

# **The Safety Practices Among Food Handlers**

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## **Abstract**

Food safety is a significant public health concern in many countries. The absence of adequately maintained food handling procedures can potentially lead to serious public health consequences. This study was conducted with the aim of evaluating the safety practices among food handlers. A cross-sectional survey was conducted, and data were collected using a well validated self-made questionnaire and distributed to 50 food handlers. The study used quantitative methods with the use of Pearson  $r$ , logistic regression, and Pearson Chi-square to test the relationship between the profile and impact of safety practices among food handlers. The outcome of the study indicated that while food handlers have a moderate level of knowledge and satisfactory compliance with the safety practices, gaps were identified in certain areas. A significant association was found between knowledge and compliance, highlighting the need for safety training and education programs for food handlers. By improving knowledge and compliance, the risks of food contamination and the spread of foodborne illnesses can be mitigated, protecting public health and food establishment reputation.

**Keywords:** Food Sciences, Public Health, Food Safety, Cross-Sectional, Logistic Regression, Philippines

## **Introduction**

Food safety is defined by the World Health Organization (WHO) as the conditions and measures required during the production, processing, storage, distribution, and preparation of food to ensure that it is safe, sound, wholesome, and fit for human consumption (Getachew F, 2010).

Food safety is essential to prevent foodborne illness and improve human well-being. (Kambhampati LLA, 2013). Foodborne diseases have increased globally over the years, negatively impacting the health and economic well-being of many developing and developed countries. (Admasu M, Kelbessa W, 2018) Today, a lack of food safety measures is a significant public health problem in many parts of the world. (Borchers A, Teuber SS, Keen CL, Gershwin ME, 2010)

According to the World Health Organization (WHO), foodborne illnesses can cause long-lasting disability and even death. In the United States, under the Food and Drug Administration (FDA) (Food Code, 2017), permit holders, or those who operate food establishments, must assign someone or take responsibility as the person in charge. The person in charge has to ensure that employees maintain the correct temperatures during cooking, cooling, and holding. In Australia, under the Food Standards Code, food businesses are responsible for ensuring that food handlers have both the skills in and knowledge of food safety and food hygiene matters.

Food businesses must also take the necessary steps to prevent the likelihood of food being contaminated. The absence of adequately maintained food handling procedures in extensive catering facilities can potentially have serious health consequences.

Neglect in proper food handling and poor Hygiene and sanitation among food handlers in food service establishments. Determining the factors that affect safe food handling practices, particularly during preparation and serving, is vital.

## **Review of Related Literature**

The article " Food safety definition and why is food safety important " discussed your responsibility to food safety. Each member of the food supply chain has a role to play in the food safety concept. All roles are vital and invaluable in the process. Whether you are a food business owner, government personnel, or a customer, your role cannot be replaced. Food safety is everyone's responsibility. (Violetta Njunina, 2021).

As cited in an article entitled "Personal Hygiene Tips for Food Service Staff" that Food hygiene law states that all food handlers must have a high standard of personal cleanliness, wear protective clothing and follow food hygiene rules. Being a law, these things are not optional – you must comply with each of them. It also cites 7 important tips about personal hygiene. Always

Wash Your Hands, Wear Protective Clothing, and Avoid Nail Polish, Perfume & Aftershave, Leave Accessories at Home, Tie Long Hair Back, no smoking, and lastly, Catch Your Sneezes. (Louise Petty, 2015)

Based on the article entitled “Why food safety training is important” the reasons why food safety training is important. First, food safety training protects your customer from health risks, Second Food safety training is good for business. Lastly, food safety training is a Legal Requirement. (J. 2019 )

