



ILJS-15-021

Influence of Application of Food Safety and Hygienic Precautions among Food Handlers.

Adebisi*, T. T., Abdul Kadir, S. O. and Adebisi, W. O.

Department of Home Economics and Food Science, University of Ilorin, Ilorin, Nigeria.

Abstract

The study examined the influence of application of food safety and hygienic precautions among food handlers in Oshimili South Local Government Area of Delta State. Two specific objectives were raised and answers sought survey method of research design was used. 36 Hotels were randomly selected and sample size were 150 respondents including Head chef, Assistant Chefs, Supervisors, Cooks and Pantry workers. Questionnaire was used to solicit information. The data was analyzed using frequency counts, percentage and mean. It was found out that majority of the respondents agreed on knowledge application, precautions of food safety and food hygiene. Conclusively, food outlets handlers should pay more attention on food safety and hygiene to encourage more customers' patronage. Among the recommendations stated is that food handlers should be more conscious on food safety, hygienic precautions during and go for of customers discover that high standard of hygienic practices are maintained, they will come back again for more patronage.

Keywords: Application, Food Safety, Hygiene, Precautions and Food handlers.

1. Introduction.

Unsafe food has been human health challenge since history was first recorded and many food safety problems encountered are not new. Although governments all over the world are doing their best to improve the safety of the food supply, the occurrence of foodborne disease remains a significant health issue in both developed and developing countries (WHO, 2006). According to the World Health Organization (WHO) in 2005 alone, 1.8million people died from diarrhoea diseases and most of these cases can be attributed to contaminated food or

*Corresponding Author: Adebisi, T. T.
Email: adebisitunrayo@yahoo.co.uk

water. In 2009, 27,037 notifications of a diseases or conditions that are commonly transmitted by food have been reported in Australia (The FoodNet Working group (2009). In Europe, there has also been a marked increase in reported food poisoning cases. In 2009, there were reported 212,064 human cases of campylobacteriosis as compared to 99020 cases of salmonellosis (Eurosurveillance editorial team 2010) proper preparation can prevent most food borne diseases.

Furthermore, it is assumed that if food handlers are aware of their legal obligations and they are provided with the knowledge and understanding on the prevention of food poisoning, they will automatically result in the implementation of good hygiene practices (Park *et al.*, 2010; Sprenger, 2009). In fact there is limited evidence that food handlers training, whether mandatory or not, improves food handlers working in food premises and limited evidence that it enhanced knowledge or behaviour (Pajot and Aubin, 2011).

In addition, food contamination in developing countries is cause by many factors including traditional food processing methods, inappropriate holding temperatures and poor personal hygiene of food handlers. According to Feglo and Sakyi (2012) they explained that the prevalence of food-borne illnesses in developing countries include washing of hands properly anytime food is handled, thorough washing of raw meat and poultry adequate food storage and good education for the food handlers (DeWaal and Rober 2013). The incidence of food and water borne disease is estimated at 3.3 -4.1 exposides per child year in Africa and food and water borne diarrhea diseases are estimated to cause 450000-700000 deaths in Africa annually with many more sporadic cases going unrecorded pointed out by Olusanya *et al.* (2010) and Simpson *et al.* (2007). In most cases, pathogens such as *Escherichia coli*, *Bacillus aureus* *Staphylococcus aureus*, *campylobacter*, *rotavirus* and *enteric bacteria* are identified (Montville *et al.*, 2001).

Food handlers may also contaminate food by poor personal hygiene, cross-contaminating raw and processed food as well as inadequate cooking and improper storage of food (Food and Agriculture Organisation of the United Nations 2013). Maintaining high food safety levels in food services is very important because any incidence can affect a high number of consumers (Osali *et al.*, 2013).

Many people are not aware of the various ways in which they expose their food to contamination and poisoning and this is because they pay little or no attention to the rules and regulation of hygiene and safety. Most in food handlers want quick turnover and profits and so do not take necessary steps in engaging additional trained personnel. This is because they want to keep their wages and bills as low as possible, they are rather concerned with making high profits through inadequate investments in businesses.

