

FOOD SAFETY MEASURES IN KITCHEN

Keerthana Rajesh Nair¹ and N. Anjutha Prabha²

¹Student, Department of Food Science and Nutrition, Nehru Arts and Science College, Coimbatore, Tamil Nadu, India.

²Assistant Professor, Department of Food Science and Nutrition, Nehru Arts and Science College, Coimbatore, Tamil Nadu, India.

ABSTRACT

The aim of this survey was to study about the FOOD SAFETY MEASURES IN KITCHEN. The study was done among the college students at of age 18-24 years. The survey was at Nehru Arts Science College, Coimbatore. This survey has referred some recent articles which was done by the research. The articles are based on the subtopic like food safety, HACCP, hygiene and food safety measures in kitchen. On that basis, the questions were prepared. The method survey was through online mode, where 25 questions were prepared and circulated among students, and got 92 responses. From the questions, data was collected and, on that basis, I have concluded that there is still a lacking of knowledge about proper food safety measures in kitchen. And I suggest that there should be an awareness classes about the importance's of the food safety.

KEY WORDS

Food safety, Measures of food safety in kitchen, Hygiene

INTRODUCTION

Food Safety refers to handling, preparing and storing food in a way to best reduce the risk of individuals becoming sick from foodborne illnesses. Food safety is a global concern that covers a variety of different areas of everyday life. The principles of food safety aim to prevent food from becoming contaminated and causing food poisoning. This is achieved through a variety of different avenues, some of which are:

- Properly cleaning and sanitising all surfaces, equipment and utensils
- Maintaining a high level of personal hygiene, especially hand-washing
- Storing, chilling and heating food correctly with regards to temperature, environment and equipment
- Implementing effective pest control
- Comprehending food allergies, food poisoning and food intolerance

Foods also play a great role in the culture of society and give a certain identity to a community. Consuming food brings your different experiences through the sensations

and flavours they give you. Together with, enjoyment, everyone should be entitled to food safety.

All members of the food supply chain play a role in maintaining food safety. Whether you are a food supplier, a food business owner, a manufacturer, or a customer, you have a significant part in food safety. This aspect of the food supply chain aims to protect customers from food poisoning and foodborne illnesses that can affect human life and business performance for establishment owners. Controlling food safety requires knowledge about what could endanger its integrity and stability. Food safety is negatively affected by contaminations along your food supply chain. These contaminations can be caused by biological, chemical, physical, and radiological hazards that can affect all key junctures of your operation. Without the proper management and control of food safety, issues such as foodborne diseases and food-related injuries can occur.

Food handling practices that can be applied to keep food products wholesome are what food safety is made up of. All of the members of the food supply chain must comply with established standards and legislation to maintain food safety. Proper handling and industrial processes may include cooking at the right internal temperature to prevent undercooked meat, preventing cross-contamination through proper segregation to prevent contact, storing foods at proper refrigeration temperatures, and other critical control points that help render potential infectious diseases ineffective.

The majority of food safety issues are caused by pathogenic microorganisms such as bacteria that cause food poisoning or food intoxication. They can cause mild to fatal health consequences that include watery diarrhoea, vomiting, abdominal pain, or even debilitating infections and long-term diseases. The consequences of food safety issues may have fatal outcomes for both food business owners and consumers. Basic and everyday foods can easily become contaminated. Some examples of foods involved in common illnesses include high-risk ingredients and any perishable food such as eggs, poultry, fresh fruits, raw meat or deli meats, deli seafood salads, undercooked seafood, ground meat, raw sprouts, and raw milk

products. These ingredients can become contaminated by intestinal pathogens such as bacteria and cause infection if preventive measures are not applied.

4 Basic Steps for Food Safety

Each year millions of people get sick from food illnesses which can cause you to feel like you have the flu. Food illnesses can also cause serious health problems, even death. Follow these four steps to help keep you and your family safe.

