

Food Handling, Hygiene and the Role of Food Regulatory Agencies in Promoting Good Health and Development in Nigeria

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ABSTRACT

The importance of food to human existence cannot be over-emphasized. It promotes growth and development of the people when it is properly handled, while improper handling of food could bring illness and diseases, poor health, increased medical bills and reduced productivity. This study looks at the present state of food handling, hygiene and the role of food regulatory agencies in promoting good health and development in Nigeria. The main aim is to foster proper hygiene among food handlers in Nigeria. The review reveals among others that the testing of end products alone does not assure quality and safety, that high premium must be placed on ascertaining compliance with Good Manufacturing Practice (GMP) and application of Hazard Analysis and Critical Control Point (HACCP) system by manufacturers. Consequently, it is suggested that food handlers and manufacturers should adhere strictly to good personal hygienic practices, and health practices in line with regulatory standards.

Keywords: *Food, food handling, personal hygiene, food safety, food vendors.*

INTRODUCTION

Food is any substance that is consumed to provide nutritional support for the body. It is usually of plant or animal origin, and contains essential nutrients that aid the growth and development of the organism. History has it that the early men secured their food through agriculture, as well as, hunting and gathering. Today, most of the food consumed by the world population is supplied by the food industry. Based on this, the issue of food handling is attracting global attention. This is because food has been identified globally as not only a biological need but also an economic and political weapon. It is constantly a potential source of socio-political problems in communities and nations of the world. Food can transmit diseases from person to person as well as serve as growth medium for micro organisms that can cause food poisoning.

Like many other developing countries, Nigeria faces the challenge of providing adequate food supply for its teeming population. Hence, policies and programmes aimed at boosting agricultural products, food transportation and production should be actively promoted. According to Lawan (2012), food is an edible substance that nourishes the body, and after its digestion and absorption, it supports and promotes life and growth. It is classified into: carbohydrates, proteins, fats and oil, vitamins, mineral salts, and water. Originally, foods were grown and eaten directly from a relatively unpolluted earth. Wild foods were sought and gathered. Cleaner oceans, lakes and rivers fed human beings with nutritious sea foods. Wild animals provide food for hunters and their families. However, as

the population multiplied, the world expanded, farming progressed, trade developed, and markets shared a variety of goods, so also, the techniques for the preparation and preservation such as picking, salting, and smoking were developed to deal with the new problem of storage, waste and food-borne illnesses (Allen, 2006). It is now common practice in Nigeria to find people eating in small canteens and patronizing mobile food vendors or what is commonly called “*buka*” in all segment of Nigeria. Some people engage in this act because of their tight work schedule and the resultant lack of time to cook, the need to quench hunger as fast as possible, among other reasons. This practice may be injurious to their health because the motive of some of this food vendors is primarily gain, hence, such food is sometimes prepared in a way that guarantee their own gain and this could be detrimental to the wellbeing of those patronizing them.

Donko, Kayang, Quaye and Akyeh (2009) state that in many developing countries, street food or ready-to-eat food vendors are an important component of the food supply chain. Street food meets a vital need of the urban population because it is readily available, and some segments of the population depend entirely on it. This kind of food poses a high risk of food-borne illness due to microbial contamination, as well as improper use of food additives, adulteration and environmental contamination. Food safety is a major concern with street foods as these foods are generally prepared and sold under unhygienic conditions, with limited access to safe water, sanitary services, or garbage disposal facilities (Rheinländer, Olsen, Bakang, Takyi, Konradsen and Samuelsen, 2008). Donko, Kayang, Quaye and Akyeh (2009) note that generally, food vendors have information on food safety such as hygiene and disease prevention, however, they require an impulse such as a training workshop to put knowledge on food safety into practice. However, lack of facilities among food vendors in poor resource communities could be a major constraint to the employment of good food safety practices.

