

**ANALYSIS OF COLD KITCHEN STAFFS IN
IMPLEMENTATION OF FOOD SAFETY AND
HYGIENE STANDARD IN XYZ HOTEL JAKARTA**

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THESIS ADVISERS RECOMMENDATION LETTER

This thesis entitled "**Analysis of Cold Kitchen Staffs In Implementation of Food Safety and Hygiene Standard in XYZ Hotel Jakarta**" prepared and submitted by Edwin Ruser in partial fulfillment of the requirements for Bachelor of Science in Economics in the Faculty of Economics has been reviewed and found to have satisfied the requirement for a thesis fit to be examined. I therefore recommend this thesis for Oral Defense.

Cikarang, Indonesia, 30th January 2012

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DECLARATION OF ORIGINALITY

I declare that this thesis, entitled "**Analysis of Cold Kitchen Staffs in Implementation of Food Safety and Hygiene Standard in XYZ Hotel Jakarta**" is, to the best of my knowledge and belief, an original piece of work that has not been submitted, either in whole or in part, to another university to obtain a degree.

Cikarang, Indonesia, 30th January 2012

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ABSTRACT

Food Safety and Hygiene Standards is a very important subject in food service industry and very crucial to protect the customers from contaminations due to lack of knowledge in Food Safety and Hygiene Standards. There are problems occur in implementing the standards, in which what this research is aiming for to solve it. It is to help the hotel have a clear view on the importance of Food Safety and Hygiene Standard, although it has no report on food poisoning, it is better to not wait for it happened.

In more than six months, researcher collecting data and findings by doing questionnaires and interviews with the 11 staffs at Cold Kitchen of XYZ Hotel Jakarta. Researched learned that majority of the staffs has low knowledge in Food Safety Standards, especially in personal hygiene, temperature control and the Hazard Analysis Critical Control Point.

With limited data collected due to their hesitant to reveal their standard, this research finds it difficult to confirm their standard. However with backed professional guide book by Chartered Institute of Environmental Health in United Kingdom, this research can be done according to the standard. The results are not everyone aware the importance in implementing the Food Safety and Hygiene Standards in personal hygiene, kitchen hygiene and especially in HACCP system application for a five-star hotel and lack of support from the hotel management make this happens.

Ensuring the safety of the food before serving it to the customer is important because it affect the reputation of the industry, hotel and also the staffs. It becomes the good habit to protect the image of the hotel itself. Therefore the researcher recommend to put special attention for the application of all the standard required not just being done once in a while but to be a habit to do it.

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The researcher realized this thesis is far from perfect. Criticism and advices are welcome. The researcher hopes this thesis will be useful for others.

Edwin Ruser

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LIST OF ACRONYMS

1. **½ CDP:** Demi Chef de Partie
2. **CCPs:** Critical Control Points
3. **CDP:** Chef de Partie
4. **F&B:** Food and Beverage
5. **FAO:** Food and Agriculture Organization of the United Nation
6. **FIFO:** First In First Out
7. **HACCP:** Hazzard Analysis Critical Control Point
8. **IDIs:** Individual Dept Interviews
9. **LIFO:** Last In First Out
10. **SC:** Sous Chef
11. **SOP:** Standard Operating Procedure
12. **WHO:** World Health Organization of the United Nation

CHAPTER I

INTRODUCTION

1.1 Background of Study

In a hotel, there are many departments with their own jobs, rights and responsibilities in which also to support one another for the smooth operation of the hotel. And there is one particular department where it contributes the biggest sales on the hotel; it is Food and Beverage Department. F&B Department is considered one of the most important features of the hotel because it is the main money generator of the hotel other than room sales.

F&B Department has the responsibility to produce food and beverages for all hotel guests or customers. This responsibility is done by the F&B Production, which is Kitchen Department under F&B Department where it works simultaneously with the F&B Service Department where their responsibility is to serve the food and take the order from the hotel guests or just walk-in guests.

Kitchen department has the most difficult duty, is to satisfy the guests or customers in which reflect the image of the hotel. It is because most of the guests stay in a hotel, especially expatriates or foreigners, they usually expect different treatment or excellence quality of food as they like to make a comment, suggestion or even some criticism from the food the hotel served.

There are things to be done to ensure guest satisfaction in eating the food provided or served by the hotel, such as presenting the food in garnishes, then it also need to ensure the hygiene and the quality of the food and the raw materials when being prepared for the guests order.

The working culture in the kitchen also determined the quality and hygiene level of the food, most importantly the raw material of the food served. There are various ways of processing or storing the food can determine the quality of food hygiene itself.

There are foods with high or low risk of contamination and even can become food-borne illness which makes the food turned into poison. These will certainly damage the quality of the food which can lower the guest satisfaction.

These hygiene qualities from the food not only determine the guest satisfaction but also the successful marketing of the hotel, but also the safety of the guests who consume or eat the food served. If any contamination happened between preparing, cooking and serving the food, then the guests will become the victims of the mistakes made by the hotel especially, the Kitchen Department who make the food. And this, of course, would be a very detrimental to everyone involved inside the hotel or even the image of the hotel as well.

1.2 Company Profile

XYZ Hotel Jakarta is a one of four-star hotel in Jakarta, offering excellence in service, the beauty of the physical structure or building and also the quality of food and beverages.

XYZ Hotel Jakarta has 5 kitchens and a bar, they are Chinese Kitchen, Executive Kitchen, Steak Kitchen, Main Kitchen (Hot and Cold), Pastry and a Bar kitchen.

1.3 Problem Identified

Problems of non adherence to food safety standards is becoming a big concern in the hotel industry. A study from The World Health Organization (WHO) reports that up to 30% of individuals in developed countries acquire illnesses from the food and water consumed annually (World Health Organization, 2007). The WHO has identified five factors that contribute to these illnesses: improper cooking procedures, temperature abuse during storage, lack of hygiene and sanitation by food handlers, cross contamination between raw and fresh ready-to-eat foods, and acquiring food from unsafe sources (World Health Organization, 2006)

At XYZ Hotel Jakarta similar problems were observed during the 6 months. Generally, the problems were related to lack of training. Specifically, the problems observed are the following:

- 1.3.1 The staffs are not doing a proper hand washing procedure.
- 1.3.2 The food storages are not in a correct way of doing it.
- 1.3.3 The staffs are rarely checking on food temperature.
- 1.3.4 The kitchen does not really provide a proper facilities to support the standard of food safety and hygiene standard.
- 1.3.5 Lack of awareness of the staffs in maintaining and preserving the cooking equipment.
- 1.3.6 The position of rubbish bins and the working tables are just too close.
- 1.3.7 Lack of availability of hand gloves.
- 1.3.8 There are still some staffs not fully implement the personal hygiene program.
- 1.3.9 Lack of First In First Out (FIFO) in storing goods.

These problem occurs because of low intensity of on food safety and hygiene training, limited facilities, or just ignorance towards what they are doing.

Therefore, there should be at least once every month training on food safety and hygiene standard to the kitchen staffs by selected professional company and being at least once a week inspection. The writer decides to choose this problem because he wants to improve the mindset of the kitchen staffs at XYZ Hotel Jakarta , to particularly point out the mistakes they have been doing as to benefit the hotel future's.

1.4 Statement of The Problem

The research on Cold Kitchen or Garde Manger staffs and their adherence to food safety standards is the key focus of this research. It is because the researcher

wants to find out why the Cold Kitchen or Garde Manger staffs have difficulties to implement the food safety and hygiene standards that has been taught by the international accredited training company in order to show the effectiveness of food safety and hygiene training towards the willingness of the staffs to do it, and to recommend practicable solutions to avoid any future problems.

1.5 Research Objective

It is to analyze the reasons why the Cold Kitchen or Garde Manger Department staffs are not implementing the food safety and hygiene standards of the hotel. And also to investigate the difficulties and hindrances in implementing the standards.

1.6 Significance of the Study

This research is aiming to create a better understanding between the kitchen department management and the Cold Kitchen or Garde Manger staffs on the importance of implementing the Food Safety and Hygiene Standard properly which will benefit the hotel itself like less guests complaints and more guests praise and satisfactions.

1.7 Theoretical Framework

According to Marwaha, 2007, Adequate food safety education and training that all food handlers must received are:

- a. They are aware of the dangers of poor food handling,
- b. They have the knowledge to break the chain of events that results in food poisoning,
- c. Also, a good standard of food safety depends on food workers knowing:
 1. How the job is done,
 2. And why it should be done and then by doing it properly.

Ensuring Food Safety and Hygiene Standards Implementation

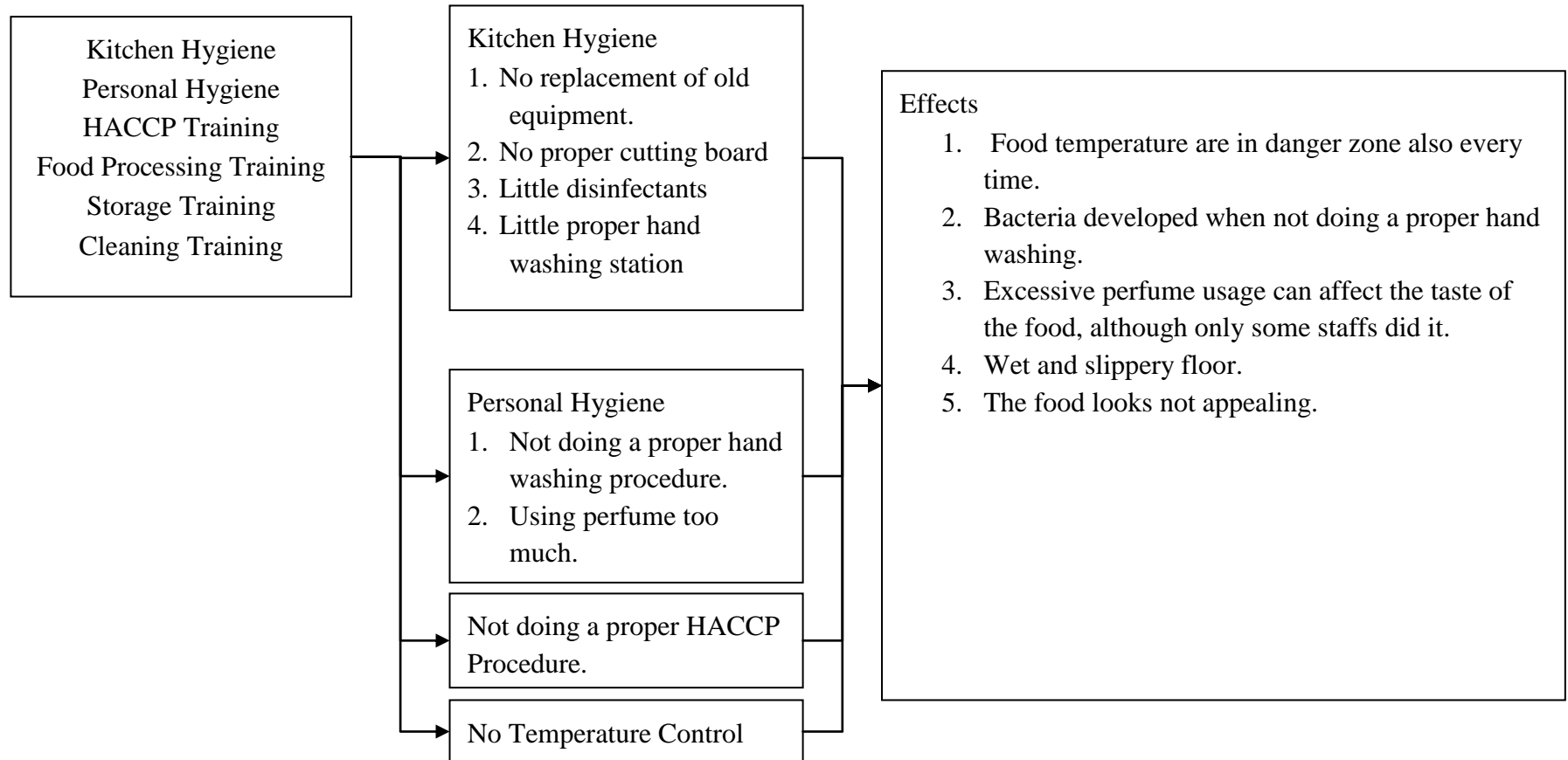


Figure 1.1 Food Safety and Hygiene (Kavita Marwaha, 2007) (Adjusted by the researcher)

1.8 Scope and Limitation of the Study

This research is done by gathering data from one four star hotel, and only getting the data from kitchen, specifically from Cold Kitchen or Garde Manger, with a size of staff not more than 11 people, 10 males and 1 female. As a qualitative research, the writer only gather a sample of questionnaire and also 2 interviews with an observation done in 6 months from Mid January 2011 to Mid July 2011

1.9 Definition of Terms

Demi Chef de Partie (½ CDP) is the assistant of Chef de Parties whose responsibility is the same and they will be in charge is the CDP is not present.

Chef de Partie (CDP) is a chef whose responsible for a department of the kitchen. Partie chefs may be described as a technical session supervisor. They directly supervise staff, equipment and the processing of raw materials in specialised areas of food production. In addition to supervisory skills, the chef de partie must have acquired a high level of expertise in culinary skills and knowledge. This is essential as they are actively involved in the preparation of food for the table and the practical training of staff.

Commies is a basic chef in larger kitchens who works under a *chef de partie* to learn the station's responsibilities and operation.

Contamination is a harmful intrusions, such as the presence of toxins or pathogens in food.

Critical control point is a specific point, procedure, or step in food manufacturing at which control can be exercised to reduce, eliminate, or prevent the possibility of a food safety hazard.

Danger is hazard, risk or threat to the safety of the food.

Date label is the labeling of the food product to identify when it was produced and expired.

Disinfection is the process of killing pathogenic organisms or rendering them inert.

First In First Out (FIFO) is an inventory costing method which assumes that the first items placed in inventory are the first sold. Thus, the inventory at the end of a year consists of the goods most recently placed in inventory.

Food handler is any person employed in a food premise, who at any time may be involved in the manufacturing, preparation or packing of food for sale.

Food poisoning is a general term for health problems arising from eating contaminated food. Food may be contaminated by bacteria, viruses, environmental toxins, or toxins present within the food itself, such as the poisons in some mushrooms or certain seafood. Symptoms of food poisoning usually involve nausea, vomiting and/or diarrhea. Some food-borne toxins can affect the nervous system.

Food safety is a scientific discipline describing handling, preparation, and storage of food in ways that prevent foodborne illness. This includes a number of routines that should be followed to avoid potentially severe health hazards.

Food safety procedure is the steps to prevent any contamination to avoid health hazards.

Garde Manger is responsible for preparing cold foods, including salads, cold appetizers, *pâtés* and other *charcuterie* items.

Hazard is Codex Alimentarius (Anon, 1996) defines a hazard as: a biological, chemical or physical agent in or property of food that may have adverse health effects.

Hazard Analysis Critical Control Point (HACCP) is a food production, storage, and distribution monitoring system for identification and control of

associated health hazards. It is aimed at prevention of contamination, instead of end-product evaluation. In place of relying on food inspectors to detect food safety problems, HACCP shifts the responsibility to the food producer to ensure that the product is safely consumable.

High risk food is those foods that are likely to be the vehicles of food poisoning organisms. They are ready-to-eat foods and under favorable conditions support the growth and multiplication of pathogenic bacteria.

Shelf life is the recommendation of time that products can be stored, during which the defined quality of a specified proportion of the goods remains acceptable under expected (or specified) conditions of distribution, storage and display.

Sous Chef is the second in command and direct assistant of the Executive Chef. This person may be responsible for scheduling and substituting when the Executive Chef is off-duty and will also fill in for or assist the *Chef de Partie* (line cook) when needed.

Standard Operating Procedure (SOP) is an established procedure to be followed in carrying out a given operation or in a given situation.

Temperature control is a process in which change of temperature of a space (and objects collectively there within) is measured or otherwise detected, and the passage of heat energy into or out of the space is adjusted to achieve a desired average temperature.

CHAPTER II

LITERATURE REVIEW

2.1. Training in Food Safety and Hygiene

According to Roberts, K. R., & Barrett, B. (2009), training is an important aspect of food safety programs in commercial restaurants and is integral in ensuring that safe food is served. The purposes of their research were to explore restaurant managers' beliefs, attitudes, subjective norms, and perceptions of control with regard to providing employees the opportunity to attend food safety training and to determine how these characteristics differ between independent and chain restaurant managers as well as between managers with and without food safety certification.

