

# Impact Of Food Safety Awareness On Consumer Health Practices

Dr.E. Muthukumar<sup>1\*</sup>, Prof. Aravindan Mohan<sup>2</sup>, Dr. Viju Samuel<sup>3</sup>, Prof.S.R.Sathyanarayanan<sup>4</sup>, Ms.S.Sukanya<sup>5</sup>

<sup>1\*</sup>Professor, Department of MBA, Nehru Institute of Engineering and Technology, Coimbatore, Tamilnadu, India

<sup>2</sup>Assistant Professor, Reva Business School, Reva University, Bengaluru, Karnataka, India

<sup>3</sup>Associate Professor, Reva Business School, Reva University, Bengaluru, Karnataka, India

<sup>4</sup>Assistant Professor, Department of MBA, Nehru College of Management, Coimbatore, Tamilnadu, India

<sup>5</sup>Assistant Professor, Department of MBA, Nehru Institute of Engineering and Technology, Coimbatore, Tamilnadu, India

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## ABSTRACT

One of the main factors affecting health is food safety and lack of proper safety inspection. It has an impact on people's chances of living, health, livelihood, and production, and eventually, on the whole of society. Foodborne illnesses are a significant burden and issue for public health across the globe. This study analyze the awareness of customers relates to food safety in selected districts in Tamil Nadu. Basically the emerging risk is identified into three types of risk one is microbiological risk the second one is physical risk and the third is chemical risk. The study aims to focus with the microbiological risk of meat consumption and it highlight with the inclusion of identification with the meat related risk with the knowledge of safe food handling behavior and also indicating the risk behavior of cross- contamination in uncooked raw meats with their leftovers. The data were surveyed with interviewed face- to-face by a well-structured questionnaire among 150 consumer's in three selected districts of Tamil Nadu namely Erode and Tirupur. 27 questions under different groups the demographic information of the respondents, cross-contamination, food handling behavior, microbiological risk, food safety hazards, consumer education and consumer attitude and knowledge. The study illustrate the systematic procedure for handling the meat in retail shop with neat sanitary condition to distribute to the meat to the customers and create the awareness of food safety and to avoid the food borne disease risk. Bringing the food safely to the home without creating any harm and cook the food thoroughly it will avoid the risk of pathogens, viruses and bacteria.

**Keywords:** Microbiological Risk, Knowledge of Safe Food Handling Behavior, cross-contamination, uncooked raw meat.

## Introduction

In all over the world the illness of Foodborne disease is difficult to estimate and also it has been reported that in the year 2000 that 2.1 million people died due to the cause of diarrheal diseases. The world health organization (2006.WHO) there is a need of practice related to hygiene in kitchen should be clean. Before cooking the hands should be washed and also after cooking also hands should be washed. The surrounding of kitchen area also should be keep neat and clean to avoid the risk of hazards. Food is very essential to live a life that should be safely distributed to the customers without any harm from the starting point of view from the producer to the consumer.

## Microbiological Risk

There are three type of risk found one is microbiological risk the second one is physical risk and the third one is chemical risk here the study concentrate on microbiological risk. Because it is unknown by the customer's the microbiological risk is caused by the viruses, bacteria and pathogen. It is only visible by microscope not identify by the ordinary visible of your eyes so, the risk is high it should be known to all how to keep your food safe while preparation of food and also the surroundings of the environment where we purchase the raw food.

The risk starts from production to plate of the consumer at any stage it becomes contaminated so consumer must aware of the risk to avoid the hazards. The selected district all meat are sold combine in one shop for the convenience of the customers but the risk is unknown by all. The meat of goat, hen and fish are sold combine and also in open display the dust spread the unhygienic condition of the meat product then all the snacks shop, fruit shop, hotel, restaurants are near to the open meat shop. The insect spread the disease to all so follow the rules and regulation of food safety act 2006 and avoid the risk is essential for that purpose the research concentrate on microbiological risk and also the food safety officers are less in number. In urban area the risk is high due to of new competitors there is a lack of place availability may increase the risk so it should be avoided.

### **Knowledge of safe food handling behavior**

To do anything it is very essential to know the knowledge of safe food handling behavior

Before cooking the hand should be washed and also after cooking also hand are washed. Then the person who involve for food preparation he/she should be dressed hygiene and the nail, hair should be properly cut and the person should not wear chain ring to avoid the physical risk. The surrounding of cooking area should be neat and clean. Before cooking the vessel should be checked without the crack. The knife and table board should be washed before cutting the meat and after cutting the meat and also separate knife and cutting board should used to avoid the risk of pathogen. But in the selected district all using the same cutting board for all meat and also no separate knife is used for cutting the meat. It will create the risk of foodborne illness so these information should be inform to all customers then only the risk is avoid the hazard.