1. Clean: Always wash your food, hands, counters, and cooking tools

- Wash hands in warm soapy water for at least 20 seconds. Do this before and after touching food.
- Wash your cutting boards, dishes, forks, spoons, knives, and counter tops with hot soapy water. Do this after working with each food item.
- Rinse fruits and veggies.
- Do not wash meat, poultry, fish, or eggs. If water splashes from the sink in the process of washing, it can spread bacteria.
- Clean the lids on canned goods before opening.

2. Separate (Keep Apart): Keep raw foods to themselves. Germs can spread from one food to another.

- Keep raw meat, poultry, seafood, and eggs away from other foods. Do this in your shopping cart, bags, and fridge.
- Do not reuse marinades used on raw foods unless you bring them to a boil first.
- Use a special cutting board or plate for raw foods only.

3. Cook: Foods need to get hot and stay hot. Heat kills germs.

- Cook to safe temperatures:
 - Beef, Pork, Lamb 145 °F
 - Fish 145 °F
 - Ground Beef, Pork, Lamb 160 °F
 - Turkey, Chicken, Duck 165 °F
- Use a food thermometer to make sure that food is done. You can't always tell by looking.

4. Chill: Put food in the fridge right away.

- 2-Hour Rule: Put foods in the fridge or freezer within 2 hours after cooking or buying from the store. Do this within 1 hour if it is 90 degrees or hotter outside.
- Never thaw food by simply taking it out of the fridge. Thaw food:
 - In the fridge
 - Under cold water
 - In the microwave
- Marinate foods in the fridge.

METHODOLOGY

The first phase of this survey was Review of Literature. The second phase involved development of questionnaire which was used for data collection by a phenomenological

approach. All the data was collected in 2022 by taking sample of 90 having both girls and boys. The survey was through google form.

1. STUDY DESIGN AND STUDY AREA:

The survey was conducted at Nehru Arts and Science College, Autonomous located in Coimbatore

2. SELECTION OF POPULATION AND SAMPLE SIZE:

A purposive sampling technique was employed to enrol students (N=90) of NEHRU ARTS AND SCIENCE college of the age group of 18 – 24 years.

3. STUDY TOOL:

Self-administered questionnaire schedule, consisting of a set of 25 questions with multiple choice were administered. These questionnaires were given to individuals from the selected population

1. COMPONENTS OF QUESTIONNAIRE:

The questionnaire consisted of a demographic profile which included the name, department, gender. Components of the questionnaire included the about the food safety, the measurements of food safety in kitchen, about the personal hygiene and about the practice of food safety also. To understand that how much they about food safety.

Pre- assessment Phase –

- 1) Food safety – having knowledge about food safety
- 2) Measurements of food safety – it is about the 4stage process, i.e., cleaning, separate, cooking and chilling.
- 3) Personal hygiene – this is about the hygiene of a person before and after cooking.
- 4) Practices of food safety – it is about the steps to be done during working in the kitchen.

2. PROCEDURE:

PHASE 1: Self-administered questionnaire was handed over to students and to prevent errorsthe respondents were given enough time to answer the questions.

PHASE 2: The administered questions were collected and the data obtained were recorded for statistical analysis and interpretation to establish relationships between chosen parameters for drawing conclusions from results.

RESULTS AND DISCUSSION

STATISTICAL ANALYSIS

Statistical analysis process that gains an in- depth understanding of a large population of data by analysing the sample’s information, got 92 responses from both girls and

boys at group of 18-24 years of NEHRU ARTS AND SCIENCE COLLEGE, COIMBATORE.

1) ABOUT CLEANING OF KITCHEN

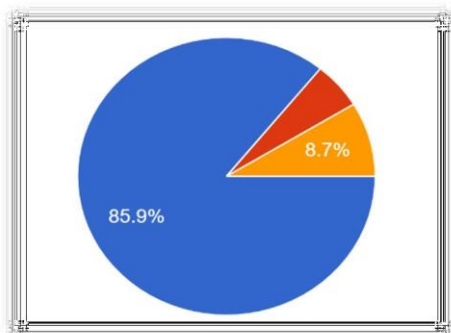


Figure:1 percentage of targeted population who know about kitchen clean

From the above pie chart, it shows that 85.9% population know how to clean the kitchen, 5.4% doesn't know how to clean kitchen and rest of 8.7% has only half knowledge about kitchen clean.

