and transmitted through food contamination, diarrheal diseases were also a major underlying factor in malnutrition in Africa (Mukhola, 2000).

The Nigerian Food, Drugs and Chemical Substances Act, 1992 (Cap 254) and the Nigerian Public Health Act, 1986 (Cap 242), recognized the severity of food poisoning though the magnitude was not known, due to underreporting and lack of proper documentation caused by little investigation (Omotayo, R.K., 2002). According to a report in the January 2003 issue of the East Africa Medical Journal, Nigeria reported 37 outbreaks of diseases that included dysentery, typhoid, cholera and salmonellosis, with symptoms of vomiting, diarrhea, headache, and abdominal cramps.

**CHAPTER THREE**

**3.0 INTRODUCTION**

**3.1 METHODOLOGY**

This chapter highlights the steps and procedures employed in carrying out this research work. In other words, this chapter deals with the research design, population of the study, sample size, sources of data collection, instrument of data collection, validity and reliability of instrument and instrument of data analysis.

**3.2** **RESEARCH DESIGN**

Research design can be defined as a choice among many alternative ways of collecting information that will satisfy the research objective.

The research design adopted for this research work was the survey research, which involved sampling of opinions of different people using different techniques in order to get information on what is being studied.  
 Obasi (2013), states that survey research employs a variety of data gathering instruments or techniques such as the questionnaire, the interview observation, test and so on.

**3.3 POPULATION OF THE STUDY**

This is the target of the study. It specifies the aggregate of items or person from whom data pertinent to the study is collected. It is the actual or definite population to be studied and must be obtained from a relevant source, office or record book. Population of the study must be stated in figure (Obasi, 2013).

The population of this study consist of fifty (50) respondents which comprises of both the customer and the staffs of Bano, Valid and Sterline Hotel Mubi, Adamawa State.

**3.4** **SAMPLING TECHNIQUE**

A simple random sampling techniques was used for the purpose of this research to sample respondents.

**3.5 SAMPLE SIZE**

Due to time and resource constraints, a sample size of twenty five (25) persons out of the population will be selected and interviewed as representative of the whole people.

**3.6 METHOD OF DATA COLLECTION**

Research problems can be solved only on the basis of data collection. The data for this study were collected mainly through the interview administered randomly to the collected population in it. Representatives were briefed so that they could understand what the questions meant and thereby fill the accurate answers. The responses were adequately and carefully decoded to enable the researcher arrive at the accurate and reliable answers that will help in analyzing the data.

**3.7 METHOD OF DATA ANALYSIS**

The data collected for this study was analyzed using the T-test statistics of “Mean”. This statistical tool is appropriate because of the descriptive nature of the research. Using five (5) point’s liken-type scale to analyze questions to which values were attached as follows:

|  |  |  |
| --- | --- | --- |
| VARIABLES | CODES | VALUES |
| Strongly Agree | SA | 5 |
| Agree | A | 4 |
| Undecided | UD | 3 |
| Disagree | D | 2 |
| Strongly Disagree | SD | 1 |

The mean will be calculated using the formula below: - X=

Where X – Mean

E- Summation

X- Nominal/assigned values

F- Frequency of observation

N- Number of respondents

**CHAPTER FOUR**

**DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS**

**4.1 INTRODUCTION**

This chapter highlights the analysis, presentation and interpretation of data as well as discussion of the findings. It states what transpired on the field, how many copies of questionnaire were administered, how many were correctly and wrongly filled. It also reflects how many returned and the number found useable. The sampled population (respondents) was fifty (50) and the same number of questionnaire were administered on the respondents among the sample selected in Mubi Metropolis.

At the end of the field survey, all the copies of the questionnaire administered were returned. This shows 100% rate of return. The cooperation of the respondents was highly commendable and instrumental to the success recorded. The analysis in this report was therefore based on 50 successfully retrieved questionnaires. Finally, answers are provided for the research questions through the analysis of the research questionnaire. The mode of analysis is the simple percentages method.

**4.2 PRESENTATION OF DATA IN QUESTIONNAIRE**

**SECTION A**

**DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS**

**TABLE 1: Gender status of respondents**

|  |  |  |
| --- | --- | --- |
| **Gender** | **Frequency** | **Percentage** |
| Male | 35 | 70% |
| Female | 15 | 30% |
| **Total** | 50 | 100% |

**Source: field survey, 2022**

The table above reflects that 35 (70%) of the 37 respondents are male, while 15 representing 30% of the respondents are female. From the response, majority of the respondents are male which is 35 (70%)

**TABLE 2: Age**

|  |  |  |
| --- | --- | --- |
| **Age limit** | **Frequency** | **Percentage** |
| 18 – 25 | 8 | 16% |
| 26 – 35 | 25 | 50% |
| 36 – 45 | 17 | 34% |
| 46 – 50 | - | - |
| 51 and above | - | - |
| **Total** | 50 | 100% |

The table above reflects that 8 (16%) of the 50 respondents fall between the age category of 18-25 years, while 25 (50%) of the respondents fall under the age category of 26 – 35 while 17 (34%) fall within the 36-45 From the response, majority of the respondents are of 26-35 years which is 25 (50%).