Also a telephone survey done by Roberts, K. R., & Barrett, B. (2009), yielded a total of 237 responses. Results indicated that intention to offer Food safety training was high. Restaurant managers had a positive attitude about food safety, placed importance on the beliefs of those around them, and felt in control about offering food safety training. Compared with managers without food safety certification, certified managers had more positive attitudes about offering food safety training and placed greater emphasis on subjective norms, but perceived less control. Certified managers had a higher intention to train employees than non-certified managers. When behavioral, normative, and control beliefs were compared between chain and independent restaurant managers, only behavioral and normative beliefs differed.

A study completed by Roberts, K. R., B. B. Barrett, A. D. Howells, C. W. Shanklin, V. K. Pilling, and L. A. Brannon (2007) conducted a pre- and post-test survey and observation of food service employees to determine if food safety training improves overall food safety knowledge and behaviors. The results indicated that knowledge and behavior increased significantly for hand washing,

but neither knowledge nor behaviors improved for time and temperature abuse or thermometer use.

Food safety involves more than just cleanliness; it includes all practices involved with:

- a. Protecting food from the risk of contamination, including harmful bacteria, poisons and foreign objects.
- b. Preventing any bacteria present in the food multiplying to a level that would result in food poisoning, or the early spoilage of the food.
- c. Destroying any harmful bacteria in the food by thorough cooking or processing. (Kavita Marwaha, 2007)

A good knowledge of safe food handling practices is essential for all those involved in food processing, storage, distribution and sale. All food handlers must receive adequate food safety education and training that ensures:

- a. They are aware of the dangers of poor food handling,
- b. They have the knowledge to break the chain of events that results in food poisoning. (Kavita Marwaha, 2007)

A good standard of food safety depends on food workers knowing:

- a. How the job is done,
- b. Why it should be done, and then by doing it properly. (Kavita Marwaha, 2007)

2.2. Codex Alimentarius and HACCP

The Codex Alimentarius Commission implements the Joint FAO/WHO Food Standards Program, the purpose of which is to protect the health of consumers and to ensure fair practices in the food trade. The *Codex Alimentarius* (Latin, meaning Food Law or Code) is a collection of internationally adopted food standards presented in a uniform manner. This document follows the food chain from primary production through to final consumption, highlighting the key

hygiene controls at each stage. It recommends a HACCP-based approach wherever possible to enhance food safety as described in *Hazard Analysis and Critical Control Point (HACCP) System and Guidelines for its Application*. (Kavita Marwaha, 2007)

HACCP is an acronym used to describe the Hazard Analysis and Critical Control Point system. The HACCP concept is a systematic approach to food safety management based on recognized principles which aim to identify the hazards that are likely to occur at any stage in the food supply chain and put into place controls that will prevent them from happening. HACCP is very logical and covers all stages of food production from the growing stage to the consumer, including all the intermediate processing and distribution activities. (S. Mortimore and C. Wallace, 2001)

According to *The Professional Chef* 8th Edition, 2006, the heart of HACCP is contained in the following seven principles

1. Assess the hazards.
2. Identify the critical control points.
3. Establish critical limits and control measures.
4. Establish procedures for monitoring CCPs
5. Establish corrective action plans.
6. Set up a record-keeping system.
7. Develop a verification system.

2.3. Food Safety And Hygiene

According to Claire Nash for Chartered Institute of Environmental Health (CIEH), 1998, Food Safety involves safeguarding food from anything that could harm the health of consumers. While high standards enable everyone to enjoy their food without illness, injury or other problems, poor standards can lead to all kinds of harm – and even death. As food safety is so important to everyone, food handlers have legal obligations for keeping food safe to eat. It is to look at the impact of food safety and introduces the part food handlers play in it.

Food Hygiene – the measures needed to ensure the safety and quality of foods throughout the various stages of production and sale. These includes maintaining a clean environment and clean food handlers, prevention of contamination and prevention of opportunity for micro-organisms to grow to dangerous levels.

Also in comparison with Richard Lawley, Laurie Curtis & Judy Davis, 2008 that The term food safety has no universally accepted definition. In fact, it is sometimes used, wrongly, in relation to defects in food commodities that are much more to do with food quality than with safety. For example, microbial spoilage of food may make it unattractive, or even inedible, but if neither the micro-organisms concerned, nor the by-products of their growth and metabolism have any adverse effect on health, then it is not strictly a food safety issue, but one of acceptability.

Essentially, the practice of food safety can be distilled down to three basic operations:

1. protection of the food supply from harmful contamination;
2. prevention of the development and spread of harmful contamination;
3. effective removal of contamination and contaminants.

Most food safety procedures fall into one, or more than one, of these categories. For example, good food-hygiene practice is concerned with the protection of food against contamination, effective temperature control is designed to prevent the development and spread of contamination, and pasteurization is a measure developed to remove contaminants.

Terms	Definition	Example
Hazard	Source of harm	Wet slippery floor (due to water leak)
Risk	Likelihood of being exposed to hazard and the likelihood of being harmed if exposed	Low risk - wet floor is in the corner of an unused room High risk - wet floor is in a poorly lit area that many people walk through
Control measures	The action that can be taken to reduce the risk of exposure or fully eliminated the hazard	Reduce risk - wet floor warning sign is placed in front of area Eliminate hazard - leak is fixed and water is mopped up

Table 2.1 Definition of Risk, Hazards, and associated terms. (CSIRO Food and Nutritional Sciences, 2010)

People have the right to expect the food they eat to be safe and suitable for consumption. Food borne illness and food borne injury are at best unpleasant; at worst, they can be fatal. But there are also other consequences. Outbreaks of food borne illness can damage trade and tourism, and lead to loss of earnings, unemployment and litigation. Food spoilage is wasteful, costly and can adversely affect trade and consumer confidence.

International food trade, and foreign travel, are increasing, bringing important social and economic benefits. But this also makes the spread of illness around the world easier. Eating habits too, have undergone major change in many countries over the last two decades and new food production, preparation and distribution techniques have developed to reflect this.

Effective hygiene control, therefore, is vital to avoid the adverse human health and economic consequences of food borne illness, food borne injury, and food spoilage. Everyone, including farmers and growers, manufacturers and processors, food handlers and consumers, has a responsibility to assure that food is safe and suitable for consumption. (*Kavita Marwaha, 2007*)

2.4. Temperature Control

As stated by Claire Nash for Chartered Institute of Environmental Health (CIEH), 1998, as bacteria and other micro-organisms are an essential part of the natural world, some foods and ingredients could already be contaminated when they arrive at your workplace. You must do everything possible to prevent food-borne illness by controlling the condition that encourage bacterial multiplication and by destroying as many pathogenic micro-organisms as possible.

Temperature control involves restricting the time that high risk foods are left at temperatures in the danger zone and using high temperatures to kill pathogenic micro-organisms. The basic rules of good practice are:

- a. restrict the time that high risk foods spend at danger zone temperatures
- b. keep cold food really cold, ideally at 5°C or cooler.
- c. Keep hot food really hot, at 63°C or hotter.

It is also important to keep food out of the danger zone, the longer that high risk food is at danger zone temperatures, the more chances bacteria have to multiply to levels that cause food poisoning. Food is likely to be in danger zone if it is left at ambient room temperatures.

In addition, food passes through the danger zone while it is being cooled, thawed or heated. It is therefore essential to:

- a. ensure that food is at safe temperature when it is delivered to your workplace
- b. refrigerate raw, highly perishable and high risk foods immediately after delivery
- c. keep refrigerated food in storage until it is needed for preparation or serving
- d. cook food thoroughly (see chart)
- e. serve hot food at 63°C or hotter

- f. cool hot food as rapidly as possible so that the food spends as short time as possible at danger zone temperatures
- g. thaw frozen food in a refrigerator (unless it can be cooked from frozen) so that the outside of the food cannot reach danger zone temperatures while the inside is still frozen
- h. re-heat food adequately to kill most pathogenic micro-organisms.

Stage of Food Handling	When to Check Temperature	Recommended Safe Temperatures
DELIVERY	Every time perishable food is delivered.	0°C to 5°C is ideal for refrigerated food. -22°C to -18°C is ideal for frozen food.
STORAGE		
Refrigerated or cold store	Daily, at least	0°C to 5°C.
Refrigerated storage counter or display	Daily, at least	0°C to 5°C is ideal.
Deep freezer	Daily, at least	-18°C or below.
THAWING		
Frozen meat and poultry	Whenever food is thawed.	0°C to 5°C.
COOKING		
eg. joints of meat and poultry	Whenever food is cooked.	Minimum core temperature of 70°C for 2 minutes.
COOLING	Whenever food is cooled.	10°C or cooler (ideally 5°C or cooler), ideally within 90 minutes.
RE-HEATING	Whenever food is re-heated.	Minimum core temperature of 70°C for 2 minutes.
HOT FOOD ON DISPLAY	Frequently throughout the display period.	Minimum core temperature of 63°C.
COLD FOOD ON DISPLAY	Frequently throughout the display period.	0°C to 5°C is recommended.

Table 2.2 Recommended Safe Temperature on Food Handling by Claire Nash for Chartered Institute of Environmental Health (CIEH)

The Table 2.2 gives the temperatures that are generally accepted as good practice together with the recommended period of time involved where appropriate. Keeping food at these temperatures plays a major part in ensuring that food is safe to eat. However, different companies, industries and countries set slightly different rules for food temperatures so it is important to check and to follow the legislation and workplace rules governing your work activities.

2.5. Cleaning, Disinfection And Sanitation

2.5.1 Cleaning And Disinfection

As concluded by Claire Nash for Chartered Institute of Environmental Health (CIEH), 1998, customers expect food premises to be clean and they assume that you handle their food hygienically. Clean and tidy workplaces create a good impression as well as helping to make a safe, pleasant environment for everyone.

However, it is important to remember that even when something looks perfectly clean, it could be contaminated. Cleaning is the process of making something free from dirt and contamination. It involves the use of energy – *your* effort or that of a machine, such as a dishwasher or floor scrubber. Activities include wiping, rubbing, scrubbing, scouring, brushing and sweeping. Cleaning is intended to keep food and workplaces safe. In particular, cleaning aims to:

- a. protect food from microbial contamination
- b. reduce opportunities for bacterial multiplication, by removing food particles
- c. protect food from physical and chemical contamination
- d. avoid attracting pests
- e. maintain a safe environment, for example to stop someone from slipping on a greasy floor
- f. create good impression for customers
- g. carry out legal and moral obligations to keep food safe.

Disinfection is the reduction of bacteria to a low, safe level. It can be achieved by the use of:

- a. very hot water, at 82°C or hotter
- b. Steam
- c. chemical disinfectants.

Heat disinfection and chemical disinfection are often combined. Cleaning chemicals that reduce pathogenic micro-organisms to a safe level are called disinfectants. They destroy enough bacteria to safeguard health, even though they cannot kill *all* food poisoning bacteria and their spores.

Disinfectants must be used *after* cleaning, because they cannot remove grease and dirt. They must be left on the surface for long enough to work properly: this is referred to as the “contact time”. The manufacturers’ instructions should explain how long the contact time should be.

Many companies use a sanitizer instead of using a detergent then a disinfectant. Sanitizers combine a detergent and a disinfectant; they clean and disinfect, provided there is sufficient contact time.

2.5.2 Sanitation

The word *sanitation* is derived from the Latin word *sanitas*, meaning “health.” Applied to the food industry, *sanitation* is “the creation and maintenance of hygienic and healthful conditions.” It is the application of a science to provide wholesome food processed, prepared, merchandised, and sold in a clean environment by healthy workers; to prevent contamination with microorganisms that cause food-borne illness; and to minimize the proliferation of food spoilage microorganisms. Effective sanitation refers to all the procedures that help accomplish these goals. (Norman G. Marriott, PhD, Robert B. Gravani, 2006)

2.6. Personal Hygiene

As mentioned in the researcher main standard by Claire Nash for Chartered Institute of Environmental Health (CIEH), 1998, people are a common source of pathogenic bacteria, so everyone who works with food must have the highest possible standards of personal hygiene and personal habits to avoid contaminating food. It is a good practice to start work clean and tidy. This will give a good impression to any customers you meet as well as playing an essential part in helping to protect food from contamination. It helps to take a bath or shower every day. This will remove some of the bacteria that are naturally found on hair and skin, including those which live on stale perspiration and cause body odor.

As noted by Roberts, K. R., & Barrett, B. (2009, in full-service restaurants, personal hygiene and protecting contaminated equipment were significantly better for operations with a certified manager. For quick-service operations, statistically significant differences were noted in two categories, improper holding/time and temperature and protecting contaminated equipment; the certified managers outperformed the non-certified with regard to those operations. However, many basic food safety practices, including purchasing food from safe sources, proper cooking, and chemical control, did not increase significantly. Training is an important aspect of any overall food safety program. Therefore, managers must train their employees accordingly, which includes allowing them to attend or participate in food safety training classes.

Food handlers also did carrying pathogens (such as hepatitis A, Salmonella, and Escherichia coli 0157:H7) have been associated with outbreaks of food borne illness. Research on health behaviors has suggested that individuals make rational decisions about risk-reduction behaviors when they are aware of, and have some knowledge about, the risks associated with particular actions (Chapman, B., Eversley, T., Fillion, K., MacLaurin, T., & Powell, D, 2010)

According to Norman G. Marriott, PhD, Robert B. Gravani, 2006, the word *hygiene* is used to describe an application of sanitary principles for the preservation of health. Personal hygiene refers to the cleanliness of a person's body. The health of workers plays an important part in food sanitation. People are potential sources of microorganisms that cause illness in others through the transmission of viruses or through food poisoning.



Figure 2.1 Six Stage of Hand washing Technique, Chartered Institute of Environmental Health (CIEH), 1998

2.7. High Risk Food

Food that is both suitable for the growth of bacteria and will be eaten as it is, e.g. cooked ham, is known as high-risk food. The protection of high-risk food involves preventing cross contamination and restricting bacterial growth. This is mainly achieved using separation and strict time and temperature controls, i.e. keeping food outside the danger zone of between 5°C and 63°C. (Tim Knowles, 2002)

2.8. Avoiding Cross Contamination

According to The Professional Chef, 2002, many food-borne illnesses are a result of unsanitary handling procedures in the kitchen. Cross contamination occurs when disease-causing elements or harmful substances are transferred from one contaminated surface to another.

Excellent personal hygiene is one of the best defenses against cross contamination. An employee who reports for work with a contagious illness or an infected cut on the hand puts every customer at risk. Anytime the hands come into contact with a possible source of contamination (the face, hair, eyes, and mouth) they must be thoroughly washed before continuing any work.

Food is the greatest risk of cross contamination during the preparation stage. Ideally, separate work areas and cutting boards should be used for raw and cooked foods. Equipment and cutting boards should always be cleaned and thoroughly sanitized between uses.

All food must be stored carefully to prevent contact between raw and cooked items. Place drip pan beneath raw foods. Do not handle ready-to-eat foods with bare hands. Instead, use suitable utensils or single-use food-handling gloves.

2.9. Kitchen Hygiene

The microbes on our food that can cause food poisoning are usually controlled by heating (cooking) and/or chilling (refrigerating) our food, but given the chance they can easily spread around the kitchen - via our hands, chopping boards, cloths, knives and other utensils. If they are allowed to cross-contaminate other foods especially cooked and ready-to-eat foods - they can make us ill. Good kitchen hygiene and good personal hygiene are important to help control the spread of harmful germs.

Clean kitchen surfaces after preparing foods. Try to *I clean as you go*'. Remember that raw meat, poultry, fish and other raw foods can easily cross-contaminate other foods. After handling these foods always wash hands, utensils and surfaces thoroughly and before any contact with other food, especially cooked and ready-to-eat foods. After use, wash all crockery and utensils with hot water and washing up liquid. Change the water regularly then rinse in clean, hot water. Where possible leave to drain until dry.

2.10. FIFO System

According to Hernandez, J. (1998), to ensure the stock is rotated properly, employees who work in storage areas should be trained to use the "first in, first out" method, also known as FIFO. On each package, either write the expiration date, when the item was received, or when it was stored after preparation. Shelve new supplies behind older ones, so the old items are used first, and regularly check expiration dates.

As quote from foodsafetymagazine.com (2006), also advised to use a first in-first out, or FIFO, inventory system to minimize the chance of foods spoiling and becoming contaminated.

CHAPTER III

METHODOLOGY

3.1. Research Method

To analyze the problem in this thesis, the writer will use Qualitative Research as research methodology since this thesis needs deep observation and understanding of the data collected by interviews and questionnaires.