2) CLEAN OF KITCHEN IN A DAY

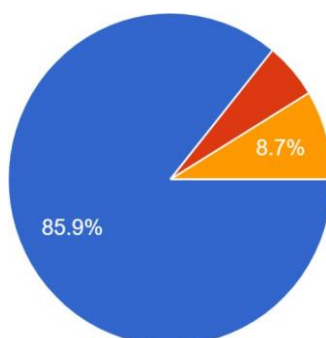


FIGURE:2 Percentage of cleaning of kitchen in a day

From about the pie chart, it depicts that the targeted population in which 48.9% people clean their kitchen twice in a day, in that only 22.3% only clean their kitchen once in a day, in that 25% clean their kitchen thrice in a day, in this data there are some 3section each with 1%, each1% has done in cleaning according to their wish.

3) SOURCE USED FOR CLEANING KITCHEN

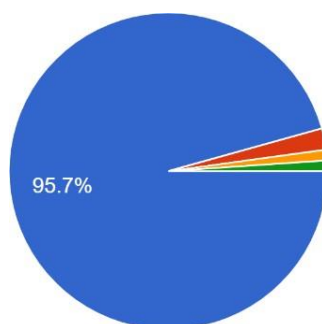


Figure:3 shows about the sources used for cleaning

From the data, 95.7% of the targeted population is using cotton cloth for cleaning, in that 2.2% use tissues for cleaning, 1.1% uses normal cloth or micro fibric cloth for cleaning and remaining 1.1% use sponge for cleaning

4) USING OF LIQUIDS FOR CLEANING:

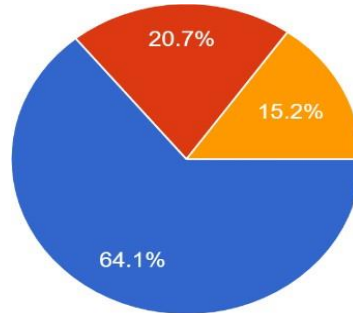


Figure: 4 shows that they use liquid for cleaning or not

From the data collected, 64.1% of the targeted population uses liquid for cleaning prepose, 20.7% doesn't use any liquids for cleaning prepose and remaining 15.2% they sometime uses and sometimes doesn't

5) CLEANING OF BOTH KITCHEN FLOOR AND COUNTER TOP

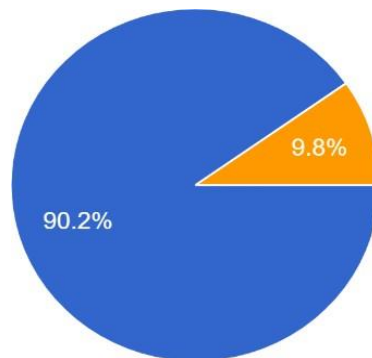


Figure:5 show that if they clean both floor and counter top

From data collected, it depicts that 90.2% of the targeted population cleans about the kitchen floor and counter top, there is no one that doesn't clean it and the remaining 9.8% do it sometimes.

6) TYPES OF WATER USED FOR CLEANING

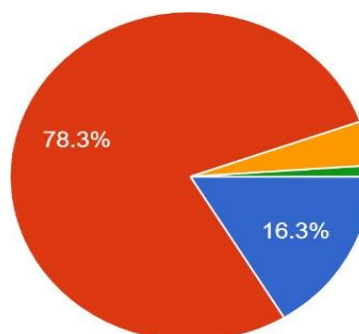


Figure:6 shows the type of water used in cleaning

From the collect data give the informs that 78.3% uses normal water for cleaning the kitchen, 16.3% uses hot water for the cleaning, 4.3% uses Luke water for the cleaning and remaining 1.1% uses both hot water and normal water for cleaning the kitchen.