**TABLE 3: marital status**

|  |  |  |
| --- | --- | --- |
| **Marital status** | **Frequency** | **Percentage** |
| Single | 20 | 40% |
| Married | 30 | 60% |
| Divorced | - | - |
| Separated | - | - |
| **Total** | 50 | 100% |

**Source: field survey, 2022**

The table above reflects that 20 (40%) of the 50 respondents are single while 30 representing 30 (60%) of the respondents are married.

**TABLE 4: educational qualification**

|  |  |  |
| --- | --- | --- |
| **Qualification** | **Frequency** | **Percentage** |
| PhD, Msc / PGDE | 5 | 10% |
| Bsc / HND / NCE ND | 44 | 88% |
| O’Level | 1 | 2% |
| **Total** | 50 | 100% |

**Source: field survey, 2022**

The above table shows that 5 respondents representing 10% of respondents are PhD / Msc / PGDE holders while 44 (88%) of the respondents are Bsc / HND / NCE / ND holders, while 1 of the respondents is a o’level holder and that represents 2% of the respondents. From the result gathered, the majority of the respondents are Bsc / HND / NCE / ND holders which is 44 (88%).

**SECTION B:** **CORE QUESTIONS ON JOURNALISTIC PRACTICE**

**Research question one (1):** What are the various causes of food poisoning in Bano, Valid and Sterling Hotel?

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S/N | STATEMENT | SA  5 | A  4 | UD  3 | D  2 | SD  1 | |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  | | --- | | ΣFX | | N | X | Remark | | N | X | Remark |
| 1 | Dirty cooking environment | 22 | 13 | 1 | 1 | - | 167 | 49 | 4.4 | Agreed |
| 2 | Lack of adherence to health rules for hotels and catering establishments | 25 | 12 | - | - | - | 173 | 49 | 4.6 | Agreed |
| 3 | Random purchases of food items | 24 | 10 | 1 | 1 | 1 | 166 | 49 | 4.4 | Agreed |
| 4 | Poor personal hygiene of the kitchen staffs | 19 | 14 | 2 | 1 | 1 | 160 | 49 | 4.3 | Agreed |
| 5 | Poor sanitization practices in the hotel | 28 | 8 | 1 | - | - | 175 | 49 | 4.6 | Agreed |

Source: Field survey, 2022

Average Mean (x) = = 4.5

From the above table (table 1), it shows a total mean of 4.5, which is a agreeable mean and agrees with the fact that they are indeed various causes of food poisoning in the hotel industries and this causes were highlighted for analysis by the respondents. The first statement which says that dirty cooking environment is a major cause of food poisoning and this has a strong Mean of 4.6. The second statement insinuates that lack of adherence to health rules for hotels and catering establishments and this is supported with a strong mean of 4.5. The last statement also has a strong mean of 4.6 which agrees with the statement that poor sanitization practices in the hotel can inevitably lead to food poisoning.

**Research question two (2):** How has food poisoning affected the hotel establishment?

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S/N | STATEMENT | SA  5 | A  4 | UD  3 | D  2 | SD  1 | Σfx | N | X | remark |
| 1 | It has led to a lot of hotels getting shut down by the authorities | 28 | 8 | 1 | - | - | 175 | 37 | 4.7 | Agreed |
| 2 | Loss of customers and patronage | 25 | 6 | 3 | 2 | 1 | 163 | 37 | 4.4 | Agreed |
| 3 | Lack of trust from the hotel customers | 20 | 17 | - | - | - | 168 | 37 | 4.5 | Agreed |
| 4 | It has led to a reduction in statues of the hotel in the industries | 26 | 10 | 1 | - | - | 173 | 37 | 4.7 | Agreed |
| 5 | Reduction in the revenue been generated in the industry. | 27 | 8 | 2 | - | - | 173 | 37 | 4.7 | Agreed |

Source: Field survey, 2022

Average Mean (x) = = 4.6.

From the above table it can be seen that they are various ways in which food poisoning has affected the hotel industries and this has an average mean of 4.6. While the first statement has an average mean of 4.7 which says that it has led to a lot of hotels getting shut down by the authorities.