According to Cooper and Schindler (2006), Qualitative research includes an "array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world". Qualitative techniques are used at both the data collection and data analysis stages of a research project. At the data collection stage, the array of techniques includes focus groups, individual dept interviews (IDIs), case studies, ethnography, grounded theory, action research, and observation. During analysis, the qualitative researcher uses content analysis of written or recorded materials drawn from personal expressions by participants behavioral observations, and debriefing of observers, as well as the study of artifacts and trace evidence from the physical environment. Qualitative research aims to achieve an in-depth understanding of a situations.

In distinctions between qualitative and quantitative methodologies by Cooper and Schindler (2006), quantitative research attempts precise measurement of something. Quantitative research usually measure consumer behavior, knowledge, opinions, or attitudes. Such methodologies answer questions related to how much, how often, how many, when, and who. While the survey is not the only methodology of the quantitative researcher, it is considered a dominant one.

3.2. Research Framework

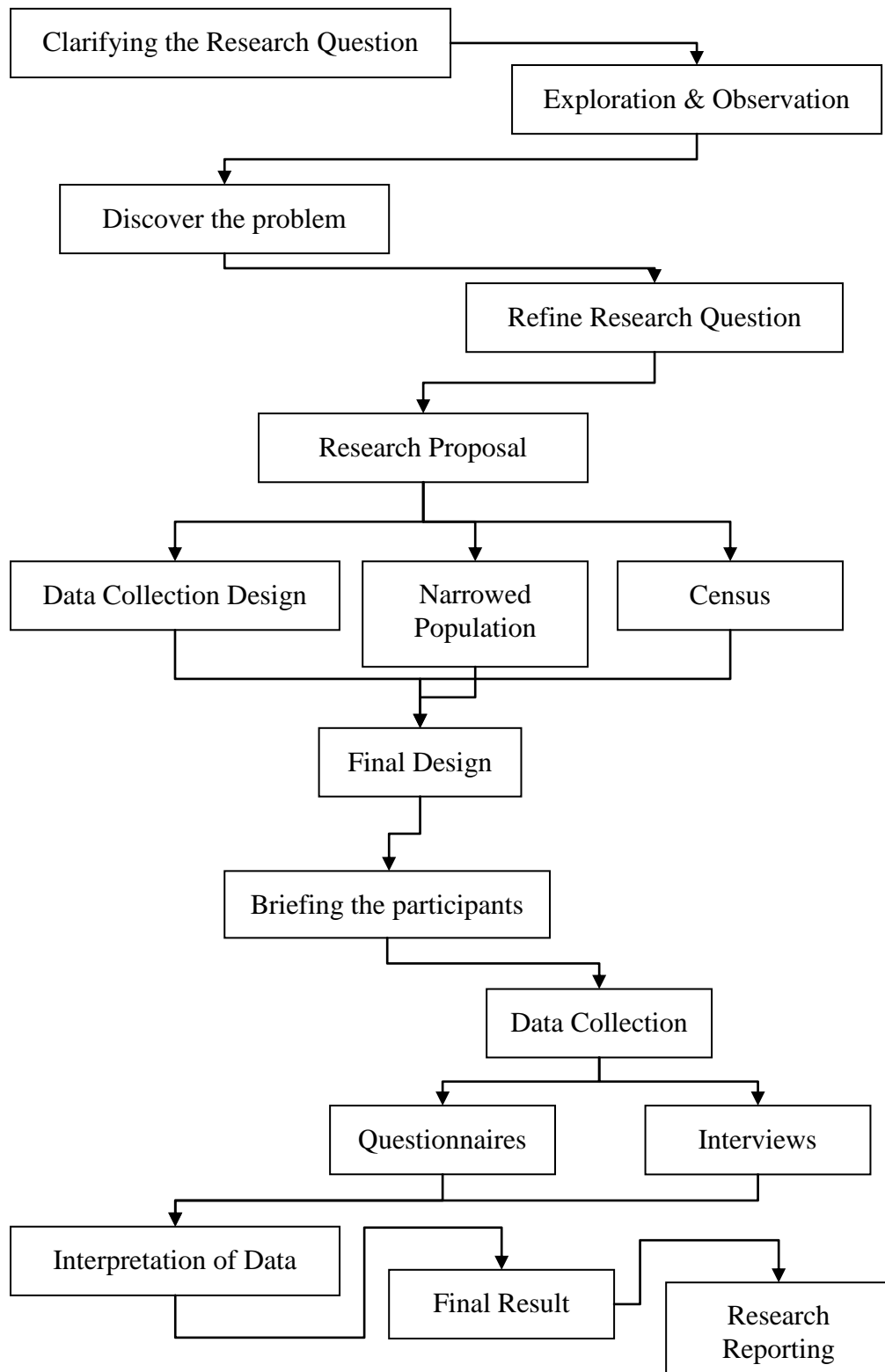


Figure 3.1 Research Framework

3.3. Research Time and Place

This research was taken at a four stars hotel in Jakarta at its Kitchen department, specifically at Cold Kitchen or Garde Manger. Considering that the data collected from the kitchen department is strictly confidential, writer is required to protect the hotel image by hiding all company information to avoid the information leaked to the competitors. The data was collected after 5 months of personal observations and exploration from January 2011 to May 2011, starting from June 2011, the researcher decided the problem of the kitchen department, the data finally collected by 20th December 2011.

3.4. Research Instruments

This research is using deep observation from the writer, data collection by library research, and field research by questionnaires and interviews with the kitchen staffs.

3.4.1. Questionnaire

There are various types of questionnaire that the researcher can use according to Cooper and Schindler (2006) such as:

1. Free response
2. Dichotomous selection
3. Paired-comparison
4. Multiple choice
5. Checklist
6. Rating
7. And Ranking.

The researcher chosen Multiple Choice type of questionnaire to collect information from the sample with 26 questions and 3 sub-questions. With this the researcher will have to analysis the result per questions and make a suggestion.

3.4.2. Interviews

By using the theory from Cooper and Schindler (2006), Interviews can be conducted individually (Individual Depth Interview, or IDI) or in groups. Both interviews has its own purpose, objective, concern and participants requirement.

There are also 3 categories of interview:

- a. Unstructured interview is a customized IDI that starts with a participant narrative, with no specific questions or order of topics.
- b. Semi-structured interview is while participants asked specific questions as well as probes of tangents revealed by their answers.
- c. Structured interview is an IDI using detailed interview guide for question order but using open-ended questions.

The researcher was using structured Individual Depth Interviews with two of the kitchen staffs who have high position, a Sous Chef and Chef de Party in the Cold Kitchen or Garde Manger.

3.4.3. Library Research

It was to collect more theoretically backed data to support the research, the researcher also collecting, studying the data from books, e-journals, internet, encyclopedia, dictionary and other sources. The researcher spent more than 5 months to finds relevant books, e-journal also findings.

3.5. Limitation

This is a very sensitive research in a hospitality industry especially, the researcher is collecting data from a four-star hotel, there are limitations and obstacles in doing this research. With limited sources and data, the researcher depends on observations, questionnaires and interviews which backed by theories in the industry.

On the other hand, time is also limited to complete the research on time and on track, with the limited time to meet the busy advisor as well. Therefore, the data collection is rather difficult.

CHAPTER IV

ANALYSIS OF DATA AND INTERPRETATION OF RESULTS

1.5 Analysis of Data

To answer the statement of problem of the thesis, the researcher gathered data as to find the core of the problem of "Why the cold kitchen staffs have difficulties to implement the food safety and hygiene standards that has been taught by the training company?"

4.1.1 Questionnaire Data Analysis

The researcher starts giving out questionnaire to Cold Kitchen or Garde Manger staffs with a population of 11 people, includes 10 males and 1 female. Cold Kitchen or Garde Manger is a cold kitchen where they handle cold food which is more risky to protect the food from contaminations and uphold the food safety and hygiene standards. Through this questionnaire, the researcher want to find out the answer to the problem stated in chapter 1.

The questionnaires consists of 26 multiple choice questions and 3 sub main questions with answers a, b, c or d.

4.1.1.1. In which age range are you?

- a. 20 - 30 years old
- b. 31 - 40 years old
- c. 41 - 50 years old
- d. More than 50 years old.

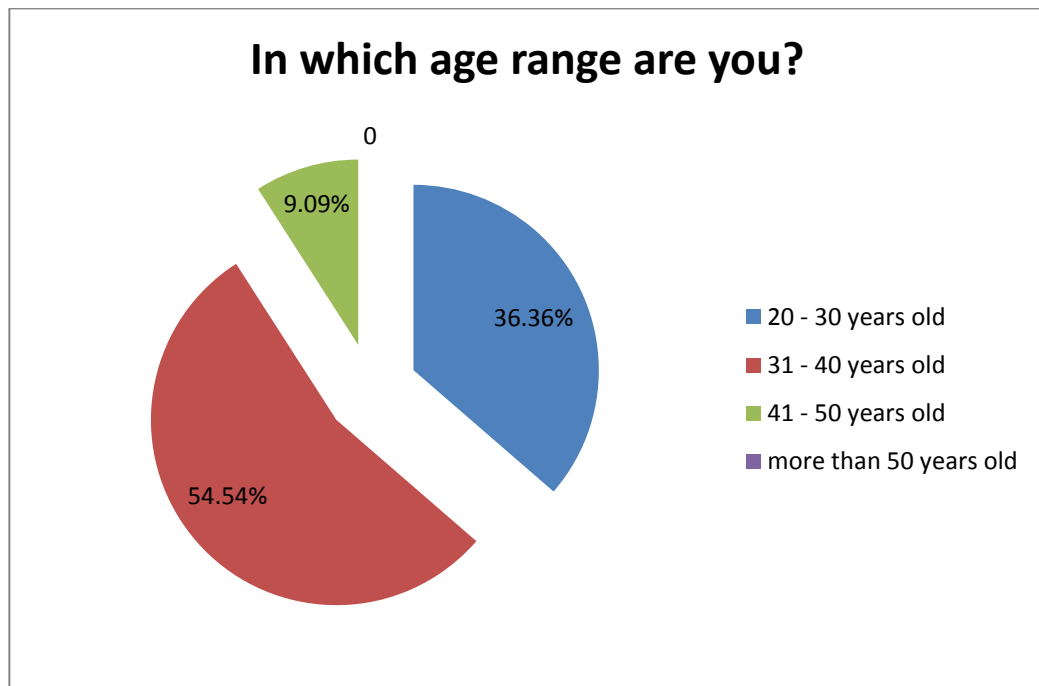


Figure 4.1. In which age range are you?

In this question, the sample taken from Cold Kitchen or Garde Manger is all the population which is 11 people, includes 10 males and 1 female. However in this research, the researcher not specified the female staff.

The age group of staffs in Cold Kitchen or Garde Manger of XYZ Hotel Jakarta are divided into 3 groups, 20 to 30 years old, 31 to 40 years old and 41 to 50 years old. With 36.36% in 20 to 30 years old group, 54.54% in 31 to 40 years old group and 9.09% in 41 to 50 years old group.

This shows that most of the staffs have already worked with the hotel around 10 to 15 years, and with plenty of knowledge in their field. The younger age group might have worked with the hotel for 3 to 8 years.

4.1.1.2. What is your position?

- a. CDP
- b. ½ CDP
- c. SC
- d. Commies

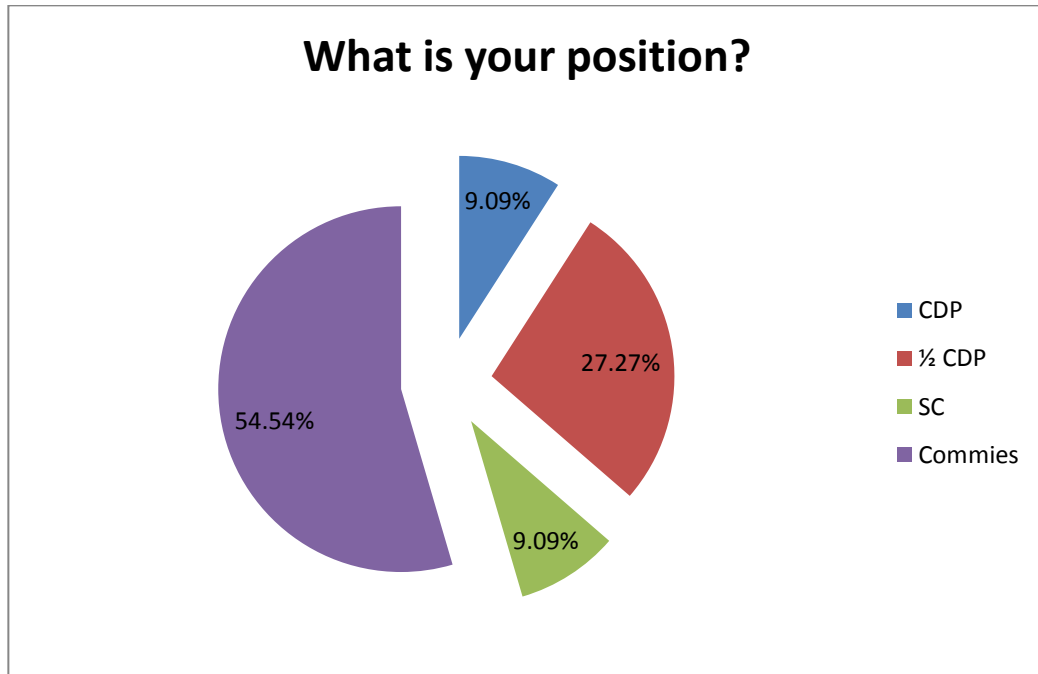


Figure 4.2. What is your position?

According to The Professional Chef (2006, p.8) Cold food chefs or Cold Kitchen or Garde Manger, also known as the pantry chef, is responsible for preparation of cold foods, including salads, cold appetizers, pates, and the like. This is considered a separate category of kitchen work.

In XYZ Hotel Jakarta, Cold Kitchen or Garde Manger is a separate kitchen with the main kitchen where it prepares all cold foods. 54.54% are Commies, 27.27% are ½ Chef De Party, and an equal amount of Sous Chef and Chef De Party with 9.09%

Commies are cook-helper, but in XYZ Hotel Jakarta, they also involved in preparing the food for banquet or ala-carte at XYZ Cafe - the XYZ Coffee Shop

- 4.1.1.3. How long have you been in that position?
- Less than a year
 - 2-5 years
 - 6-10 years
 - More than 10 years

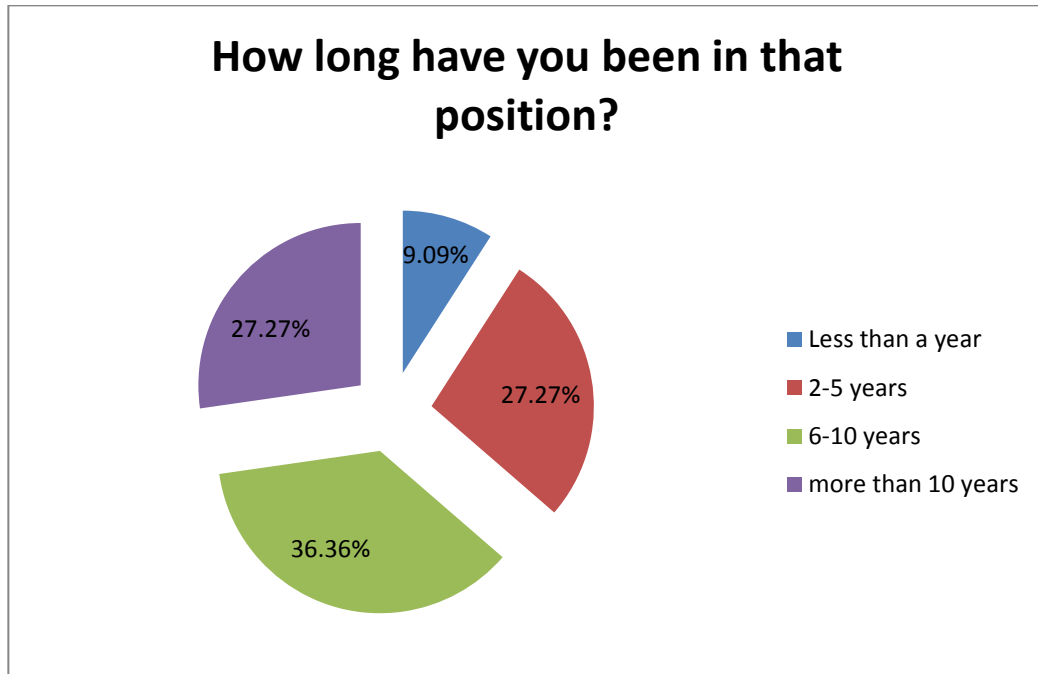


Figure 4.3. How long have you been in that position?