7) CLEANINESS BEFORE COOKING

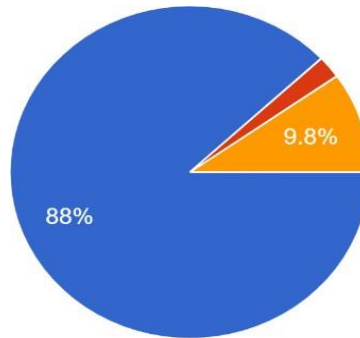


Figure:7 shows the percentage how many do clean themselves before cooking

From is collected data, its depicts that the 88% of the targeted population cleans themselves before going for cooking, 9.8% only do it sometimes and remaining 2.2% doesn't themselves before cooking.

8) LEFT OVER FOODS

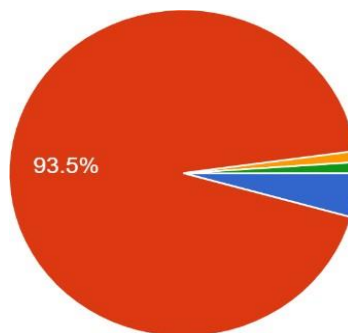


Figure:8 shows that how the leftover food is kept

From the data collected, it shows that 93.5% of the targeted population closes their leftover food, 4.3% opens their leftover food, 1.1% kept the food in refrigerator and 1.1% washes away their food.

9) KEEPING OF OPEN COOKED FOOD

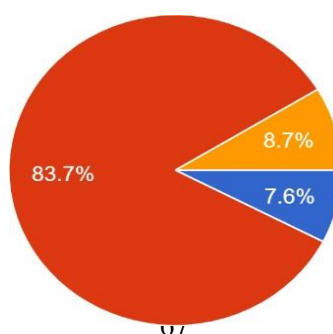


Figure:9 show the percentage of keeping food open after cooking

Data collected shows that, 83.7% of the targeted population doesn't keep their food open, 7.6% of them left their cooked food opened and 8.7% of them sometimes only kept it open.

10) WASHING OF UTENSILS BEFORE COOKING

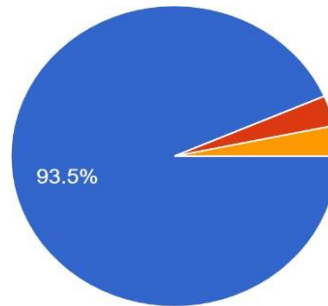


Figure:10 showing the percentage that they wash their utensils

This collected data depicts that 93.5% of the targeted population washes their utensils before cooking, 3.3% doesn't washes their utensils before cooking food and remaining 3.3% maybe they do or they don't.

11) WASHING OF HAND IN BETWEEN COOKING

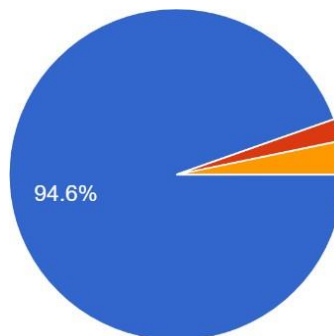


Figure:11 shows the percentage of hand washing in middle of cooking

This collected data depicts that 94.6% of the targeted population washes their hands in middle of cooking, 2.2% doesn't wash their hands in between the cooking and remaining of 3.3% maybe or not washes their hands.

12) WASHING OF UTENSILS AFTER COOKING

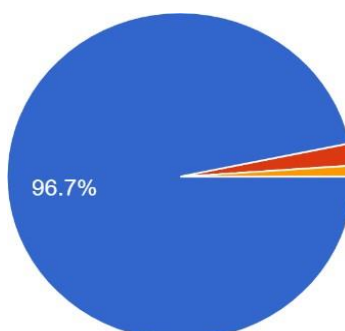


Figure:12 shows the percentage of washing their utensils after cooking

This collected data depicts that 96.7% of the targeted population washes their utensils after cooking, 2.2% of the population doesn't wash their utensils after cooking and 1.1% may washes or may not washes their utensils.