So there is a need of consumer awareness programmed and also it should be teach in school level to college level and also documentary film should be shown in all common place were ever the crowd then it create the awareness among public.

### **Cross-contamination**

Cross contamination is how bacteria can spread and it's occurs when juices from raw meat or germs from unclean objects touch cooked or ready – to eat or raw food. Here the cross contamination happens with the physical movement or transfer of harmful bacteria from one person to another. It is very important to follow the steps as you store the food safe in home and shop and cook the food thoroughly it reduce the risk of Foodborne illness and food poisoning.

### **Uncooked Raw Food**

The raw food immediately get contamination so before cooking the raw food should be handle with the washing hand and after cleaning the meat the hands should be thoroughly washed then only we avoid the risk of Foodborne illness. The food should be keep safe and also

Store in refrigerator at the last self it should not be mingle with vegetables and fruits if the juice of the meat unfortunately mix it create the risk and also cooked and uncooked food should be separately stored.

## **Literature Review**

The research strategy used in this literature review is to locate and analyse the historical beginnings of food safety so as to understand the theoretical foundation for this study.

Md. Abdul Halim, Md. Ashraful Islam, Adrita Afrin (2024) in their study humans and the food industry both depend on food safety. As a result, food handlers must have a strong understanding of food safety and practice good hygiene. The purpose of this study was to assess restaurant food workers' food safety knowledge and hygiene practices in Manikganj, Bangladesh. A total of 150 food workers were interviewed to assess their level of knowledge and practices on food safety and hygiene. The majority of people believe that knowing how to properly wash your hands reduces the risk of food contamination. Furthermore, 83.7% of people who use gloves to process food do so to prevent contamination (98 %). While 56.66 % of the respondents were confident in their knowledge of how to clean instruments properly to avoid food contamination, 40.66 % avoided it, and 2.67 % had no idea. Only 36% disagreed with the proportion of participants (50.67%) who agreed that eating and drinking at work increases the risk of food contamination. According to 34.67% of those polled, washing utensils with detergent removes contamination. Using preventative approaches, providing continuous education to food handlers on food hygiene and food safety, ensuring that monitoring systems are in place, and increasing the power of health inspectors concerning food inspection can all help to improve the effective management of microbiological hazards.

A study conducted by Mwove et al., (2020) assessed 345 street food sellers based on their hygiene and safety practices. Data for this study was gathered via in-person interviews utilizing structured questionnaires and an assessment tool to evaluate personal cleanliness, food handling modus operandi, and the vending environment of SFVs (SFV). The findings indicated a notable health risk for consumers of street meals in the surveyed region. The study revealed that 63.2 percent of SFVs were male and lacked adequate education or professional training. Only 38.1 percent of male vendors had studied till high school. The study exposed that 86.1% of vendors do not clean their hands for payment after delivering food items, and 22.3% store the

leftover food without any conservation to resell it the next day. Just 27% of food handlers showed their interest to public health officials in getting their medical certificate.

Hossen et al., (2020) assessed the levels of food safety-related awareness, beliefs, and actions within a sample of 200 food sellers located in the Jashore area of Bangladesh. According to the findings, the vendors in this specific region should consider altering their conduct regarding food safety. Despite this, they generally exhibit a commendable level of expertise in the subject matter. A randomized, descriptive, cross-sectional research endeavor focused on food safety unveiled that 96% of the food vendors were males, and 63% of them had excess body weight. Additionally, 72.5% of the participants were active smokers. It was found that only 33% of vendors displayed a favourable food safety attitude, and merely 0.5% implemented these practices in their daily routines. Although 72.5% demonstrated a good understanding of food safety measures, it was found that more than 90% of vendors handled food without wearing any safety equipment. Additionally, 4.5% of vendors reported experiencing diarrhoea, 28.5% admitted to reusing old cooking oil, and 8.5% neglected to wash their hands after using the restroom.

Kotwal et al., (2018) analysed the hygiene and food safety practises used by urban and rural vendors. After assessing 300 vendors in metropolitan Delhi and rural areas of Haryana and Uttar Pradesh, which are near Delhi, it was observed that SFV' individual hygiene practices exhibit similarities in both settings. The safety and quality of meals sold on the street can be increased by using a joint approach with a range of stakeholders.