In XYZ Hotel Jakarta, most of the staffs here has been working with the hotel since the opening in which it is more than 10 years. At Cold Kitchen or Garde Manger they have 27.27% of population have been working for XYZ Hotel Jakarta for more than 10 years, with 36.36% at around 6 to 10 years, while another 27.27% working for 2 to 5 years, and lastly 9.09% working there for just less than a year.

Looking at the time they have been working in the kitchen, the researcher assumed that most of the staffs in Cold Kitchen or Garde Manger has the wide knowledge of Food Safety and Hygiene standards. However, not everybody really understand the importance of it.

The researcher conclude that 27.27% of the population who worked with XYZ Hotel Jakarta for more than 10 years, has the high position like Sous Chef and CDP or ½ CDP.

4.1.1.4. Do you know what is HACCP system?

- a. Yes
- b. No
- c. Not sure

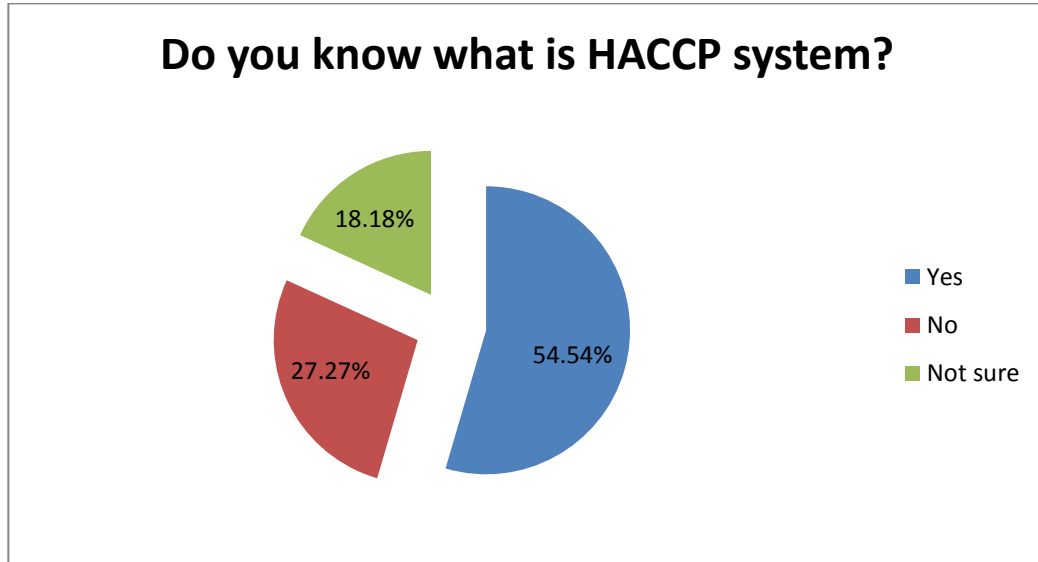


Figure 4.4. Do you know what is HACCP system?

According to S. Mortimore and C. Wallace (2001), HACCP is an acronym used to describe the Hazard Analysis and Critical Control Point system. The HACCP concept is a systematic approach to food safety management based on recognized principles which aim to identify the hazards that are likely to occur at any stage in the food supply chain and put into place controls that will prevent them from happening. HACCP is very logical and covers all stages of food production from the growing stage to the consumer, including all the intermediate processing and distribution activities.

In this questions nine people answers Yes, the know about HACCP, while two people are Not Sure about it. It means that only 18% or 2 people in the Cold Kitchen or Garde Manger are not sure about what is HACCP, but through researcher's observation the staffs actually following the standard but not everything.

4.1.1.5. Do you know about food safety procedure?

- a. Yes

- b. No
- c. Not sure



Figure 4.5. Do you know about food safety procedure?

As seen in the pie chart 9.09% not sure about Food Safety Procedure, which he or she must have difficulties to understand the terms used by the training company during training, while 27.27% do not know about it, and 63.63% know about it.

However as observed, some might seem to be ignorant, but mostly still intact with the standard given to be a habit from the start they worked in Kitchen. Some of them even already have experience working overseas like Dubai where there must be a much strict rules on Food Safety and Hygiene.

4.1.1.6. Do you know about food safety procedure in HACCP system?

- a. Yes
- b. No
- c. Not sure

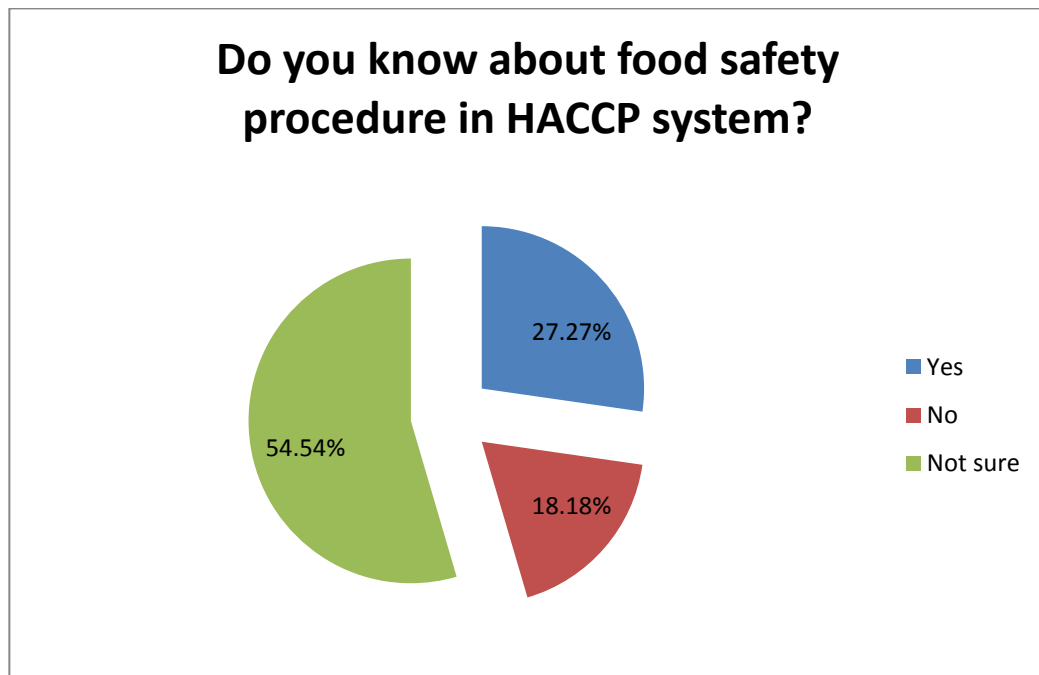


Figure 4.6. Do you know about food safety procedure in HACCP system?

In HACCP system, there are seven important principles which are standardized worldwide and used by professional and ranked hotels, restaurants, cafe and any food services especially in a four-star hotel, they must trained their staffs the basic of HACCP.

However according the data collected 54.54% not sure what are the contents 18.18% correspondent not knowing it at all, and only 27.27% populations know what are the contents. Through observation, researcher analyzed that indeed there are people who know what should be done, but some are not sure about if it is alright to do this and that, while one staff is still learning the standards.

4.1.1.7. Did the hotel give you the standard training for food safety and hygiene?

- a. Yes
- b. No
- c. Not sure



Figure 4.7. Did the hotel give you the standard training for food safety and hygiene?

As a four-star hotel XYZ Hotel Jakarta's kitchen is required to have scheduled once every 6 months training by a chosen international Food Safety and Hygiene training company. And once a month training by the senior kitchen staffs with various subjects on every training session.

In this case, the Sous Chef of Cold Kitchen or Garde Manger admitted that the hotel did have the regular training for the staff in the interview. Therefore as seen on the chart, all the staffs did received the training.

4.1.1.8. Did you understand what they have told you during the training?

(If you answer 'No' or 'Not Sure', please answer question No. 8.1)

- a. Yes
- b. No
- c. Not sure

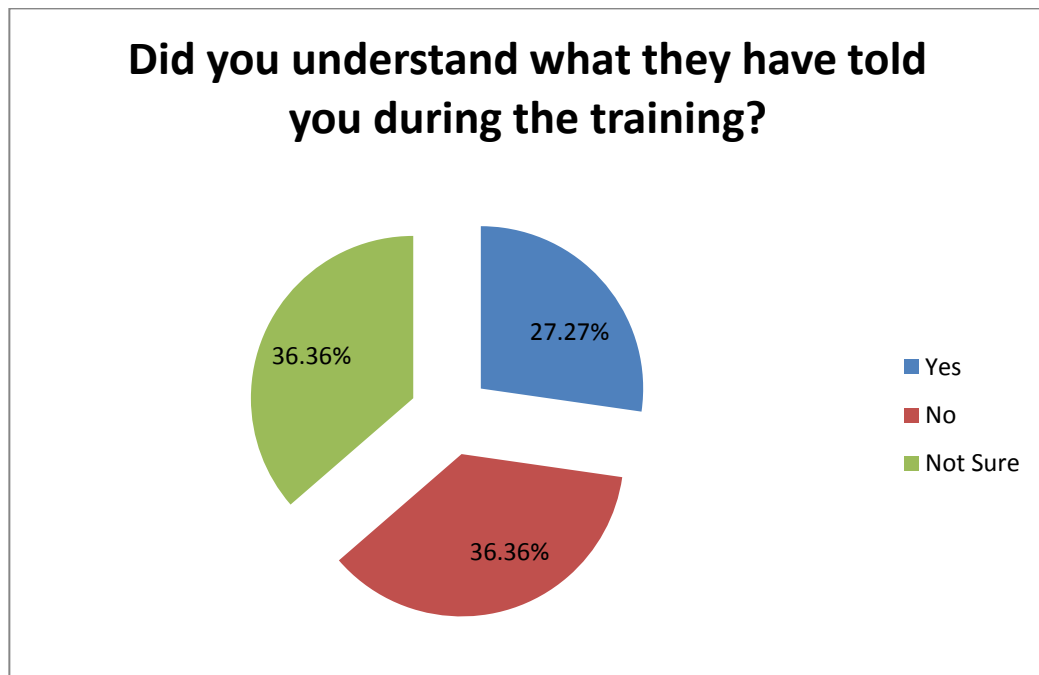


Figure 4.8. Did you understand what they have told you during the training?

Training of Food Safety and Hygiene standards should be always regularly practice in a hotel, to refresh their mind and to test their knowledge. As the researcher verbally observed, he found out that the training is used to test their memory in food safety and hygiene, the staffs with low score will have to retest and doing another training.

According to the chart, at least 36.36% do not understand what the trainer has told them, with 27.27% understood and another 36.36% not sure about it. With this result, it shown that the older people might not know about the training materials given to them and also not sure about it, but they did know some.

4.1.1.8.1. What is the thing you don't understand?

- a. Terms/language they used is unknown to me.
- b. The training material is too difficult for me.
- c. I only don't understand a few things like the 7 principles of HACCP.
- d. a & b

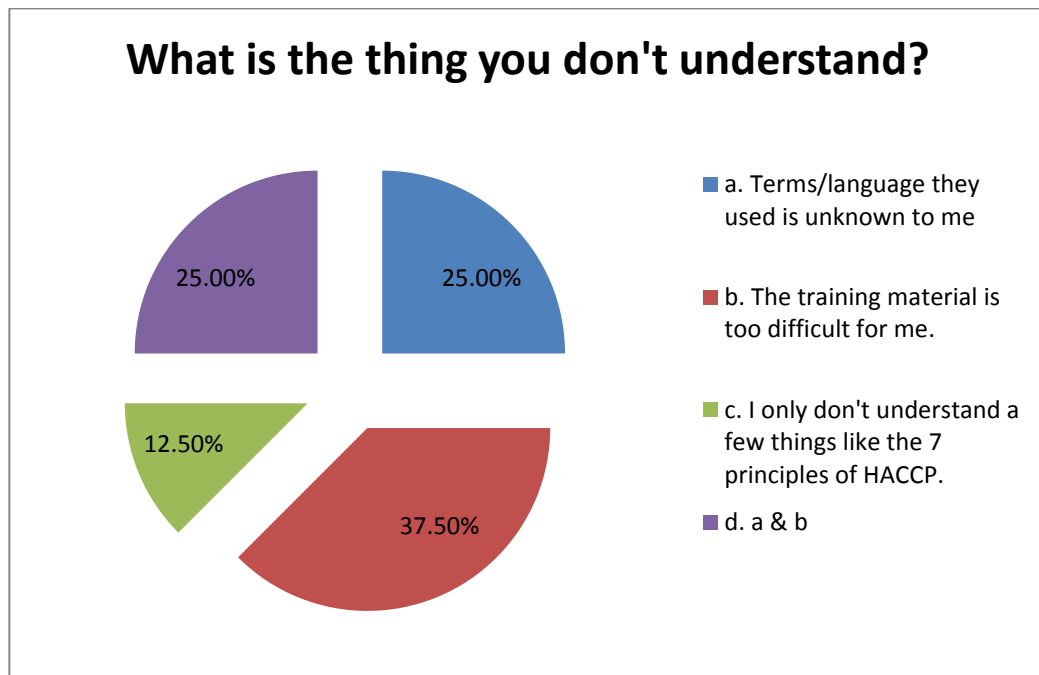


Figure 4.8.1. What is the thing you do not understand?

Important trainings are including personal hygiene, food safety procedures, HACCP, kitchen hygiene and food hygiene practices. These materials are usually have difficult terms even translated to the native language, the people who are not working inside the kitchen, they might not understand what is the word means, for examples like Critical Control Points (CCPs), or Danger Zone.

According to 72.72% of who answers No and Not Sure, 25% choose they do not understand the terms or language used and that makes the training material too difficult for them to understand. While 25% don't understand the terms/language, 37.5% said that the training materials are too difficult while 12.5% don't understand a few things like the 7 principles of HACCP.

4.1.1.9. Did you find difficulties on applying the food safety standard in XYZ Hotel Jakarta? (If you answer 'Yes', please answer question No. 9.1)

- a. Yes
- b. No
- c. Not sure

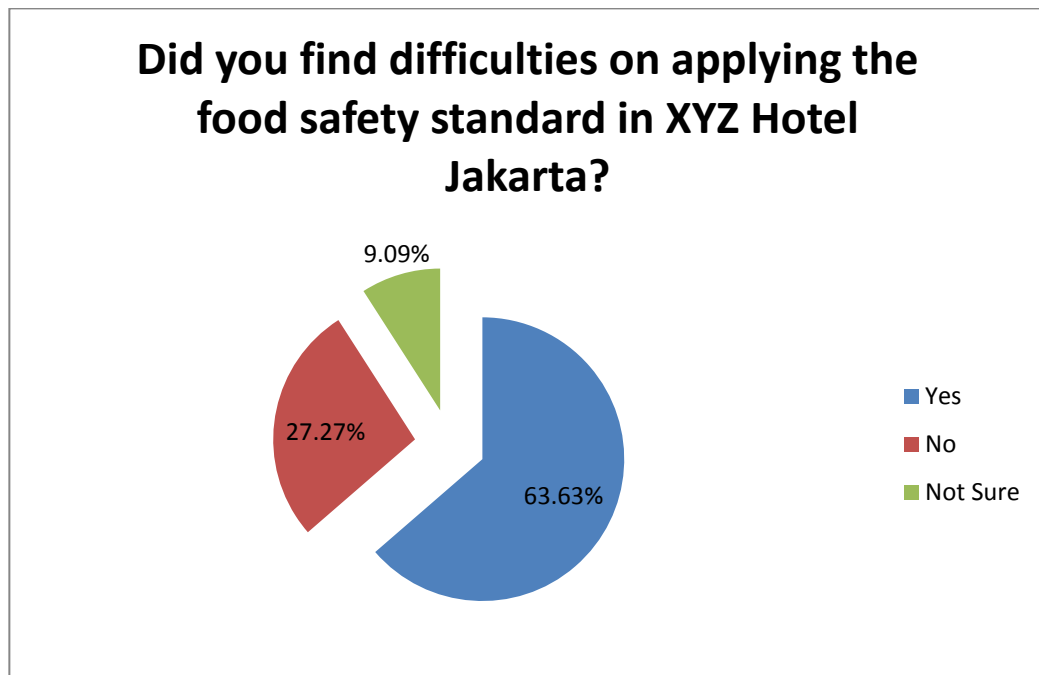


Figure 4.9. Did you find difficulties on applying the food safety standard in XYZ Hotel Jakarta?