13) CLEANING OF THEIR KITCHEN USING CLOTH

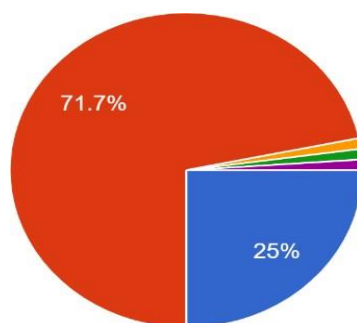


Figure:13 shows the percentage of cleaning of their kitchen cloth

This collected data shows that 71.7% of the targeted population cleans their kitchen using cloth by using normal water, 25% of them uses hot water for the using of kitchen cloths, 1.1% of them uses hot and normal water for cleaning the kitchen cloth and remaining 1.1% clean by water and surface disinfectant.

14) KEEPING OF LEFTOVER FOOD IN REFRIGERATOR

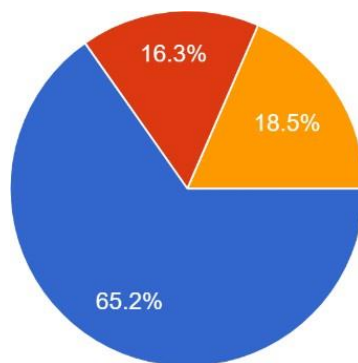


Figure:14 showing the percentage of keeping the leftover food in refrigerator

From this collected data its depicts that 65.2% of the targeted population keeps their leftover food in refrigerator, 16.3% doesn't keep their leftover food in refrigerator and 18.5% maybe or not only keep their leftover food in refrigerator.

15)KEEPING FOOD IN REFRIGERATOR AS

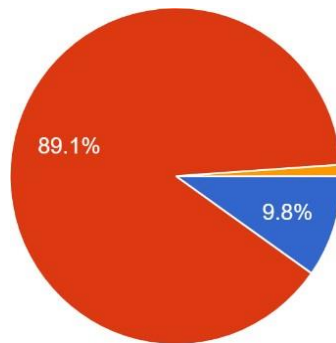


Figure:15 showing the percentage of keeping their food in refrigerator as open or closed. From this data collected it depicts that 89.1% of the targeted population closes their food when they keep it in the refrigerator, 9.8% doesn't close their food when they keep it in refrigerator and remaining 1.1% doesn't keep it in refrigerator.

16)CLEANING VEGETABLES BEFORE COOKING

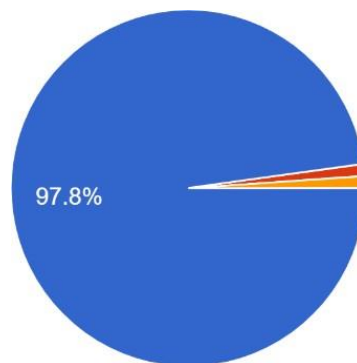


Figure:16 showing the percentage of cleaning the vegetables before cooking. From the data collected it depicts that 97.8% of the targeted population cleans the vegetables before cooking, 1.1% doesn't clean the vegetables before cooking and 1.1% maybe cleans the vegetables or may not be cleaning.

17)CLEANING OF VEGETABLES BEFORE OR AFTER PEELING

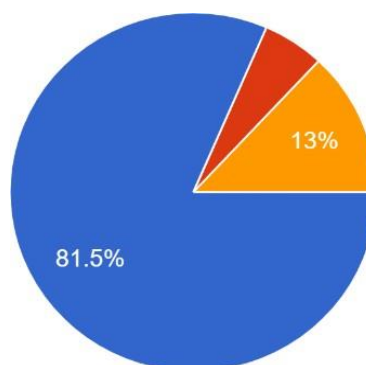


Figure: 17 showing the percentage that they clean the vegetables before or after peeling
 From this data collected it depicts that 81.5% of the targeted population clean the vegetables before peeling, 13% of them maybe they clean before peeling or after peeling and remaining of 5.4% do the clean after peeling.