Food Preparation in Quick Service Restaurants: Quick Service Restaurants (QSR), Fast Food centers or joints as they are commonly called have come to occupy a vital place in urban nutrition as they are perceived to be the right food due to the increased rate of urbanization in Nigeria. It is true that fast food can be delicious and convenient, but it may contain high levels of food condiments such as salt and seasoning (Chikwe, 2010). Clayton, Griffith, Price and Peters (2002) state that the modern food industry relies on processing and additives courtesy of advanced technology. The food industry has for some time continually created new chemicals to manipulate, preserve, and transform foods. With the use of chemicals, they are able to mimic natural colour and flavour of food to make them look more natural or fresh, preserve food for longer period of time, and create altered versions of these foods. Allen (2006) hints that the five main reasons why food industries add chemicals to food include:

- I. To improve shelf life or storage time.
- II. To make food convenient and easy to prepare.
- III. To increase the nutritional value.
- IV. To improve the flavour of food.
- V. To enhance the attractiveness and improve customers acceptance.

Consequences of Poor Hygiene and Improper Food Handling: Ifenkwe (2012) observes that global incidence of food-borne diseases is quite alarming going by the Center for Disease Control and Prevention (CDCP) estimates which showed an annual occurrence of 47.8 million, 2 million and 750,000 food borne illnesses in the United States, United Kingdom and France respectively. It is also estimated that in Australia, there are 5.4 million cases of food-borne illnesses every year, causing 18,000 hospitalizations, 120 deaths, 21 million lost days off work, 1.2 million doctor consultations and 300,000 prescriptions for antibiotics. It is doubtful if Nigeria's food epidemiology has fared better considering the fact that a large quantity of food produced and distributed in Nigeria today get to the consumers in an unwholesome condition. This is as a result of poor handling methods, inefficient processing, equipment and storage practices, and high ambient tropical temperature and humidity conditions.

According to Ifeadike *et al* (2012), in developing countries, biological contaminants, largely bacteria and other parasites constitute the major causes of food-borne diseases often transmitted through food, water, nails and fingers contaminated with faeces. Hence, food handlers with poor personal hygiene could be potential source of infections by these micro organisms. They further state that biological contaminants are responsible for a wide range of diseases, including cholera, campylobacteriosis, *E. coli* gastroenteritis, salmonellosis, shigellosis, typhoid and paratyphoid fever, brucellosis, amoebiasis, and poliomyelitis, whereas, general good house-keeping, food handling, preparations, servicing practices, dish washing facilities, conditions of cooking utensils, food storage systems, as well as food handlers' knowledge and practices all affect safety directly or indirectly. Ernest and Patino (2010) contend that some of the immediate effects of chemicals and additives in the food may cause headaches or alter energy level, or they may affect ones risk of cancer, cardiovascular disease and other degenerative conditions. Allen (2006) submits that additives in food could lead to the following health risks:

- i. Hydrogenated fats could cause cardiovascular disease and obesity.
- ii. Artificial food colour could cause allergies, asthma, hyperactivity, possible carcinogen.
- iii. Nitrites and nitrates could develop into nitrosamines in the body, which can be carcinogenic.
- iv. Sulfides, that is, sulfurdioxide, metabisulfides, and others, could cause allergic and asthmatic reactions.
- v. Sugar and sweetner could cause obesity, dental caries, diabetes and hypoglycemia, increased triglycerides (body fats, or candiata/yeast).
- vi. Artificial sweetners (Aspartama, Acesulfate K and Saccharine) could cause behavioural problems, hyperactivity, allergies, and possibly carcinogenic.
- vii. Monosodium glutamate (MSG) could cause common allergic and behavioural reactions, including headaches, dizziness, chest pains, depression and mood swings, as well as neurotoxin.
- viii. Preservatives could cause allergic reaction, hyperactivity, it could induce cancer, may be toxic to the nervous system and the liver.

- ix. Artificial flour could cause allergic or behavioural reaction.
- x. Refined flour could cause low-nutrient calories, carbohydrates imbalance, altered insulin production.
- xi. Excess salt could cause fluid retention and blood pressure increase.
- xii. Olestra (an artificial fat) could cause diarrhea and digestive disturbances.