As a four-star hotel, XYZ Hotel Jakarta Kitchen should have the best facilities to support the kitchen hygiene also the safety of their food and beverage products. However based on researcher experience in XYZ Hotel Jakarta during training, sometimes the hotel makes policy that is absurd, like having the basic food-grade hand gloves is being cut down, however according to the Sous Chef of Cold Kitchen or Garde Manger, now they can always have it.

As seen in the chart, 63.63% of the population have difficulties to apply the food safety standard with 27.27% have no difficulties also 9.09% is not sure about it. It shows that the hotel actually need to play their part to support the standard given internationally. It should never ignore the smallest details.

4.1.1.9.1. So what are your difficulties?

- a. The hotel doesn't give enough facilities like what it has been learned on the training.
- b. Not everyone is following the standard, but at least the basic procedure they know it.
- c. Both.

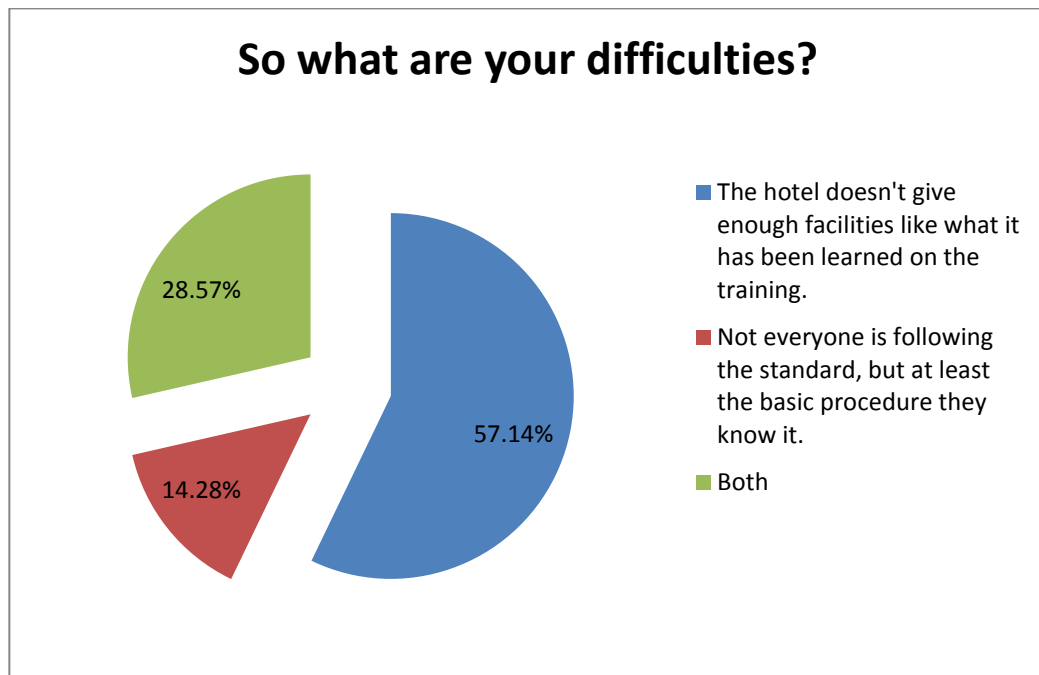


Figure 4.9.1. So what are your difficulties?

As the researcher stated above about the hotel should support the kitchen to serve the best food and beverage product with the best food safety and hygiene standard, as the result shown that 57.14% of corresponded who said Yes on Q. 9 choose that the hotel does not give enough facilities as what they have learned from the training, and with 14.28% added that not everyone is following the standard, however still doing the basic procedure. Lastly 28.57% said both options, this mean that while the hotel does not give appropriate standard for the kitchen, they still doing their best to follow the basic procedure at least.

4.1.1.10. Do you follow the standard of food safety and hygiene? (If you answer 'No' or 'Not Always', please answer question No. 10.1)

- a. Yes
- b. No
- c. Not always

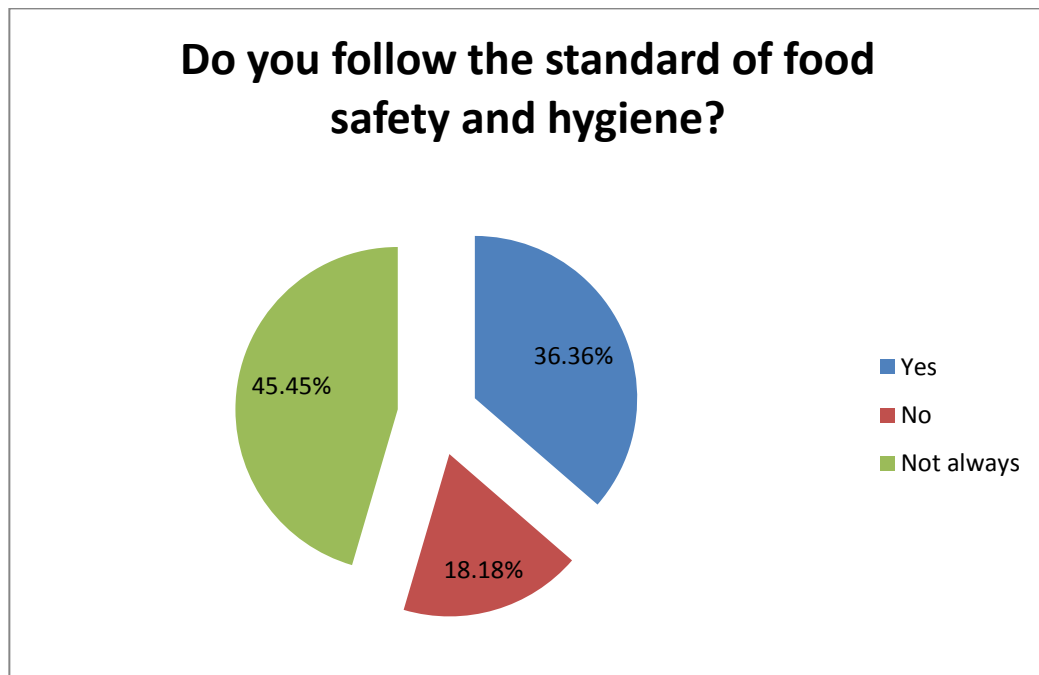


Figure 4.10. Do you follow the standard of food safety and hygiene?

The researcher prepare a confirmation if the staffs did actually follow the standard as about 28.57% in the previous question (No. 9.1) some of the staffs did not actually following the standard given.

However it shown that 36.36% follow the standard of food safety and hygiene. While 45.45% chosen not always follow and 18.18% said not following at all.

As researcher observed, there are people who also ignoring some of safety measure like not wearing hand gloves and still processing the food with bare hands. This is because the hand gloves actually out of stock.

4.1.1.10.1. Why you don't or not always follow the standard?

- a. Because not everyone following all the standard given, only a few things.
- b. I follow the standard given, but not all the standard is applicable in this hotel.
- c. Both.

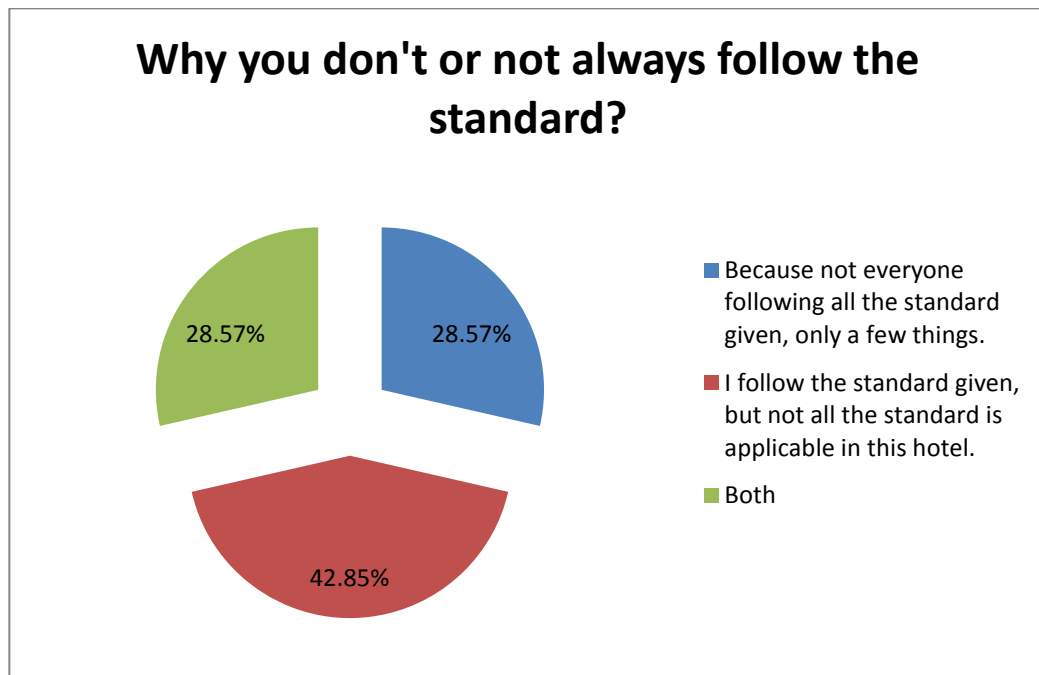


Figure 4.10.1. Why you don't or not always follow the standard?

According to the result above, 42.85% feel that they do follow the standard, but not all is applicable in this hotel, while 28.57% following only a few thing as the other is not following it well. Lastly 28.57% has the same feeling with both answers while not everyone is not following, it must be also because of the standard is not applicable in XYZ Hotel Jakarta Kitchen.

4.1.1.11. What do you think about the food safety and hygiene standard in XYZ Hotel Jakarta?

- a. Good
- b. Not good
- c. Just right

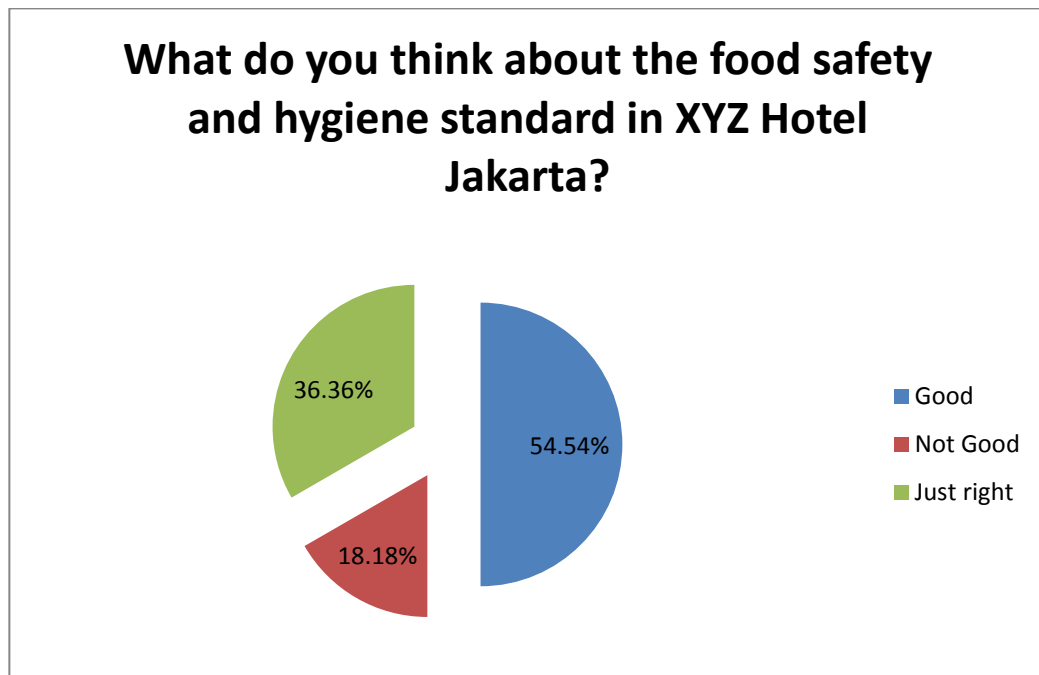


Figure 4.11. What do you think about the food safety and hygiene standard in XYZ Hotel Jakarta?

About 54.54% agreed that the food safety and hygiene standard in XYZ Hotel Jakarta Kitchen is good. Meanwhile, 36.36% said it is just right, with 18.18% said not good.

With this result, the kitchen, especially Cold Kitchen or Garde Manger did have a proper standard and good as what researcher has observed, they follow the internationally accredited company standard. However not all actually bothering to do it.

4.1.1.12. Is there a Standard Operating Procedure (SOP) in regards of food safety in XYZ Hotel Jakarta Kitchen?

- a. Yes
- b. No
- c. Not sure

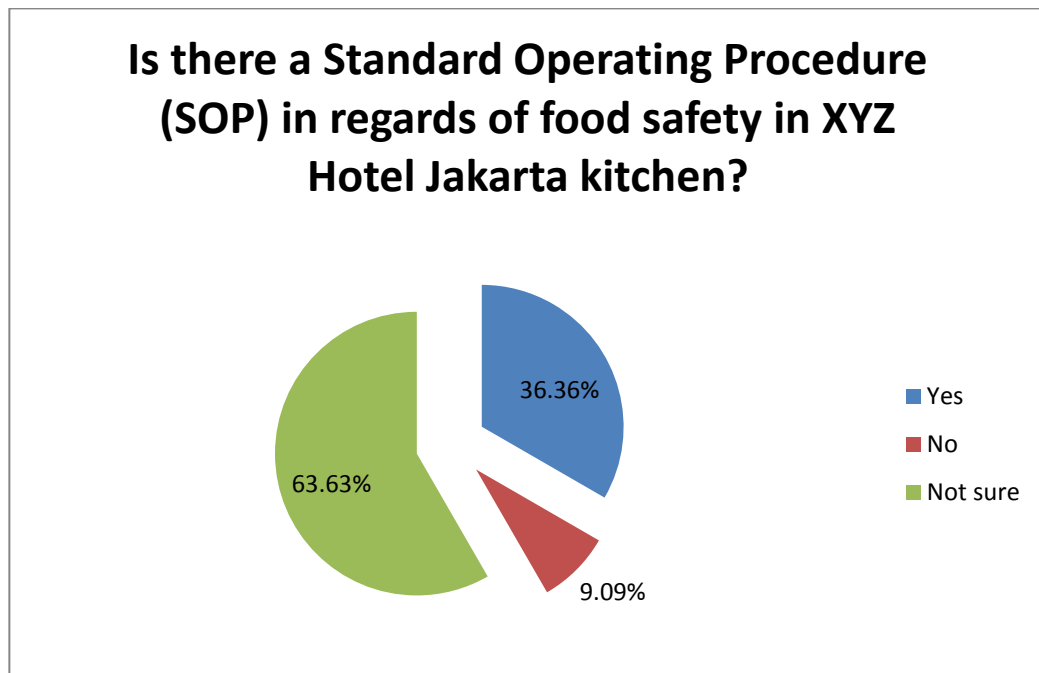


Figure 4.12. Is there a Standard Operating Procedure (SOP) in regards of food safety in XYZ Hotel Jakarta kitchen?

Only 36.36% said that there is a Standard Operating Procedure or SOP for food safety in XYZ Hotel Jakarta kitchen, especially in Cold Kitchen or Garde Manger. They have a check list called 'Daily Hygiene Checklist' which includes Receiving & Storage goods, Food handling procedures, Food & beverage maintenance, Cleaning & Stewarding, Pest Control, Refrigeration & temperature control and lastly Personal Hygiene as shown in Appendix 1.

As for the Japanese section, they have food control logs which has Rice Cooking time, Sushi making time, Sushi and sashimi out from cold storage timing and it is divided into two session AM and PM as shown in Appendix 2.

However 63.63% feel not sure about if they have a proper SOP, and 9.09% said no.