Specifically, the study was to:

- Determine the knowledge of food safety and food hygiene among food handlers in food outlets in Oshimili South Local Government Area, Oshimili Delta State.
- Assess influence of applications of food safety and hygiene precautions among food handlers in the study area.

The study sought answers to the following questions:

- To what extent do food handlers possess knowledge of food safety and hygienic precautions?
- What are the knowledge on application of food safety and hygiene food handlers processed?

The study enlightened food handlers about the importance of safety and hygiene in food preparation outlets. The results of the study also provide a proper understanding of food

hygiene and safety practices and guidelines. In addition, food safety guidelines among food outlets, hotels, eateries, catering students, food technologists, homemakers and other people involved in food handling. Furthermore, it also serves as a reference material for future researchers.

2. Materials and Methods.

The research design for this study was the survey method. This involved taking sample from all the Hotels in Oshimili South Local Government area which represent the entire country. The target population was 36 hotels in Oshimili South Local Government Area of Delta State, Nigeria.

The sample size for this study was 150 respondents. Random sampling technique was used. The respondents were drawn from three Hotels: Grand Hotel and Resort, Nelrose Hotel and Orchid Hotels. The respondents are: Head Chef, Assistant Chef, Supervisors, Cooks and Pantry Workers. The primary instrument used for the gathering of data was the questionnaire. It consisted of two sections. Section A solicited information on application of food safety and food hygiene while Section B was on food safety precautions. Strongly Agree (4) Agree (3) Disagree (2) and strongly Disagree (1) were used to answer the questions.

Questionnaire was administered to respondents personally with two research assistants. They are retrieved immediately after filling to avoid misplacements and mutilation. Despite this, 110 copies off the questionnaire were retrieved. The data was analyzed using frequency counts, percentages and mean. Any item with the mean score of 2.50 and above is considered an important item while the items less than 2.50 is considered as not important.

3. Results and Discussions

TABLE 1: Knowledge application of food safety and food hygiene by the respondents. N=110

S/N	ITEMS	SA	A	D	SD	Mean
1	The knowledge of safety and hygiene is very important in the production and preparation of food and foods products	80	30	--	--	3.72
2	The knowledge of safety and hygiene precautions will reduce the risk of kitchen accidents and food poisoning.	60	40	10	--	3.45
3	Rules and regulations by the food safety agency concerning the safety of food, will reduce the rate of food contamination.	30	50	20	10	2.90
4	Food poisoning can result from the consumption of food prepared in poor sanitary conditions.	70	30	10	--	3.54
5	Training of staffs on safety and hygiene ensures that foods produced are of good quality conditions.	40	30	20	20	2.81
6	Medical check-ups of food handlers is very important in reducing spread of food borne illness and bacteria	30	40	10	30	2.63
7	Improper storage of food can lead to food contamination	62	40	5	3	3.46
8	Control of waste and pests during food production is of importance in production of safe foods	35	50	10	15	2.95
9	Staff's personal hygiene should be assessed before the handling of food	30	30	40	10	2.72
10	Medical checkup of staffs will enable the organization know of the hygienic condition of its staff.	20	55	25	10	2.77
	Grand Mean					3.10

Source: Field Survey (2014)

Table 1 indicates knowledge application of food safety and food hygiene all the items have their mean score above 2.50. This indicated that the respondents agreed that the background knowledge of food safety and hygiene is very crucial for all food handlers to know. This implied that the respondents regarded the knowledge of food safety and food hygiene as the basic knowledge that is important to all food handlers. World Health Organization explained that in 2005 alone, 1.8million people died from diarrhoea diseases and most of these cases can be attributed to contaminated food and water. So, knowledge of safety and hygiene is very important in the production and preparation of food and food products. In addition, Park, Kwark and Chang (2010) and Sprenger (2005) explained further that if food handlers are aware of their legal obligations and they are provided with the knowledge and understanding

on the prevention of food poisoning, they will automatically result in the implementation of good hygiene practices. This will reduce the rate of food contamination.