Acquiring Appropriate Skills and Knowledge in Food Handling Skills: Food Standard (2010) states that food handlers must have the skills and knowledge that they need to handle food safely as they carry out their work, such as:

- i. Knowing that raw meat is likely to be contaminated with dangerous bacteria and that eating meat that is not properly cooked can cause food poisoning.
- ii. Knowing the cooking time and temperature needed to make sure that the meat is thoroughly cooked.
- iii. The skill needed to check meat to make sure it is thoroughly cooked.
- iv. Knowing the correct storage temperature for both raw and cooked food.
- v. They need to be skillful to make sure that equipment is set at the right temperature.
- vi. Knowing that hands, gloves or the equipment used in handling food can contaminate it.
- vii. They need the skill to wash hands and equipment in ways that reduce the potential for contamination.
- viii. Knowing about other things that could contaminate the cooked food, such as dirty clothes, or dirty work-benches.
- ix. The work area must be kept clean.

Lanikan (2010) suggested the following ways of acquiring health skills and knowledge:

- i. Through in-house-training by other staff or the business owner.
- ii. Giving food safety and food hygiene information to the staff for them to read.
- iii. Sending staff to food safety courses.
- iv. Hiring a consultant to run a course for staff members of such business.
- v. Recruiting staff with formal industry based training qualifications.

Key Principles for Food Hygiene in the Community: The following are the five key principles of food hygiene:

- i. Prevent contamination with pathogens spreading from people, pets, pests and during food transportation from one point to the other.
- ii. Use safe water and raw materials in processing food.
- iii. Ensure that raw and cooked foods are properly separated to prevent contaminating the cooked food.
- iv. Process food at appropriate temperature and for appropriate length of time to kill pathogens.
- v. Ensure that food is stored at the appropriate temperature.

The Roles of Food Regulatory Agencies: According to Omotayo and Denloye (2002), the Nigerian government in recognition of the important factor for achieving high level of health for all Nigerians launched the National Policy on Food Hygiene and Safety in the year 2000 as an integral part of the Nigerian National Health Policy. The overall goal of this policy is the attainment of high level of food hygiene and safety practices which will promote health, control food-borne diseases, minimize and finally eliminate the risk of diseases related to poor food hygiene and safety. It seeks to stimulate and promote legislations concerning food production, storage, handling, processing, preservation, trade, transportation and marketing. It also seeks to improve the quality of healthcare through ensuring that all food consume in Nigeria, whether imported or exported are wholesome, nutritious, free from contaminants and accessible to the consumers at affordable price. Okojie, Wogbatsoma and Ighoroge (2005) submit that the responsibility of regulating and monitoring food safety standards and practices in Nigeria rests on the following government organizations and agencies:

- i. Federal Ministry of Health
- ii. National Agency for Food and Drug Administration and Control (NAFDAC)
- iii. Standards Organization of Nigeria (SON)
- iv. National Codex Committee
- v. Federal Ministry of Agriculture
- vi. States and Local Governments

Ojinnaka (2011) states that responsible agencies are mandated to do the following:

- i. Protect the public from injury to health through the consumption of unwholesome food.
- ii. Restrain the sale of food which is un-hygienically prepared, adulterated, contaminated, spoilt, and improperly labeled.
- iii. Ensure proper inspection and registration of all food premises.
- iv. Conduct Public Health Surveillance of food premises, food handlers and equipment used for food processing.
- v. Educate the populace on sound hygiene and safety practices.
- vi. Ensure inter-ministerial and multi-sectional collaborative activities.
- vii. Collaborate with non-governmental organizations and ensure community participation.