Kumar et al., (2017) conducted a one-time examination to identify the factors responsible for contamination in street food and assess the effectiveness of antibiotics against them. They collected 30 samples from various SFV, including cut fruits, salads, milk products, ice-cream, and two types of fast food. The study found that 80% of the street food samples were positive for foodborne pathogens, with salads showing the highest contamination (19.79%), followed by cut fruits and both types of fast food (18.75%).

### Importance of Inspection for Food Safety

Food is a need for existence, but if contaminated food is eaten, it may lead to sickness and even death. As a result, safety inspections where food is being prepared must be in place. Anything intended for use or consumption by the general public must undergo several safety inspections and tests.

### Requirement of Food Inspections

Food checks and inspections are essential to safeguard public health and ensure food safety. Several reasons necessitate their requirement:

- 1. Preventing Foodborne Illnesses:** Regular inspections help identify and mitigate potential hazards, reducing the risk of foodborne illnesses.
- 2. Ensuring Compliance:** Inspections ensure that food establishments comply with local regulations and standards regarding hygiene, storage, and handling practices.
- 3. Maintaining Quality:** Checks ensure that food products meet quality standards, including freshness, cleanliness, and nutritional value.
- 4. Protecting Consumers:** Inspections help prevent adulteration, contamination, and fraudulent practices in the food supply chain, safeguarding consumers' trust and well-being.

**Table 1. Food safety and nutrition outcomes considered in this review.**

Food safety and foodborne disease	
Health outcomes	Physiological manifestation of foodborne disease (e.g. gastrointestinal illness), acute and long-term
Nutrition-related outcomes	
Food consumption	Adequate intake of nutritious food and ability to properly digest it
Nutrient absorption	Micronutrient absorption and deficiency, ability to assimilate food

**Table 2: Key aspects to consider for the research study N=150**

Demographic Factors	Category	No. of Respondents	Percentage
Gender	Male	71	47.3%
	Female	79	52.7%
Age	Below -25	38	25.3%
	26-32	97	52.7%
	33-39	6	7.3%
	40-47	4	0.4%
	Above 50	5	0.3%
Income	Below 10000	40	26.7%
	10001-25000	78	52.0%

	26000-30000	22	14.7%
	Above 30001	10	6.7%
<b>Meat Consumption</b>	Easy availability	101	67%
	Taste	98	65.3%
	Price comparing with other meat	96	64%
<b>Habit of Consumption</b>	Daily	11	7.3%
	Weekly Once	47	31.3%
	Weekly Twice	42	28%
	Monthly Once	37	24.6%
	Monthly Twice	13	8.6%
<b>Awareness level</b>	Refrigeration	102	68%
	Food contamination	83	55.3%

### Characteristics of the respondent

Table: 2 show the socio demographic characteristic of representative samples of interviews more female participant than the male 52.7%. The majority of the respondents were in the age of 26-32 year old range. The majority of family income belongs 52% the amount of RS.10001-25000.

### The frequency of meat consumption

The great majority of respondent declared that they consume chicken relates to easy availability 67%, the second preference of consuming chicken relates to taste 65.3% and 64% of the respondent makes purchase decision relates to price comparing other meat.

### Habit of Consumption

Buying behavior of meat consumption buys meat weakly once 31.3% and 28% buy meat weekly twice. 24.6% buys monthly once and monthly twice is 8.6%. The consumption is low when consumers buy daily at 7.3%. Meat is consists of some valuable energy producers for human being. The respondents consider to this is a habitual thing for their routine life.

### Knowledge of cooking temperature for storing foods in refrigerator

To avoid the risk of food contamination it is essential to know the knowledge of the respondent how they aware of the knowledge of cooking temperature and storing food in refrigerator 68% of the respondents agree that thoroughly cook the food avoid the illness of food contamination 55.3% of the respondent strongly agree that checking and verifying the temperature of the refrigerator is essential.

### Conclusion

There are some limitation to this research that provide for future work first, the standard and food safety regulation of the respondent knowledge which makes the intention to purchase second, there is a need of information of food safety education providing in school and college level and also there is a need of consumer education relates to food safety it avoid the risk of food borne illness. Each and every year the risk is increasing due to the high population of urban areas the people move urban areas to search employment opportunity and for school education this will increase the risk of food hygiene.

There is a need of consumer awareness in future each and every person has to get deep knowledge of food safety it is essential to avoid the risk of Foodborne illness and all should concentrate for clean and neat surroundings of food purchasing market place and also make safe cooking with the hygiene and also store their food in a safe place that the bacteria and viruses should not give harm to the health.

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