18) AFTER PEELING VEGETABLES ITS NUTRITIONS ARE WASHED OUT

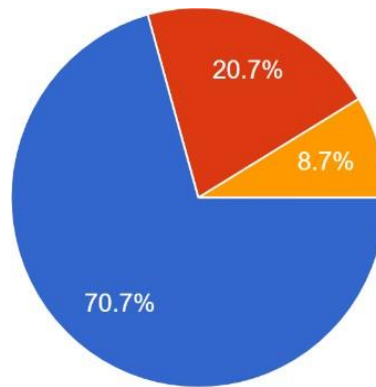


Figure: 18 shows that percentage of knowing that after peeling vegetables its nutrition willgone.

From this collected data it depicts that 70.7% of the targeted knows that after peeling of vegetables if they wash it, its nutrition will be gone, 20.7% doesn't know that nutrition will bewashed out and remaining 8.7% are not sure about it.

19) DURATION OF KEEPING VEGETABLES IN KITCHEN

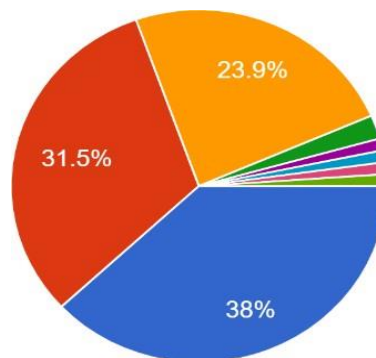


Figure:19 shows that duration of keeping vegetable in kitchen

From this collected data, it depicts 38% of the targeted population keep the vegetables for 2daysin the kitchen, 31.5% of them keep the vegetables for 5 days, 23.9% of them keep the vegetable for a week and the remaining of 6.6% keep the vegetable according to freshness and up to theuses.

20)CLEANING OF VEGETABLE DONE

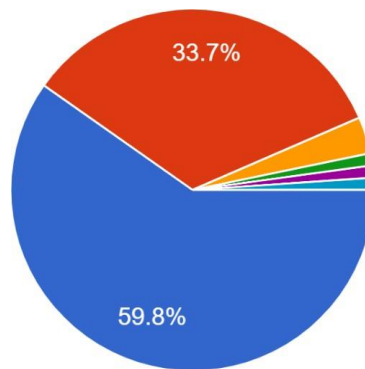


Figure: 20 shows the cleaning of vegetable done

From this data collected it depicts that 59.8% of the targeted population clean the vegetables under the running water, 33.7% of them clean the vegetable by put in vessels containing water and the remaining of 6.6% do the both or do the cleaning according to its quality.

21)CLEANING OF REFRIGERATOR

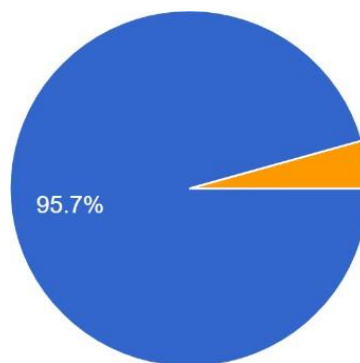


Figure:21 shows the clean of refrigerator percentage

From the collected data it depicts that 95.7% of the targeted population the clean the refrigerator and remaining of 4.3% they may be cleaning or not but most of them clean the refrigerator.