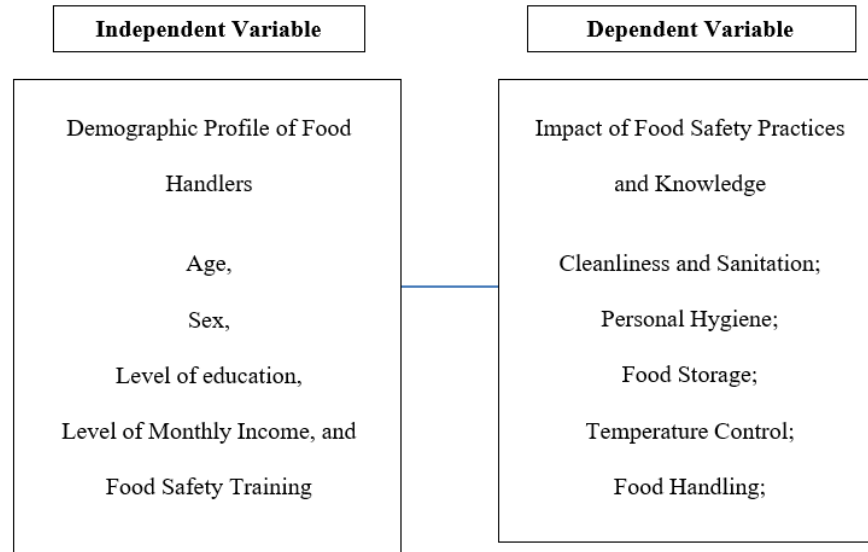
In an article entitled, " Food Safety In the 21st Century", that the Challenges of food safety include four major areas (1) Microbiological Safety. Food by nature is biological. It is capable of supporting the growth of microbes that are potential sources of foodborne diseases. (2) Chemical Safety. Non-Food grade chemical additives, such as colorants and preservatives, and contaminants, such as pesticide residues, have been found in foods. (3) Personal Hygiene. Poor personal hygiene practices of food handlers and preparers pose considerable risks to personal and public health. (4) Environmental Hygiene. Inadequate recycling and waste disposal equipment and facilities lead to the accumulation of spoiled and contaminated food. This leads to an increased pest and insect population that can result in the risk of food contamination and spoilage (Fred Fung, 2018).

Food Hygiene: Theory and Practice. According to H. A Perry 1951 Food safety is something that everyone should be able to practice, both at home and in the workplace. Food safety is extremely important; it helps protect the consumer whether that is yourself or your customers, from foodborne illnesses and food poisoning. Food safety is the routine and preparation of storing and handling food properly. The journey from farm to factory is dangerous, as food products may encounter a variety of different health hazards.

According to Susan F. Robinson ed (1992:2), the absolute safety of a food or an ingredient can never be guaranteed. This theory is applicable in hospitality institutions especially where no appropriate precautions are taken during purchasing of raw materials, development, manufacture of products, processing, annual preparation, in distribution. This argument indicates that the risks from any food can be kept to an absolute minimum i.e. any level of contamination from the source of raw materials used in the preparation of food items in the hospitality and tourism facilities can be prevented to avoid disasters.

## Conceptual Framework

The illustrated framework describes the relationship among the key variables of the study.



**Figure 1.**  
**the interrelationship among the demographic and food handling practices variables**

The researchers used independent-dependent variables, or simply IV-DV. The researcher would like to know whether the independent variable, such as the demographic profile of food handlers, was affected by the dependent variable, which is the impacts of safety practices and knowledge.

### Statement of Objectives

This study aims to evaluate the safety practices of the food handlers

Specifically,

Identify the demographic profile of respondents as to: Age; Sex; Level of Education; Level of Monthly Income; and Food safety training

Measure the indicators as to: Cleanliness and Sanitation; Personal Hygiene; Food Storage; Temperature Control and Food Handling

Evaluate the level of food safety knowledge of food handlers in selected food stalls?

Determine the significant relationship between profile and impacts of Food Safety Practices and

Knowledge among food handlers.

## **Methods**

### **Research Design**

The research strategy employed the empirical research approach to determine the impact of food safety practices among food handlers using. The emphasis of the study is on collecting and analyzing numerical data and the application of the concept.

The primary sources of the research data were collected using the questionnaire tool and interviews with respective food handlers in Malolos Capitol City in Bulacan.

### **Research Instrument**

A self-made questionnaire was utilized for the data collection applying the Scale Type questions and an interview result were collected from the responses of food handlers.

The first portion of the research instrument focused on the demographic profile of respondents, and the second half highlighted questions on the food safety practices and knowledge of food handlers.

### **Ethical Consideration**

The researchers observed the ethical guidelines when conducting the study. Initially, participants' consent was obtained in order to respect their decision to participate or not participate in the study. The participants' anonymity was also protected, and their responses will be kept strictly confidential. Finally, the survey results were treated objectively, demonstrating professional respect for the quantitative data gathered from respondents in compliance with RA 10173, or the Data Privacy Act of 2012.

### **Data Gathering Procedures**

The researchers gathered information through the use of questionnaires in the Capitol Compound, City of Malolos, Bulacan. This is used to determine if the food handlers have

knowledge of food safety practices. A letter of request to conduct the study was prepared, validated by experts in the field, and carefully distributed among the food handlers. Following the respondents' completion of the questionnaire, the instrument was retrieved.

### **Statistical Analysis**

Data gathered using the research instrument were summarized in a tabular form, analyzed, and measured statistically.

1. Simple descriptive statistical tool was transcribed to analyze data that sought to answer the general problem of the study.
2. To describe the response category, a 5-point Likert scale was used as follows: 5 as always, 4 as frequently, 3 as sometimes, 2 as seldom, and 1 as never.