- 4.1.1.13. Do you check the packaging of food product at the point of receiving before processing?
- a. Yes
 - b. No
 - c. Not always

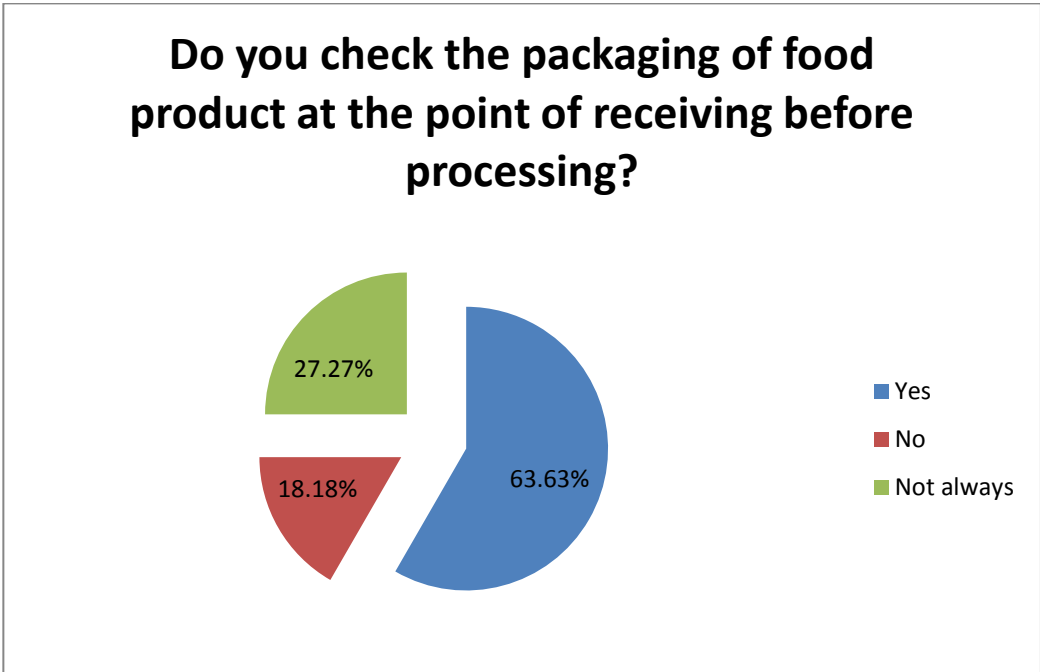


Figure 4.13. Do you check the packaging of food product at the point of receiving before processing?

About 63.63% check through the packaging of food product at the point of receiving before processing it, whereas 27.27% admit that they are not always check through it and 18.18% not checking it at all.

Packaging of the food product is important to keep the food safe from any cross contamination, things like cover and plastic seal or any holes in the packaging should be a concern and must return it to the supplier.

- 4.1.1.14. Do you check the quality of the food product?
- a. Yes
 - b. No
 - c. Not always

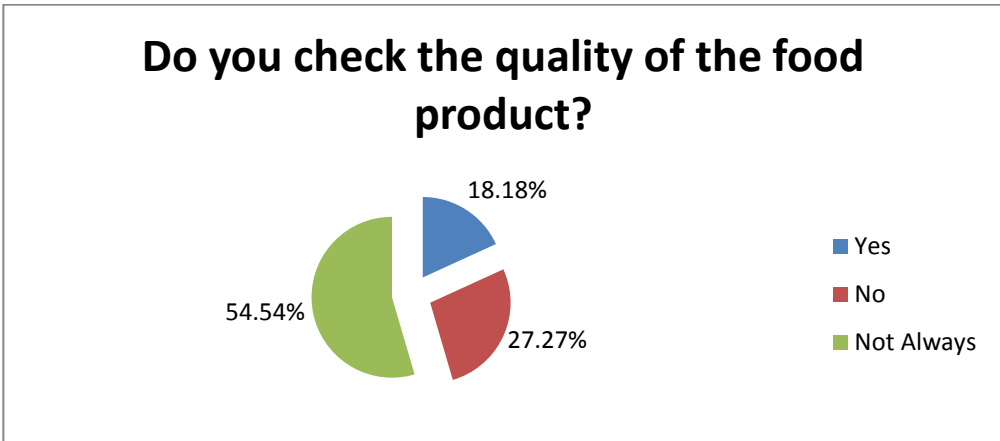


Figure 4.14. Do you check the quality of the food product?

Quality control in the kitchen is done from the point of receiving to the point of processing, therefore if the raw material suffers a contamination, the quality of the food product must be decreased along with the time.

Therefore to serve the best food, kitchen staffs must especially check the quality before processing, for example in Cold Kitchen or Garde Manger, fruits need to be checked for their sweetness or any flaws, before serving it to the customer.

Only 18.18% of staffs check the quality first, 54.54% of the staffs not always check it and 27.27% did not check it.

4.1.1.15. Do you check the temperature of frozen goods at the point of receiving?

- a. Yes
- b. No
- c. Not always

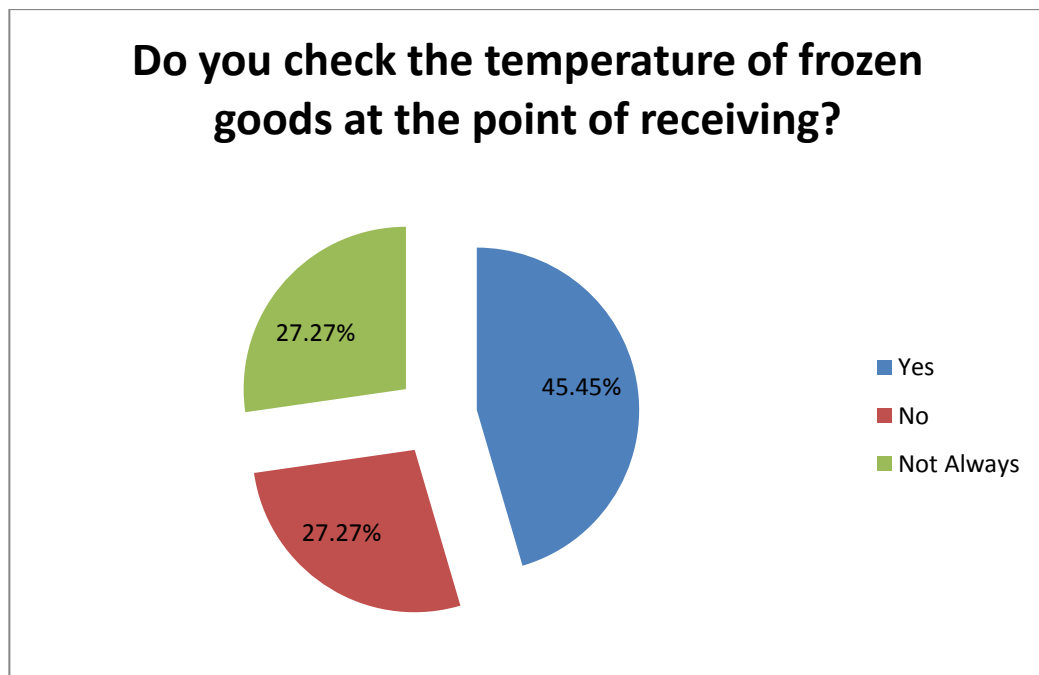


Figure 4.15. Do you check the temperature of frozen goods at the point of receiving?

Although this is the job of receiving staffs, the kitchen staffs must ensure that the frozen goods they receive has the proper temperature. However the fact shown that 27.27% of staffs said that they are not always checking the temperature of frozen goods when they receive the goods. While 45.45% took initiative to check it regularly. And 27.27% not checking it.

4.1.1.16. Do you store the frozen goods in less than 15 minutes after receiving?

- a. Yes
- b. No

c. Not always



Figure 4.16. Do you store the frozen goods in less than 15 minutes after receiving?

Frozen goods need to keep as soon as possible so the temperature do not drop into the danger zone. However if it need to be use for food processing, it should be thawed, and process it as soon as possible as well.

With the data shown that only 18.18% of correspondents did straight away store the frozen goods in freezer and 45.45% said not always with 36.36% not storing it.

The reason is they are going to use it soon after receiving it, goods like oyster, muscles, need to be thawed and serve freeze to the customer, as well as prawns need to be boiled to be stored.

4.1.1.17. Do you apply the First In First Out (FIFO) system at your store room?

- a. Yes
- b. No
- c. Not always

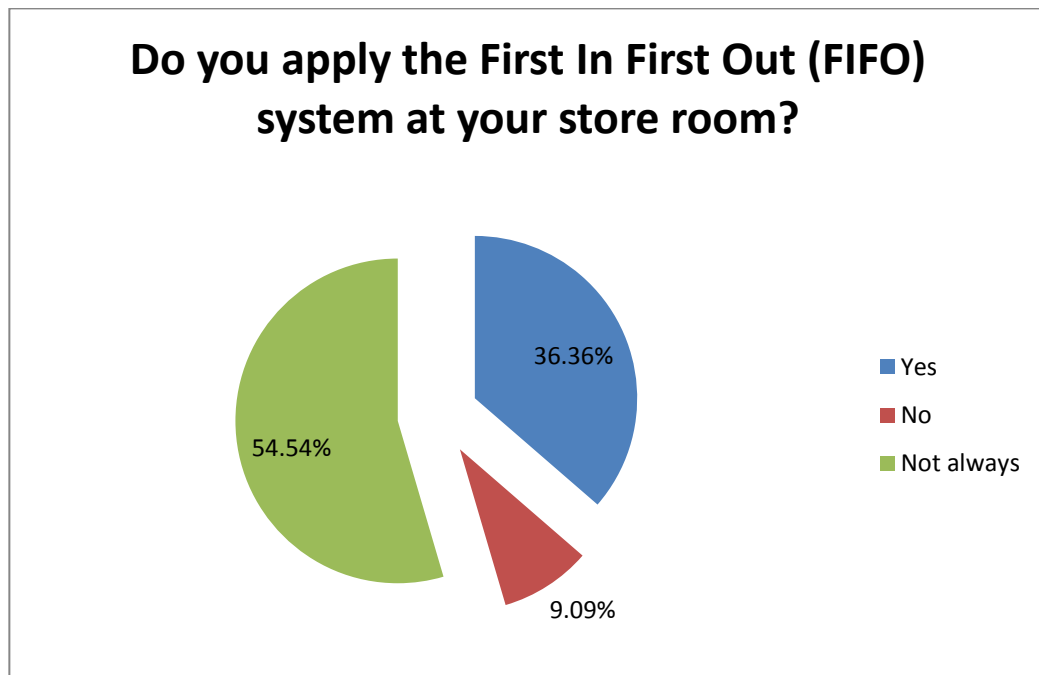


Figure 4.17. Do you apply the First In First Out (FIFO) system at your store room?

FIFO also part of the food safety practice, where it is important for the kitchen to follow the system to cut the cost of production, and avoid any losses from spoilage. Other than FIFO, there is LIFO, Last In First Out. LIFO is usually use for fresh vegetables need to be process first, and sometimes seafood or other food product like fruits.

LIFO might be the reason for 54.54% choose not always while 36.36% choose yes and 9.09% choose no. During researcher's observation, they always use the freshest vegetable first, and usually vegetable are always new every day except Sunday, when there is no delivery. This still shows their awareness to keep everything in place.

- 4.1.1.18. Do you clean and disinfect your working table before processing foods?
- a. Yes
 - b. No
 - c. Not always

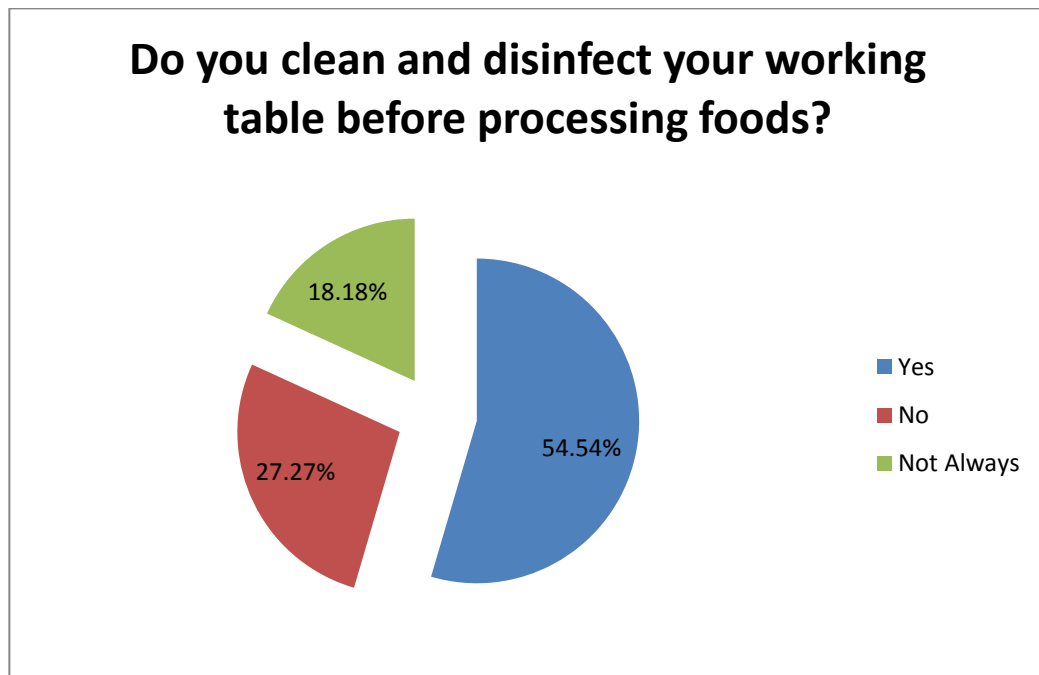


Figure 4.18. Do you clean and disinfect your working table before processing foods?

Working table, knife, cutting board are the places that can give cross-contamination, therefore we need to clean and disinfect it to start a new food production. This is a basic thing that every cook should know as it will be always a subject in Food safety and hygiene training.

The chart shows that 54.54% always clean their working table, while 18.18% not always do so and 27.27% not doing it. Through observations, researcher usually saw that they do not clean their working table or cutting board an knife if they are working with the same category of ingredients, like vegetables. However, they always clean the cutting board for fruit to avoid taste contamination, for example after cutting pineapples, they need to clean it before cutting watermelon or the watermelon will taste like pineapples.

- 4.1.1.19. Do you wash your hands in accordance to the standard of food safety?
- a. Yes
 - b. No
 - c. Not always



Figure 4.19. Do you wash your hands in accordance to the standard of food safety?

Hand washing is a must in food industry or any industry that requires personal hygiene. Hand washing should become a habit for every cook to ensure the safety of the food they make. However, some are still do not know the proper hand washing, that requires at least 30 seconds of hand washing with a proper flow as shown in Figure 2.1.

63.63% do wash their hand according to the standard, while 27.27% not always and 9.09% not doing it.

Wearing hand gloves does not assure the safety of the food if you have dirty hand. Therefore this should be always taught in the training.

4.1.1.20. Do you use hand gloves when processing foods?

- a. Yes
- b. No
- c. Not always

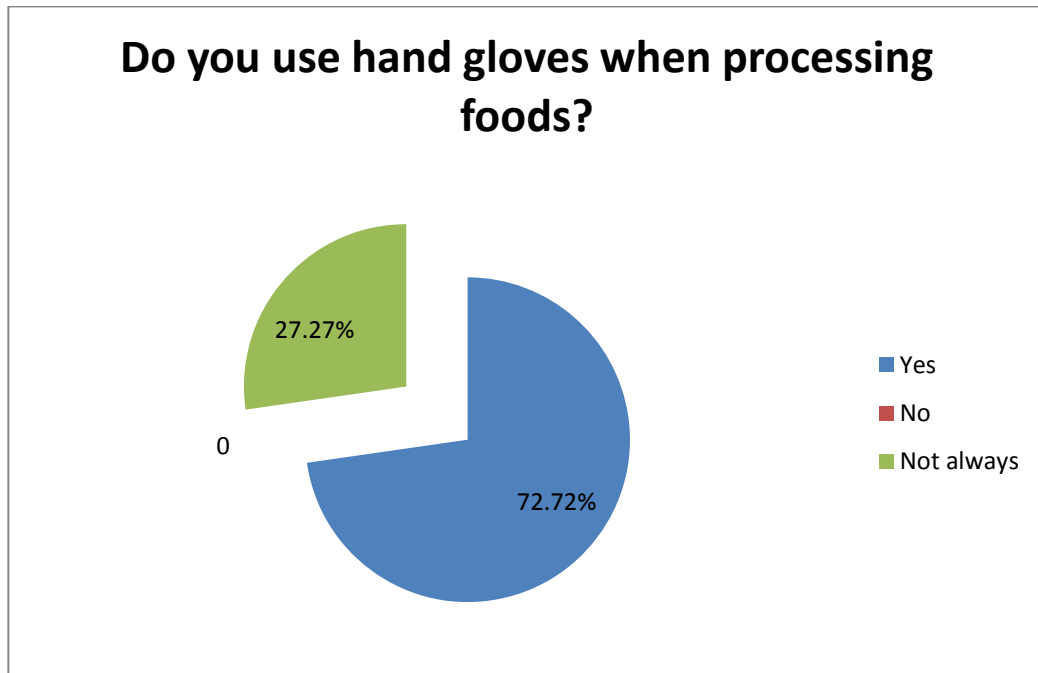


Figure 4.20. Do you use hand gloves when processing foods?