TABLE 2: Precautions of Food safety and hygiene by the respondents. N=110

S/N	ITEMS	F	%
1	The hands should be washed thoroughly before food is handled.	100	90.9
2	A fresh dishtowel should be used every time one cooks.	30	27.2
3	After preparation of raw meats, poultry, the utensils, counter, cutting board and hands should be washed regularly.	80	72.7
4	Foods should be stored regularly to prevent contamination by bacteria.	70	63.63
5	The fingers should not be licked while or after cooking.	48	43.63
6	Instructional materials on hygiene should be used regularly by food handlers.	50	45.45
7	The hair should always be covered when preparing meals.	48	43.63
8	Finger nails should always be cut short and devoid of nail polish.	96	87.27
9	Protective clothing such as apron, overall, caps and gloves should always be worn.	84	79.09
10	The hands should be washed thoroughly after touching uncooked food when preparing meals.	92	83.63
11	The same utensils should not be used to prepare different foods.	50	45.45
12	Low heeled shoes should always be worn in the food production area	75	68.18
13	Meat and fish should be washed thoroughly.	69	62.72
14	Defrost frozen foods only in refrigerator, in the microwave, or under cold running water.	42	38.38
15	Food production areas and equipment should be cleared and sterilized regularly.	40	36.36
	Average Percentage		59.4

Source: Field Survey (2014)

Table 2 indicates that majority of the percentage level is above 50% and this shows that majority of the respondents are aware of food safety and hygiene precautions and they are also of the opinion that all food handlers should practice all the food safety and hygiene measures in food preparation. There is low percentage on some items, among them are: fresh dish towel should be used every time they cook, defrost frozen foods only in refrigerator, in the microwave or under cold running water. Also food production areas and equipment should be cleared and sterilized after use. Feglo and Sakyi (2012) that explained that the prevalence of food-borne illnesses in developing countries include:- washing of hands

properly anytime foods are handled, thorough washing of raw meat and poultry, adequate food storage, Fingernails should always be cut short and devoid of nail polish. Food handlers should take more cognizance precautions to food safety and food hygiene this was expressed by Simpson *et al.* (2007) and Olusanya *et al.* (2000). They stressed further that incidence of food and water disease was estimated at 3.3-4.1 episodes per child in Africa and food and water borne diarrhoea diseases are estimated to cause 450,000-700,000 deaths in Africa.

Discussion of the Findings.

World Health Organisation (2006) explained that in 2005 alone, 1.8million people died from diarrhoea diseases and most of these cases can be attributed to contaminated food and water. So, knowledge of safety and hygiene is very important in the production and preparation of food and food products. In addition, Park *et al.* (2010) and Sprenger (2005) explained further that if food handlers are aware of their legal obligations and they are provided with the knowledge and understanding on the prevention of food poisoning, they will automatically result in the implementation of good hygiene practices. This will reduce the rate of food contamination.

On Table 2, 15 items of precautions of food safety and hygiene were perceived by the respondents. Majority of the respondents' percentage level was above 50%. It implied that majority of them were aware of food safety and hygiene practices in food outlets. Feglo and Sakyi (2012) that explained that the prevalence of food-borne illnesses in developing countries include:- washing of hands properly anytime foods are handled, thorough washing of raw meat and poultry, adequate food storage, Fingernails should always be cut short and devoid of nail polish. Food handlers should take more cognizance precautions to food safety and food hygiene this was expressed by Simpson *et al.* (2007) and Olusanya *et al.* (2000). They stressed further that incidence of food and water disease was estimated at 3.3-4.1

exposides per child in Africa and food and water borne diarrhoea diseases are estimated to cause 450,000-700,000 deaths in Africa.