### **Result and Discussions**

Most of the respondents are under 26–35 years old, while 8 respondents were ages 15–25, and the remaining 14 respondents are over 36–45 years old. In terms of gender, most of the respondents are female and high school graduates, while 20 respondents were elementary graduates, and the rest were college graduates. For the monthly income, most of the respondents have monthly incomes of 10,000 or more, while 11 have monthly incomes of less than 5,000, 12 have monthly incomes of 5,000 to 8,000, and 9 have monthly incomes of 10,000 or more. With regards to the food safety training of food handlers, most food handlers have never received any kind of training in food safety. It is shown that those who undergo food safety training are less vulnerable than those who do not.

Cleanliness and Sanitation, among the 50 respondents, the statement with the highest mean was "Food handlers should segregate all waste materials and put them into the designated trash can." It stated that food handlers in the Capitol Compound in the City of Malolos, Bulacan, segregate all waste properly. Personal Hygiene, results showed that "hand washing regularly and properly was observed" by the food handlers in the Capitol Compound in the City of Malolos, Bulacan, where the highest mean was found. The results also revealed that the food handler wearing no jewelry or accessories had the lowest mean. Personal Hygiene, results showed that "hand washing regularly and properly was observed" by the food handlers in the Capitol

Compound in the City of Malolos, Bulacan, where the highest mean was found. The results also revealed that the food handler wearing no jewelry or accessories had the lowest mean.

Food Storage, according to the results, out of 50 respondents, the statement "It's necessary to store wet and dry ingredients separately" had the highest mean. It stated that food handlers in the Capitol Compound in the City of Malolos, Bulacan, store wet and dry ingredients separately. Temperature Control, it is evident that the highest mean was found in "Freezing of raw ingredients like a meat to avoid bacteria growing." The result also revealed that "Reheating the food before serving it to the customer is important." had the lowest mean.

It stated that food handlers in the Capitol Compound in the City of Malolos, Bulacan freeze raw ingredients like a meat to avoid bacteria growing. Food Handling, results showed that food handlers in the Capitol Compound in the City of Malolos, Bulacan "use separate utensils for raw and cooked foods," where the highest mean was found. The results also revealed that the lowest mean was found in "There should be a separate chopping board for dry and wet ingredients."

The majority of the food handlers in the Capitol compound in Bulacan are knowledgeable and very much aware of food safety regarding handling food safety; they are very much aware that contaminated food always has some change in color, odor, or taste; that healthy people can cause illness by carrying germs to food; that contact between raw and cooked foods contributes to food contamination; that hand hygiene can prevent food contamination; that food handlers with diseases such as diarrhea, flu, and sore throat pose a risk of food contamination; that proper cleaning and sanitation of the utensils is very important in food safety; that the use of jewelry, such as rings and watches, in food handling causes contamination, and food that is unfit for consumption always has a bad smell and taste from spoilage.

Mostly, food handlers agreed and were very much aware of food safety that established a significant relationship between the profile and impacts of food safety practices and knowledge among food handlers. The results reveal that there are significant correlations between age, monthly income, and food safety practices and knowledge. Moreover, the relationship between sex, training, and knowledge of food safety practices was statistically significant as determined by logistic regression. And it also shows that in the Pearson chi-square, there are significant relationships between educational attainment and food safety practices and knowledge.

## **For Future Use**

Food business owners should allow their food handlers to receive additional food safety training because it can aid in quality control. When employees are properly trained, it ensures that food handlers understand how to avoid cross-contamination and keep customers safe from illness.

While preparing and serving, Food handlers should not wear jewelry or accessories since it collects and spreads dirt and harmful bacteria, as well as fall into the food.

When serving the food to the customer, it should be at the proper temperature because usually they fail to keep their food hot or warm, which may lead to customer dissatisfaction.

To reduce the risk of cross-contamination, food handlers should use separate chopping boards for dry and wet ingredients. This ensures that high and low-risk foods, such as raw meat and salad vegetables, are kept separate.

Food handlers should wash their hands for at least 20 seconds with soap and warm or cold water before, during, and after preparing food and after handling uncooked meat, poultry, seafood, flour, or eggs and should never place cooked food on a plate that previously held raw meat, poultry, seafood, or eggs unless the plate has been washed in hot, soapy water.

When food handlers are reusing marinated raw meat or poultry, make sure to bring it to a boil first to kill any harmful bacteria. Never thaw food at room temperature, such as on the countertop. There are three safe ways to defrost food: in the refrigerator, in cold water, and in the microwave. Food thawed in cold water or in the microwave should be cooked immediately.

Refrigerate or freeze meat, poultry, eggs, seafood, and other perishables within 2 hours of cooking or purchasing. Refrigerate within 1 hour if the temperature outside is above 90°.

Consider using paper towels to clean up kitchen surfaces. But in using cloth towels, it should be laundered often in the hot cycle.

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