Food-grade hand gloves are always provided by the kitchen, cook has to use it at anytime especially when handling raw food and cooked food. Never use bare hands during food production process. It is against the food safety and hygiene standard.

With 72.72% always use hand gloves, while 27.27% choose not always. This shows not everyone actually know the standard well.

- 4.1.1.21. Do you keep the hot food hot, and cold food cold?
- a. Yes
 - b. No
 - c. Not always

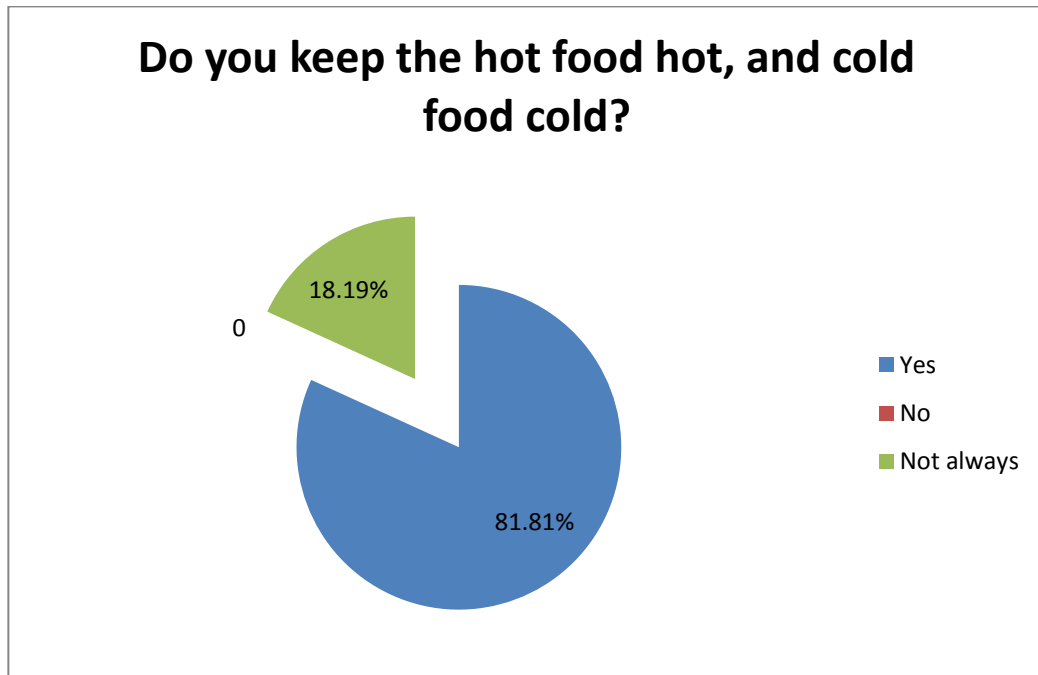


Figure 4.21. Do you keep the hot food hot, and cold food cold?

Keeping cooked food in a proper temperature is needed to keep the food away from the danger zone. This also part of basic training on Food Safety and Hygiene standard. 81.81% of the Cold Kitchen or Garde Manger staffs said yes that they keep the hot food hot and cold food cold, as for them it is cold food need to serve cold however there is 18.19% said not always.

- 4.1.1.22. Do you use the appropriate labeling for the stored products?
- a. Product's name Yes No



Figure 4.22.1. Product Name

- b. Specification Yes No

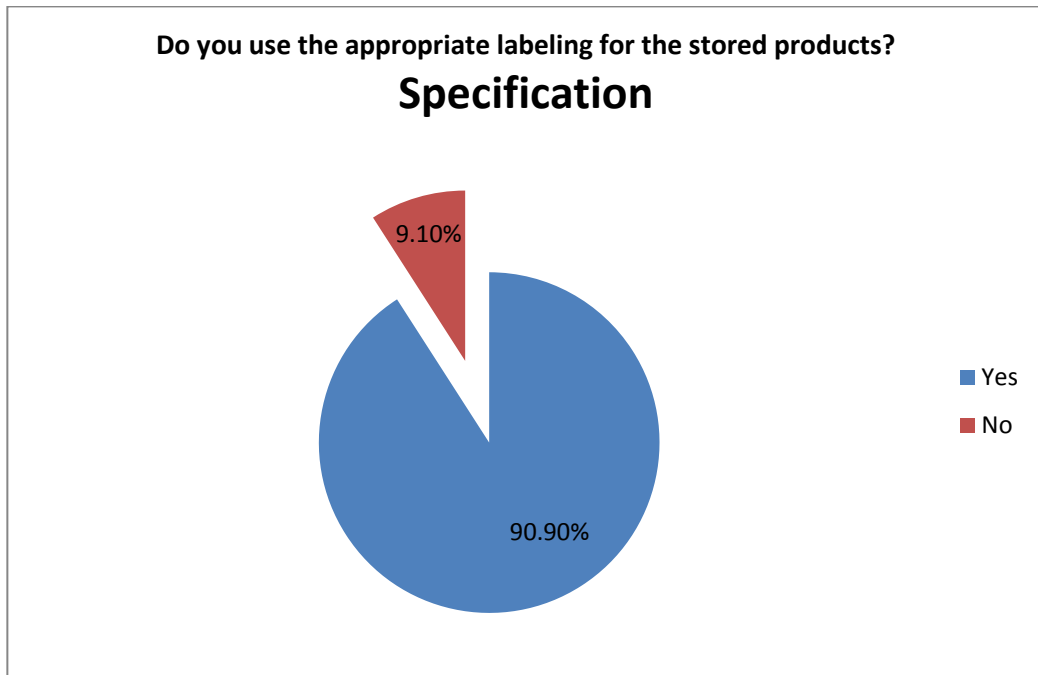


Figure 4.22.2. Specification

c. Freezing/making date Yes No



Figure 4.22.3. Freezing/making date

d. Expiry or "use-by" date Yes No

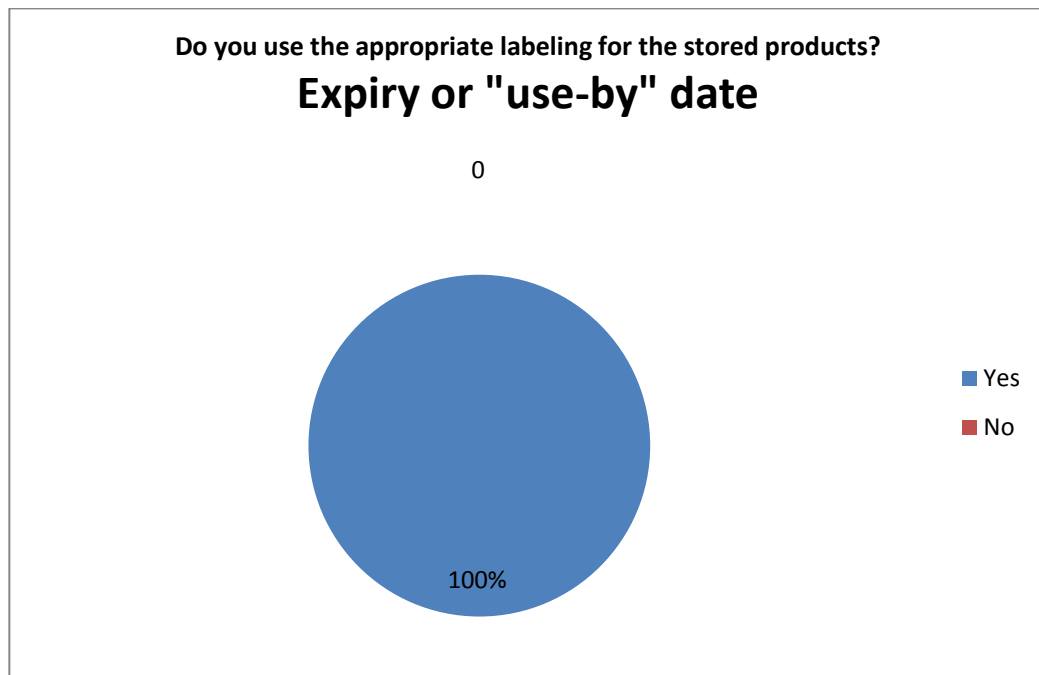


Figure 4.22.4. Expiry or "use-by" date

Questions 22 Analysis

In product labeling it is important if we do it properly, correctly and honestly. It is because if you label it wrongly, you can do harm to other working with you, for example, you mistakenly renew the label for almost expired product, when the other use it, they found out the product already spoiled.

However in XYZ Hotel Jakarta kitchen, they have a labeling sticker as seen in Appendix 3, it consist:

- Product
- Made by
- Date made
- Time made
- Shelf Life
- And Use By date

All the staffs are following this standard labeling because there is always inspection by the Executive Chef every day. As observed, XYZ Hotel Jakarta kitchen, these are some of their standard shelf life:

- Frozen goods keep in freezer: 1 month
- Other goods: 3 days
- Sauces: 3 days
- Sushi Sashimi maximum 4 hours.

This standard are part of the hotel's kitchen policy, and following the international standard well.

- 4.1.1.23. Do you check all the freezer temperature regularly?
- a. Yes

- b. No
- c. Not always

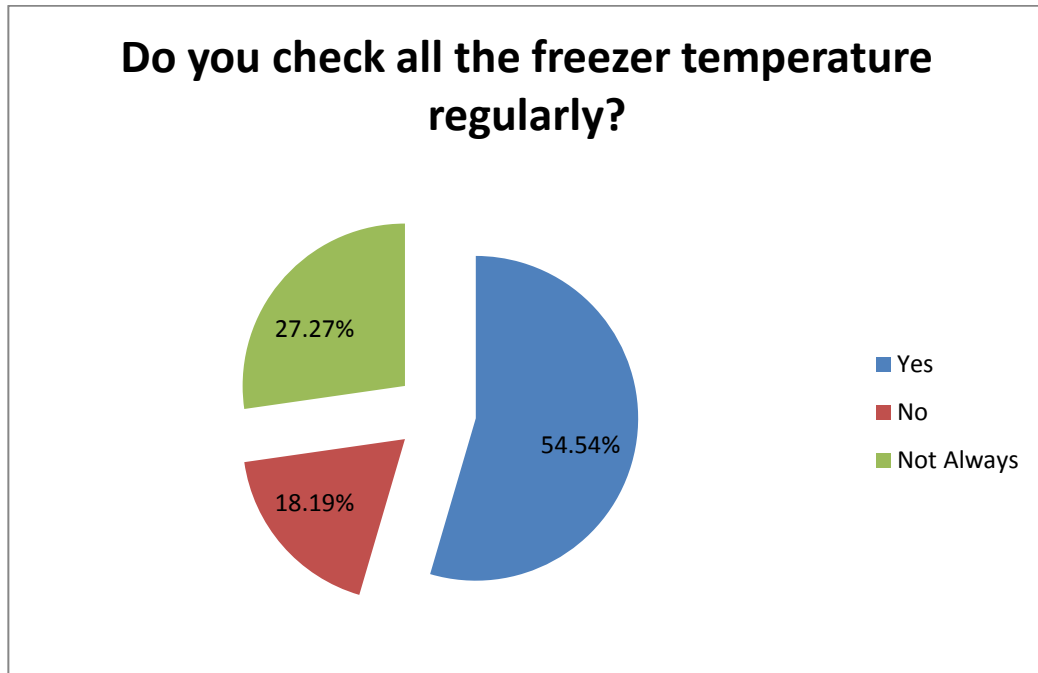


Figure 4.23. Do you check all the freezer temperature regularly?

In XYZ Hotel Jakarta Kitchen, they have the Daily Temperature Report Card (Appendix 5), that they need to update every hour, if there is a drop in temperature, they will call the maintenance to fix it as soon as possible.

It is the job by every cook in charge during the shift to check the temperature. As the result, 54.54% choose their do check all the freezer, while 27.27% not always checking and 18.19% not checking at all.

4.1.1.24. Did the temperature of the freezer for frozen food product:

- a. Kept at -18°C or cooler Yes No

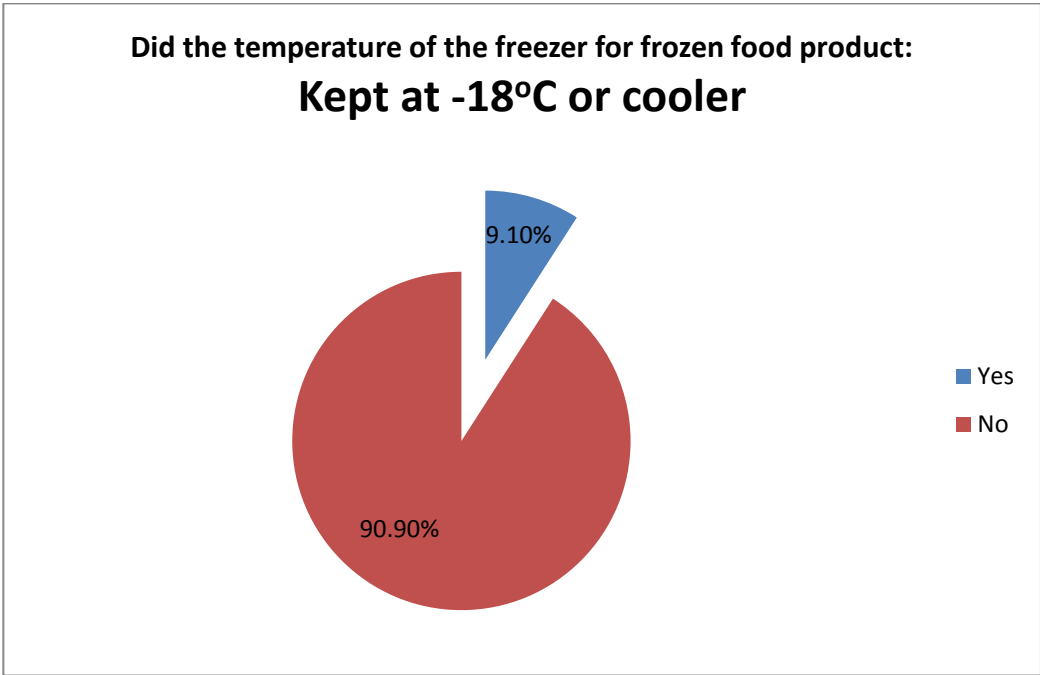


Figure 4.24.1. Kept at -18°C or cooler

b. Kept between -14°C to -17°C Yes No

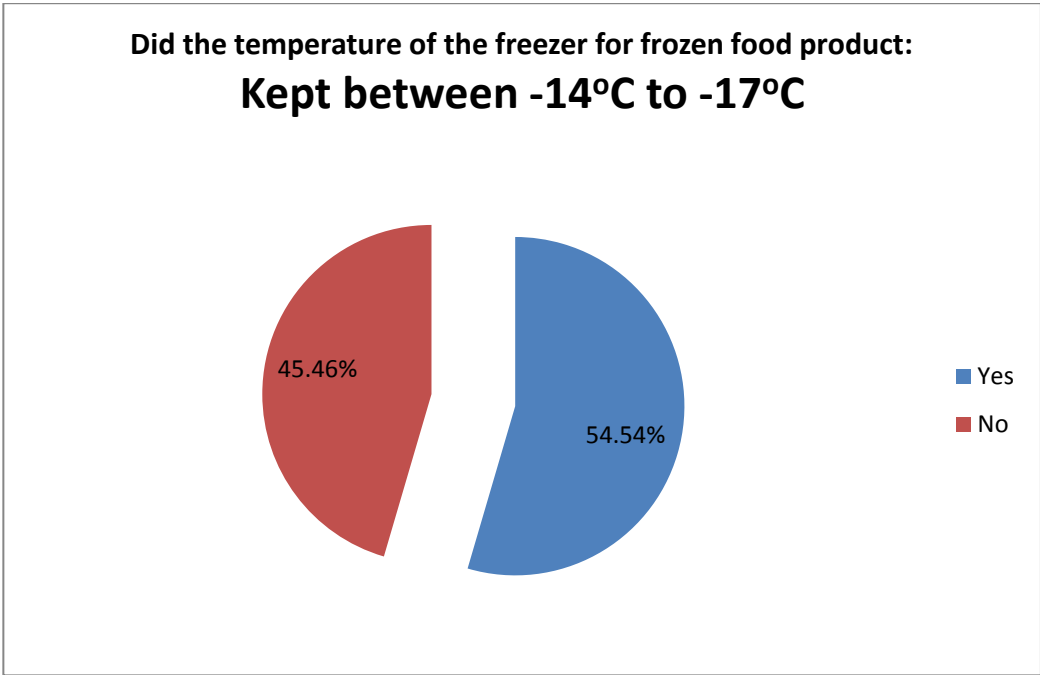


Figure 4.24.2. Kept between -14°C to -17°C

Question 24 Analysis

As quote from Hart.gov.uk: "Chilled, high-risk foods must be below 8°C and frozen foods should not be accepted at temperatures above -15°C; It is

recommended that chilled, high-risk foods are kept at temperatures between 0°C - 5°C and frozen foods are stored at temperatures below -18°C."