National Legislations and Inspection of Manufacturing Outfit

Omotayo and Denloye (2002) note that the following are the main legislations relating to food safety:

- i. The Public Health Laws (1917) now known as Public Health Ordinance cap 164 of 1958.
- ii. The Food and Drugs Decree, No 35 of 1974.
- iii. The Standards Organization of Nigeria Decree, No. 56 of 1971.
- iv. The Animal Disease Control Decree, No. 10 of 1988.
- v. The Market of Breast Milk Substitute Decree, No. 41 of 1990.

- vi. The National Agency for Food and Drugs Administration and Control (NAFDAC) Decree No. 15 of 1993.

According to Chikwe (2010), the training of small-scale food processors and local government officials on Hazard Analysis and Critical Control Point (HACCP) application in some parts of the country is being addressed using public enlightenment on good hygienic practices in small scale packaged water, drinks and ice processing/manufacturing. He further hinted that only processed food registered in Nigeria can be marketed in the country, whether imported or locally manufactured. Similarly, registration involves reviewing all the information provided on the product by the manufacturer and marketers to enable the NAFDAC decide whether granting of marketing authorization should be allowed or not. In addition to the routine review of national standards and their harmonization with international standards, SON also coordinates the activities of the National Codex Committee. Ifeadike *et. al.* (2012) point out that in order to meet the huge challenge of food safety in the 21st century, a coordinative and cooperative approach is needed which will require the use of new methods of identifying, monitoring, and assessing food-borne hazards, including the wide application of the Hazard Analysis and Critical Control Point System. The testing of end products alone does not assure quality and safety, high premium must be placed on ascertaining compliance with Good Manufacturing Practice (GMP) and application of Hazard Analysis and Critical Control Point (HACCP) system by manufacturers (Mid Sussex District Council, 2010; World Food Programme, 2010). They further hinted that aspects to be ascertained under GMP should include:

- i. Location of outfit
- ii. Equipment and personnel
- iii. Production flow
- iv. Documentation
- v. Handling of complaints and rejected/returned goods
- vi. Internal audit.

Safety Tips for Proper Food Handling in the Community and Areas of Collaboration

Omotayo and Denloye (2002) observe that as the government continues to strive to improve on the basic infrastructure in terms of electricity, portable water, telecommunication, affordable housing and environmental sanitation, it should recognize the need for an improvement in the implementation of the national food hygiene and safety policy in the following areas:

- i. Review, harmonization and effective enforcement of the existing laws relating to food safety.
- ii. Strengthen infrastructure and management capacity in risk analysis.
- iii. Forging closer inter-ministerial collaboration, cooperation and coordination.
- iv. Involvement of all stakeholders in policy formulation as a key to the success of the food safety programme.
- v. Strengthen the capacity of states and local governments in promoting safe and hygienic practices by street food vendors and catering establishments.

Allen (2006) hints that the following tips could help in food handling in the community:

- i. If you must buy canned food, consider the ones with the lowest sodium content.
- ii. Make a conscious decision to either reduce or eliminate foods with additives that may be hazardous to your health.
- iii. Sharpen your awareness about what you are currently eating.
- iv. Fresh fruits are always the first and best choice; then frozen, canned foods should be the last resort.
- v. Avoidance and discernment are crucial steps in your natural health care programme.

CONCLUSION AND RECOMMENDATIONS

Food handlers must have requisite skills and knowledge as they carry out their work in the community. Their skill and knowledge must include food safety and food hygiene matters. Deliberate effort must be made to discourage a situation where some people will be exploiting people not only of their money but also in a manner that can pose danger to their health. All hands must be on deck to ensure that the food being circulated in the community is not contaminated at any stage by:

- i Making food safety information available to the operators of fast-food centres and food vendors through specialized seminars and workshops.
- ii Ensure proper and regular inspection and registration of all food premises.
- iii Making proper legislations that will take care of evolving needs in the area of food handling, while the existing laws and regulations should be enforced. This is the responsibility of the government and its agencies at the various levels.
- iv Conducting regular public health surveillance covering the food handlers, food premises and equipments used for food processing by relevant government agencies.
- v Food handlers adhering strictly to good personal hygienic practices.

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