4. Conclusion

Conclusively, the practice of safety and hygiene precautions in food preparations outlets have been seen as major role in the aspect of profit maximization and increase in patronage. This is because when customers discover that high standard of hygiene is practiced and maintained, they will surely come back patronage for more but if they have been given contaminated food for consumption which arises as a result of poor hygiene condition, they will not patronize that food outlet again.

Acknowledgment

I would like to acknowledge my colleagues and the students of Home Economics and Food Science Department for their support and useful contributions for the success of this study . The study was self-sponsored to encourage stakeholders to be more concerned with food safety and hygienic precautions.

References

- De Waal, C. and Rober, N. (2015): Global and local: food safety around the World, available online: <http://safefoodinternational.org/local-global.pdf> (Accessed on 7th April 2015).
- Eurosurveillance Editorial Team (2013): The European Union summary report on trends and sources of zoonoses, Zoonotic agents and food-borne outbreaks in 2010 available at <http://www.eurosurveillance.org//wwArticle.aspx?articleid=2013>
- Feglo, P. and Sakyi, K. (2015). Bacterial Contamination of Street Vending food in Kumasis; Ghana, *Journal of Medical Biomedical Sciences*, **1**(1), 1-2.
- Food and Agriculture Organization of the United Nations, World Health Organization (2013): Assuring Food Safety and Quality: Guidelines for Strengthening National Food Control Systems Available online: <http://www.who.int/foodsafety/publications&capacity/en/English-Guidelines-food-control.pdf>. Initiative to Estimate the Global Burden of food borne Diseases. Available Online: <http://who.int/foodsafety/foodborne-diseases/ferg/en/inex.html> accessed on 7th April 2015.

- Montville, R. Chen, Y. and Schaffer, D. (2001): Gloves barriers to bacterial cross-examination between hands to foods. *Journal of Food Production*. **64**, 345-349.
- Olusanya, J., Bala, F., Eyisi, O. and Olojola, S. (2000): *Exam Focus-Foods and Nutrition* University Press, PLC. Ibadan, 40-42.
- Osaili, T., Jamous, A., Obediat, B., Bawadi, A., Tayyem, R. and Subih, S. (2013): Food Safety Knowledge among food workers in Restaurants in Jordan. *Food Control*, **3**(1), 145-146.
- Pagot, M. and Aubin L. (2011): Does Food Handler Training Improve Food Safety? A critical appraisal of the literature. Available at: <http://www.peelreligion.ca/health/resources/pdf/mandatory-food-handler-training.Pdf> accessed on 4th April 2005.
- Park, S., Kwark, T. and Chang, H. (2010): Evaluation of the Food Safety Training for food handlers in restaurants operations, *Nutrition Research and Practice*. **4**(1), 58-68.
- Santo, M., Nogueisa, J., Patarata, L. and Mayam, O. (2008): Knowledge Levels of Food Handlers in Portuguese school canteens and their self behaviour towards food safety, *International Journal of Environmental Health Research*. **18**(2), 387-389.
- Simpson, E., Wittet, S., Bonilla, J., Gamazina, K., Cooley, L. and Winkler, J. (2007): Use of formative research in developing a knowledge Translation Approach to Rotavirus Vaccine Introduction in Developing Countries, *BMC Public Health*. **7**(1), 281.
- Spenger, R. (2009): *Hygiene for Management*. Highfield Publications, Soath Yorkshire, 15th edn, 150-151.
- Food Net Working Group (2010): Monitoring the incidence and causes of diseases potentially transmitted by food in Australia: Annual Report of the 0₂ food Net 2009. *Commun Dis. Intell. Q Rep*. 2012 Sept. 30. **36**(3), E213-41.
- World Health Organisation (2006): Fire keys to safer food manual. Available at <http://www.who.int/FoodSafety/publications/consumer//Manual-keys.Pdf> accessed 4 April 2015.