**Research question three (3):** What are the problems faced by hotels in tackling the issues of food poisoning?

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S/N | STATEMENT | SA  5 | A  4 | UD  3 | D  2 | SD  1 | Σfx | N | X | remark |
| 1 | Lack of funds for the hotels to provide the proper sanitary equipment. | 24 | 12 | 1 | - | - | 171 | 37 | 4.6 | Agreed |
| 2 | Lack of proper education on the proper sanitary measures to be carried out in the hotels | 19 | 15 | 2 | 1 | - | 163 | 37 | 4.4 | Agreed |
| 3 | Lack of adherence to the necessary sanitary laws in the industries | 20 | 15 | 1 | 1 | - | 165 | 37 | 4.3 | Agreed |
| 4 | Poor management of the hotel | 15 | 19 | 1 | 1 | 1 | 157 | 37 | 4.2 | Agreed |
| 5 | Inadequate manpower and cleaning staffs in the hotel | 17 | 17 | 1 | 1 | 1 | 159 | 37 | 4.2 | agreed |

Source: Field survey, 2022

Average Mean (x) = = 4.4

The above looked table looked to pin point the main problems faced in the creation of proper strategic plan in the organization. The first statement supported by an average mean of 4.6 shows that lack of funds for the hotels to provide the proper sanitary equipment. and this has an average mean of 4.4 which is in agreement with the statement.

**4.3 SUMMARY OF FINDINGS**

In this chapter the researcher presents an analyzed and interpreted data collected from the respondents. Thirty-seven (37) questionnaires were recovered making it a 100% recovery rate of all questionnaires that were distributed to the respondents. There are four research questions in all, and all the research questions were analyzed using tables and each table has been interpreted under it. Some major findings revealed that dirty cooking environment is another major source of food poisoning in the organization, Lack of adherence to health rules for hotels and catering establishments, Poor sanitization practices in the hotel. It has led to a lot of hotels getting shut down by the authorities, Loss of customers and patronage, Reduction in the revenue been generated in the industry.

Problems that arise as a result are as follows; Lack of funds for the hotels to provide the proper sanitary equipment, lack of proper education on the proper sanitary measures to be carried out in the hotels, lack of adherence to the necessary sanitary laws in the industries, lack of adherence to the necessary sanitary laws in the industries, inadequate manpower and cleaning staffs in the hotel.

**CHAPTER FIVE**

**SUMMARY, CONCLUSION AND RECOMMENDATION**

**5.1 SUMMARY**

This research work was centered on the “Comparative analysis of the causes of food poisoning in hotels (A case study of Bano Hotel, Mubi, Adamawa State)”.

The aim and objective of the research were to analyze the various causes of food poisoning in hotels in Nigeria, to analyze the impact on food poisoning on the hotel establishment, to examine the problems faced by hotels in tackling the issues of food poisoning.

In the course of this research work the researcher looked at the causes of food poisoning and the type of micro bacteria’s that lead to food poisoning in hotels and these were analyzed and their effects on the human body were stated. The problems were also stated and the possible solutions were highlighted.

Both primary and secondary source of data were used in order to gather adequate data for the research. The sample population for the study was made up of all fifty (50) staffs of Bano hotel. Because of the small size of the population, the methodology adopted was survey method. The method was thought appropriate because the opinion of the respondents were needed to solve the problems at hand.

Simple analyses was used to analyze the data because of the descriptive nature of the study. Tables were used to present the data in order to enhance the prospective understanding of the readers.

Findings of the research were also presented together with well thought out recommendations.

**5.2 CONCLUSION**

Based on the above findings from the research work, the researcher concluded that food safety includes food hygiene, hazard related to food and its risks become important issues if we are preparing and handling safe foods. The excessive amount of permitted chemicals and the non-food grade chemicals are still found in foods especially in developing countries.

Knowledge and attitudes related to food safety are critical among the hospitality industry managers who will supervise their food handlers in preparing foods in their food outlets. The food legislation and education with emphasis on the later can give a food safety assurance. However it should involve the behavioural change and enable people to set and implement their own food safety agenda. Therefore integrated education, training, behavioural change, food legislation and the consciousness of food handlers, government officers in charge with food safety, educators in hospitality studies and consumers are necessary together to minimize the unintended consequences from the technological development and its hazard and risks related to food.

**5.3 RECOMMENDATION**

Based on the findings of this research study, focusing on the role of the accounting system to non-profit oriented organizations, these recommendations are made:

1. Food poisoning has been a serious issue as revealed by the study, that the stage of food chain that people perceived most unsafe is the processing stage. As a result of this there should be adequate sensitization both at individual family level and those involved in providing food for the public on the need for safe handling of food especially in preparation, packaging and storage.
2. Food handling which include receiving, cook, cooling and re-heating, packaging and storage should be taking serious to avoid food contamination.
3. Personal hygiene: appropriate degree of hygiene must maintain in order to avoid food contamination.
4. Appropriate facilities which include: hygienic washing and drying of utensils and equipment, water; lavatories of appropriate hygienic design; adequate facilities for the storage of food, ingredients should be provided
5. Hand washing before and after cooking should be encourage through intensive sensitization.
6. Regular training programmes should be organized for handlers by their establishment by the Environmental Health Officers to acquire new knowledge on food safety.
7. Food handlers should be taught food safety practices practically rather than theoretical methods. I
8. Hotel operators should employ professional health consultant in the implementation of healthy hotel kitchen systems in their hotels.
9. Hotels should prepare health plans for different foods in their hotels to allow timely implementation of the system.

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