

**FOOD SAFETY AND HYGIENE PRACTICES OF FOOD VENDORS ON
OBAFEMI AWOLOWO UNIVERSITY CAMPUS, ILE IFE, NIGERIA**

A Dissertation Submitted By

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in partial fulfillment for the award of the degree of

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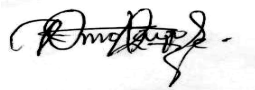
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CERTIFICATION

This is to certify that this thesis titled “Food Safety and Hygiene Practices of Food Vendors on Obafemi Awolowo University Campus, Ile Ife, Nigeria” was successfully carried out by OMOTAYO Sunday Kolawole, under supervision in the Department of Community Health, College of Health Sciences, Obafemi Awolowo University, Ile-Ife, Osun state, Nigeria.

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DEDICATION

This dissertation is dedicated to God Almighty. To Him be the glory.

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ABSTRACT

Patronage of food vending premises exposes a significant proportion of students and other members of the academic community to microbial agents and other food related toxins that may have contaminated the food as a result of unwholesome practices by the food handlers/vendors. It is important to have an understanding of the prevailing food safety beliefs, knowledge and practices of food handlers in order to minimize the risk of food borne outbreaks on Obafemi Awolowo University (OAU) campus. This study assessed the knowledge and attitudes of food handlers towards food hygiene; their practices of food and personal hygiene and the sanitary status of their vending environment.

All food handlers/vendors on OAU campus who gave informed consent to participate were recruited to participate into the study. Data was collected from the food handlers/vendors with a pre-tested interviewer administered questionnaire, which elicited information on the demographic characteristics, knowledge, attitude and practices of food safety. In addition, an observation checklist was used to assess environmental sanitation situation of the food premises. Data was analyzed with STATA 10, using descriptive statistics.

A hundred and ninety (86.4%) of the two hundred and twenty vendors recruited eventually participated in the study. Sixty-nine (36.3%) of the respondents were under 30 years. The vendors were predominantly female (81.6%). Whereas 114 (60%) of the respondents had secondary school education and above, 33 (16.4%) respondents never had any education. None of the street food vendors ever had a pre-employment medical screening, and 50% have not had any medical screening at all. Twenty-two (11.6%) respondents were considerably new on the

job, with less than a year of working experience. It was however observed that only 17 (9.0%) of the respondents wore a protective clothing; 71 (37.4%) had their heads covered; 7 (3.68%) used rubber gloves while handling food and 14 (7.4%) put on covered shoes. Fifteen respondents (7.9%) had long fingernails and four (2.1%) had open wounds. Utensils were seen unprotected at 70% of the stalls, and potential vectors of communicable diseases were seen in at least 15% of the stalls. Vendors' training on food safety and hygiene ($p=0.00$), level of education completed ($p=0.00$) and number of years of food vending experience ($p=0.04$) were statistically significant factors affecting the food safety and personal hygiene practices of the vendors on OAU campus.

In conclusion, forty-eight (25.3%) of the food handlers/vendors on OAU campus demonstrated good knowledge of food vending requirements. One hundred and fifty nine (83.7%) had positive attitudes towards food and personal hygiene. In addition, 25 (13.2%) were assessed to have good food safety and personal hygiene practices. Environmental assessment of food premises revealed that 8 (20.0%) of the vending stalls had good environmental sanitation status. There is need for health education and promotion among food vendors on OAU campus. Proper regulatory supervision is also recommended, in addition to health education and promotion, this should be targeted at achieving behavioural changes among these very important members of the university community

Keywords: Food vendors, Food safety, Food hygiene, Personal hygiene

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The Food and Agricultural Organization of the United Nations defined street foods as ready-to-eat foods and beverages prepared and sold by vendors and hawkers in streets and other similar public places (FAO/WHO, 1996; Simopoulos, 2000). Vended foods include commercially provided snacks that are retailed by food vendors, as well as food items made by vendors on-site or in nearby kitchens (FAO/WHO, 1996). For practical purposes, street foods could be classified according to the processing and/or preparation they require as foods without preparation, street-cooked foods and ready-to-eat foods (WHO, 1984).

An estimated 2.5 billion people patronize food-vendors worldwide (Nyarango, 2003). Despite continuing progress made in food quality and safety, food borne disease outbreaks continue to be reported in the literature. In the past few decades, the epidemiology of food borne diseases has changed with several emerging and re-emerging pathogens. Some of them may pose a low risk to most individuals, but may be life threatening to others (Maizun and Nyi, 2002).