22)STORING OF MEAT AND MEAT POULTRY

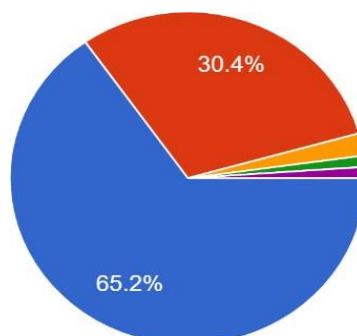


Figure:22 showing the percentage of storage of meat and meat poultry

From the collected data it depicts that 65.2% of the targeted population keep the meats and meat poultry in the refrigerator, 30.4% use the meat and its products at once and remaining of 4.4% do the both, i.e., keep in refrigerator and use it once

23)CHECKING OF EXPIRY DATE

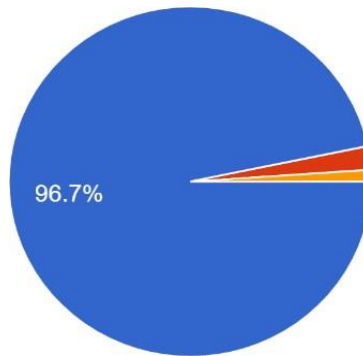


Figure: 23 shows the percentage that population check the expire date

From the collected data it depicts that 96.7% of the targeted population check the expire date before buying a product, 2.2% of them don't check the expire date of the product and 1.1% maybe checking or may not checking the expire date.

24)CLEANING TO MEATS

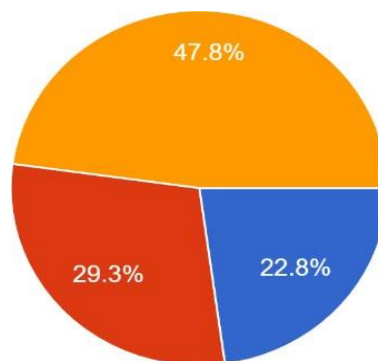


Figure: 24 show the percentage of population cleaning of meat

From the collected data it depicts that 47.8% of the targeted population meat the clean thrice a time, 29.3% of them clean the meat twice a time and remaining of 22.8% clean the meat only once time

25) PROPERLY COOKING OF MEAT

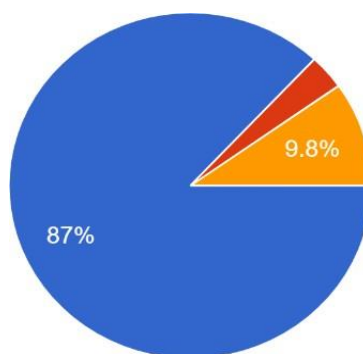


Figure:25 showing the percentage that is meat cooked properly or not

From the collected data it depicts that 87% of the targeted population clean the meat properly, 3.3% doesn't clean the meat properly and remaining 9.8% of them do it or maybe not.

RESULTS

From this whole data collection or by this survey, I can conclude that most of the students of 18-24 age group know about the food safety and its measures. What all are things that should be followed to keep the kitchen and food clean and tidy. Only very few students don't know about it and some have confusion or lack of knowledge about how to keep the kitchen clean and tidy. What are the measures to be taken for cleaning purpose, food hygiene and personal hygiene and all the safety measurements that should be followed. For the lacking knowledge, awareness should be provided so that each and every person can keep their kitchen clean and hygiene so that there will be no growth of microorganisms which can contaminate the food that causes foodborne diseases.

CONCLUSION

The summary of this survey is: **FOOD SAFETY MEASURES IN KITCHEN**, which was done at NEHRU ARTS AND SCIENCE COLLEGE, COIMBATORE. This survey topic was taken to study that the college students have a knowledge about the food safety and its measures in the kitchen. Food safety is the basic important measure to be taken. Nowadays it has become equal to human rights. For this topic, there are lots of articles there, from that I have selected some from it. The articles were taken from recent research (2018-2022). The article was taken on the basis of subtopics of this survey that are food safety, HACCP, hygiene and measures taken in the kitchen. I have done this survey through online by the means of Google Forms. For that I had prepared questions on the basis of the articles that I had read. From that I had chosen 25 questions and made it in Google Form. It was passed among the college students. I got 92 responses. For each question there were pie charts,

which the data of students that has knowledge about the food safety measures. For each question there is a discussion based on the pie chart. From that data collection I came to conclusion that there is still a lacking of knowledge about proper food safety measures in kitchen.

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