Food contamination may occur at any point during its journey through production, processing, distribution, and preparation (Green and Selman, 2005). Raw materials are particularly very important to the safety of vended foods because of the biological, chemical and physical hazards that may be introduced through the vending operation and which may persist through preparation and processing (WHO, 1996). The risk of food getting contaminated during

processing however depends largely on the health status of the food handlers/vendors, their personal hygiene, knowledge and practice of food hygiene (Mead and Slutsker, 1999).

The potential for the contamination of vended foods with pathogenic microorganisms has been well documented and several outbreaks of disease, including cholera outbreaks, were traced to consumption of contaminated street foods (Abdussalam and Kaferstein, 1993). Factors implicated in causing microbial contamination include poor food preparation and handling practices, inadequate storage facilities, the personal hygiene of vendors, and a lack of adequate sanitation and refuse disposal facilities (Abdussalam and Kaferstein, 1993).

Diarrheal diseases, mostly caused by food borne microbial pathogens, are leading causes of illness and deaths in the developing countries, killing an estimated 1.9 million people annually at the global level (Schlundt et al., 2004). Between 1998 and 2002, an average of 1329 food borne disease outbreaks were reported to the Centre for Disease Control and Prevention (CDC) each year. Approximately 52 percent of these were attributed to food service establishments (Jones and Angulo, 2006; Lynch and Painter, 2006).

An estimated 76 million food borne illness occur annually in the United States. These food-borne illnesses result in an estimated 325,000 hospitalizations and 5000 deaths every year in the United States (Mead and Slutsker, 1999). In 2007, there were an estimated 850,000 cases of food poisoning in the United Kingdom with over 19,500 hospitalizations and over 500 deaths. Restaurants, non-residential caterers and retail sectors were the major sources of outbreaks (Food Standards Agency, 2008). A survey conducted by the Food and Agriculture

Organization (FAO) in 2001 also recorded a higher incidence of food borne illnesses in areas of increased food vendor activity (Ruel et al., 1998).

Diarrhoea has been estimated to account for 25-75 percent of all childhood illnesses in Africa (Kirkwood, 1991). The episodes lead to 14 percent of all outpatient visits, 16 percent of hospital administrations and also account for 35 days of illness per year in children under-five years in Sub-Saharan Africa (Kirkwood, 1991). A report by the WHO stated that 0.8 million children die from diarrhoea each year in Sub-Saharan Africa (WHO, 1996).

A total of 5600 cholera cases and 340 cholera deaths were reported between December 1995 and May 1996 (attack rate = 86.3 per 100,000 population) in Kano State, Nigeria (Hutin et al., 1996). With a case fatality of 0.4 percent, Nigeria records 300,000 diarrhoea related deaths each year in children under the age of five (Hutin et al., 1996). According to the Director General, Standards Organization of Nigeria, an estimated 1.8 million people die annually of diarrhoea-related diseases caused by unsafe food and water (Vanguard, 2010).

1.2 Statement of the Problem

It is estimated that not less than five thousand persons rely on food vendors for at least one of their daily meals on OAU campus (Okojie et al., 2005). Patronage of food vending premises exposes a significant proportion of students and other members of the academic community to microbial and other food related toxicity that may have contaminated the food as a result of unwholesome practices by the food handlers/vendors.

For instance, a knowledge, attitudes and practices study of food handlers in a South southern Nigerian university revealed that there was a predominantly poor level knowledge of food hygiene. There was a very low frequency of hand washing, and inspection of food handlers showed a low level of personal hygiene (Okojie et al., 2005). Without necessary precautions, a high proportion of patrons could develop acute food borne illness or other sub-acute food related illnesses.

1.3 Justification for the Study

Diarrheal diseases due to contaminated and unhygienic food are among the leading causes of illness and deaths in low-income countries, and several outbreaks of these diseases have been attributed to the consumption of street food (Dawson and Canett, 1991; WHO, 2010). The spread of diseases through food is still a common problem, which results in appreciable morbidity and occasional mortality in the society.

Several European-based studies have investigated food borne infections and food vending. Few local studies have assessed food and personal hygiene practices in the university, however none has focused on personal hygiene practices of the food handlers/vendors. The eventuality of a food borne disease outbreak due to uncontrolled food vending activities on the campus would be grave, as it could affect as much as about 40% of the members of the community. In

spite of this, the food and personal hygiene practices of food vendors in this university have rarely been documented, hence this study.

The study will provide information on food safety and hygiene practices on OAU campus. This information may be useful for the university health management team and policy makers to develop programs that will improve food safety on the campus. In addition, the information will be available to other health related departments at the Local, State and Federal government levels to develop strategies on the safety of vended foods.

1.4 Objectives

1.4.1 General Objective

This study is to assess food safety knowledge, attitudes and hygiene practices of food vendors on Obafemi Awolowo University campus