As the researcher observed in XYZ Hotel Jakarta Kitchen's freezer, the temperature will be roughly only around -10°C to -15°C and sometimes can reach -17°C if the freeze at their best.

90.90% of correspondent answered No on section A that they do not have freezer that keep food at -18°C as required while only 9.10% choose Yes. Once verbally asked, the researcher found out that the freezer is just old enough to be replace with a new cooler. They have not change the freezer since 2005, as they need a constant maintenance which sometimes cost more.

In the 'B' section, 54.54% said that their freezer temperature is at the least required between -14°C to -17°C, while 45.46% say No..

4.1.1.25. Did the temperature of the cold product:

a. Kept at 0°C - 3°C Yes No

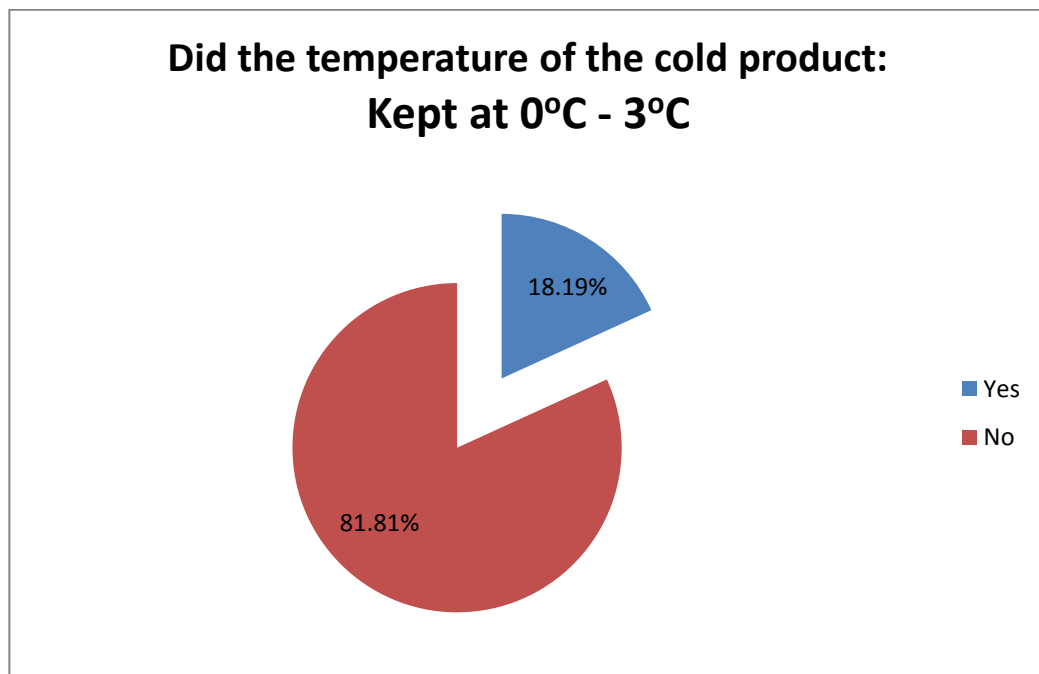


Figure 4.25.1. Kept at 0°C - 3°C

b. Kept at 4°C to 6°C Yes No

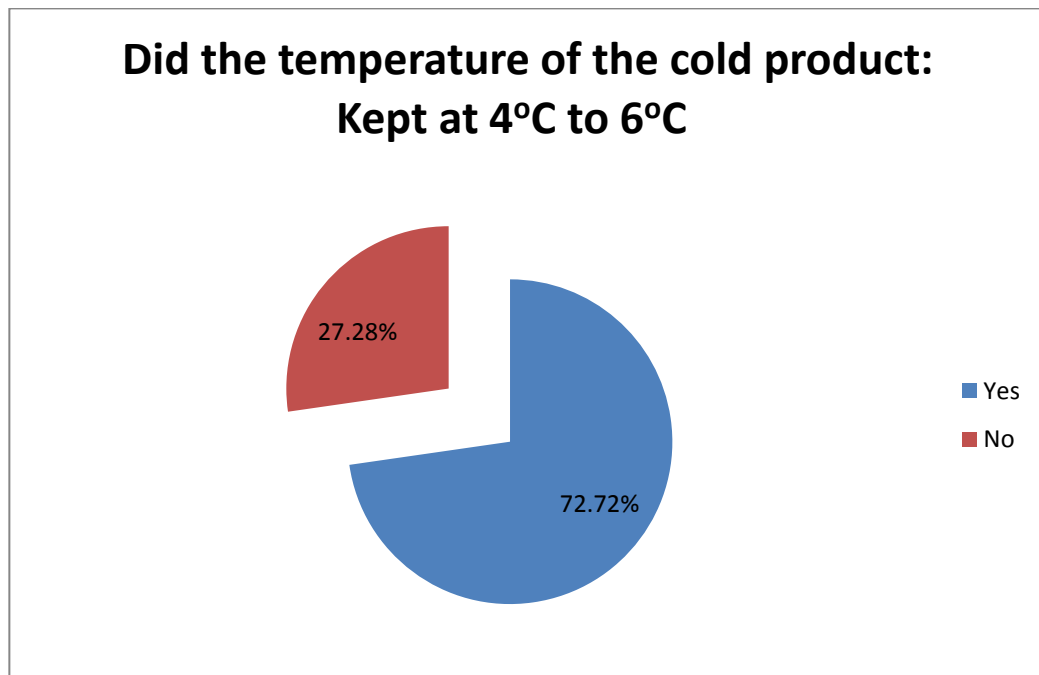


Figure 4.25.2. Kept at 4°C - 6°C

Question 25 Analysis

Storing the food product is important especially in the right temperature, as stated in *The Professional Chef* (2006, p.30) Refrigeration and freezer units should be regularly maintained and equipped with thermometers to make sure that the temperature remains within the safe range.

As we know that Danger Zone is between 5 °C too 57 °C (*The Professional Chef*, 2006). Therefore storing food product to keep it out from danger zone especially the raw material or cold food product.

In question 25a. 81.81% don't keep it until -3°C while 18.19% choose Yes. During observation, the chiller sometimes reach -4 °C at their best mode but to a maximum of 6 °C which already 1 °C higher than it supposed.

In question 25b. majority choose yes with 72.72% said so, while 27.28% disagree.

4.1.1.26. Do you check the product according to the FIFO system?

- a. Always use the first product that come Yes No Not Always

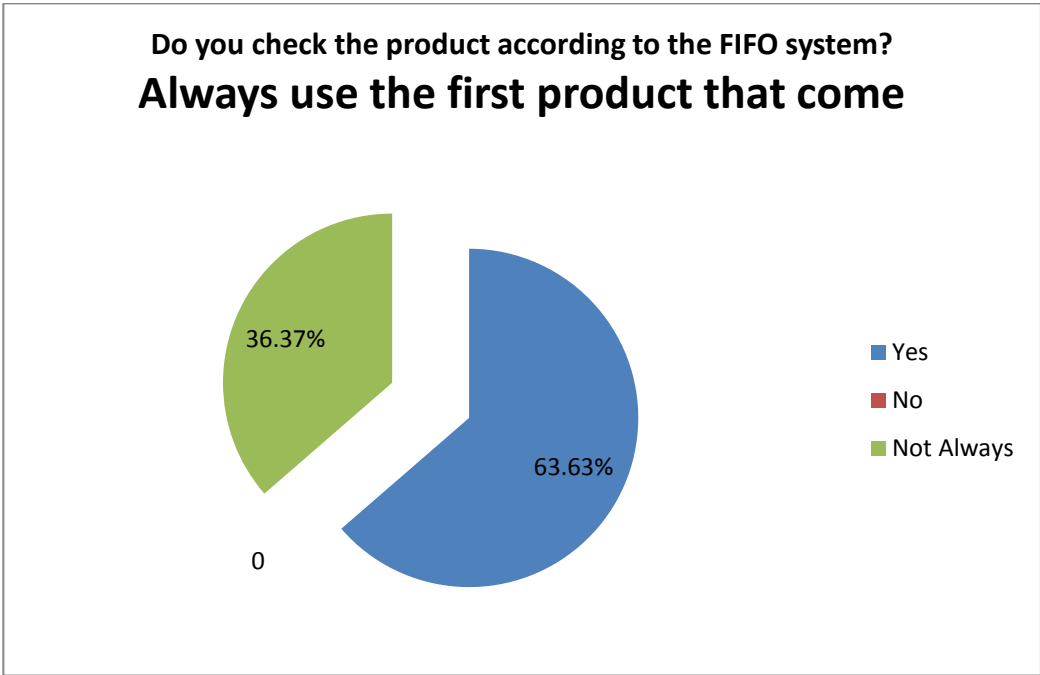


Figure 4.26.1. Always use the first product that come
63.63% choose Yes while 36.37% choose not always. This is because not all product need to be used as soon as they arrived, especially when they can last longer.

b. Always discard expired product Yes No Not Always

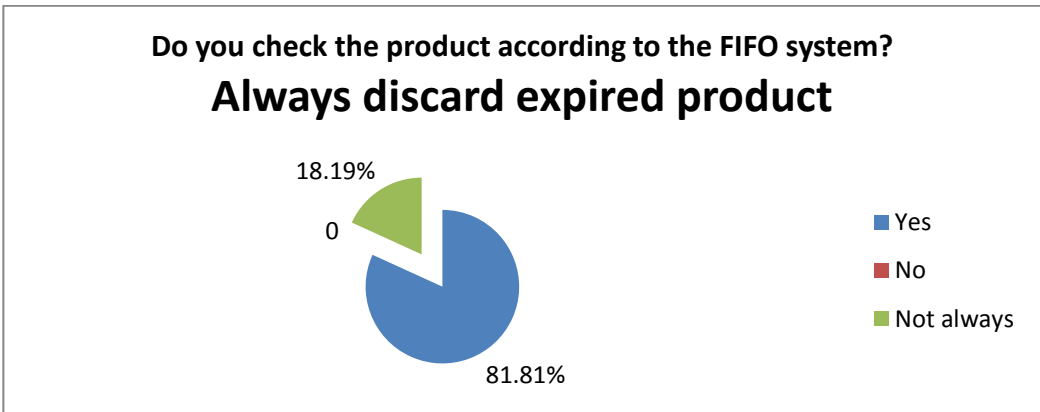


Figure 4.26.2. Always discard expired product
It is a basic knowledge that every cook need to know that once the food product is expired, you have to discard it no matter what for the safety of the customer as well. In four-star hotel like XYZ Hotel Jakarta, its kitchen practice a rather good food safety and hygiene standard, as watched by the researcher, they will always discard food from the buffet or keep it for orphanage. Therefore 81.81% choose Yes, they do discard expired products and 18.19% choose not always.

c. Putting the first come product at front
of the new product Yes No Not Always

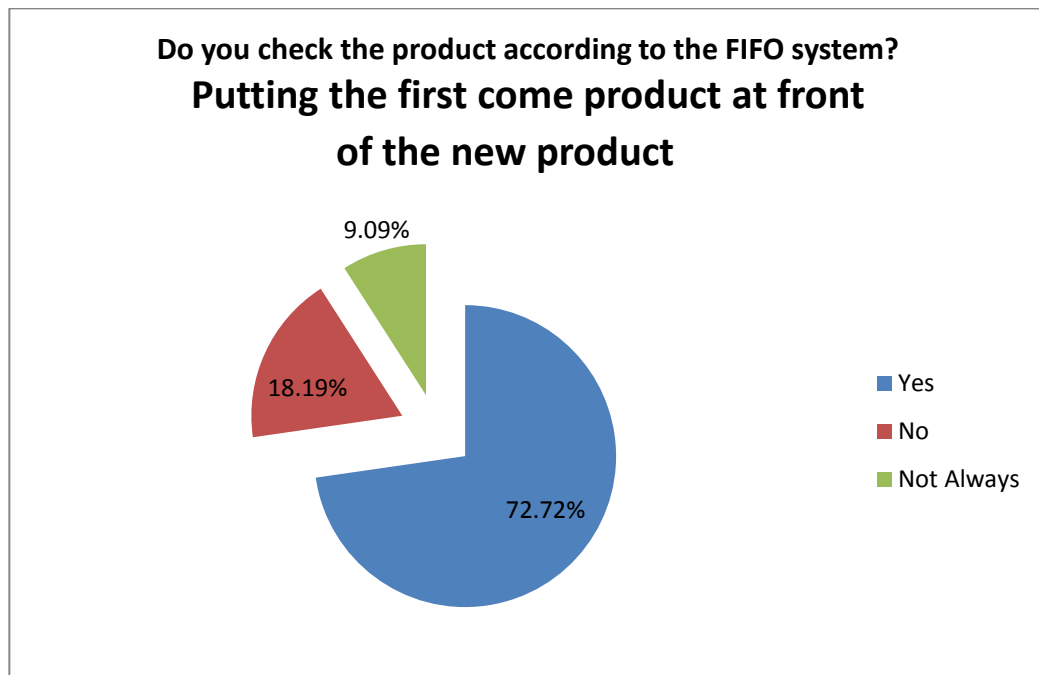


Figure 4.26.3. Putting the first come product at the front of the new product. 72.72% choose yes, while 18.19% said no and 9.09% choose not always on this question.

In FIFO system, you always place the newer product at the back of the first product that come to store.

With this answers, it shows that two people might mean that again, not all old product need to be put in front of the new product, for example like vegetables usually will be used straight away.

4.1.2 Interview Result and Data Analysis

The researcher is using structured Individual Depth Interviews to find the answers from 9 questions being asked to two high level cook in Cold Kitchen or Garde Manger, a Sous Chef and Chef de Party of XYZ Hotel Jakarta. The interview was recorded in November 26 2011.

1. Did the food product from the supplier is hygienic and safe?

Sous Chef (SC): Yes, of course, because in our company, in XYZ Hotel Jakarta, before doing receiving of goods, we also check the quality of the goods to the supplier, if the supplier already fulfill the hygiene standard or not. And after the goods arrived at receiving department, we also have a standardize of size of fruits or vegetables from the supplier with the standard certain size that have been enacted at this hotel. Then the freshness and cleanliness is usually the receiving department job to do the re-cleaning with a sanitizers.

Chef de Partie (CDP): Actually it is the task of Receiving department. So , not all product from the supplier is clean, sometimes the vegetables and fruits come from the market. However in receiving we provide sanitizers to first be washed up. As for meat product, fish is safe and clean, so it's hygienic.

Analysis: XYZ Hotel Jakarta Kitchen has a good standards for goods receive from supplier, they always check the quality as mentioned by the Sous Chef. They also re-clean the goods once received in the kitchen. Therefore, the food product from the supplier is hygienic and safe.

2. Do you check the quality of the food product?

SC: We certainly have to recheck if what from receiving does not fit the criteria we set, we have to return it to the receiving department and they will return it back to the supplier. But when it is fit, we will process further, because in receiving department there is training in maintaining the quality of the goods, vegetables and fruits, also about how to wash, and store it in proper place, if not there will be cross contamination between all goods.

CDP: For the food quality, it is also the task of receiving department, they first check if the product in accordance with the standards or not, if it is not, we will return it, the same with imminent expired product, fruits with less maturity and of small size.

Analysis: the quality of the food product especially the raw material as watch and checked by the receiving department also every supplier product need to be in accordance to the hotel's criteria. There is a training in receiving department to control the food safety and hygiene to avoid cross-contamination.

3. Do you check the safety and hygienic condition when you are going to process it?

SC: We usually recheck it again after from receiving department, we will do rewashing if it arrived at the kitchen. For fruits we have chlorine test, with a ppm to know if we already doing it accordance to the procedures or not which being standardized from ecolab. For fruits we can have 100 PPM with a specific color code on the paper, for eggs usually we use 200 PPM with a comparison which already set in a machine 1 to 6, 6 for water, and 1 for chlorine or XY12 to wash the raw food.

CDP: Before processing the raw material, we always check the cleanliness by washing with chemical (Chlorine-XY12) before use. For product in container, we check the expired date, for seafood and meat we check the freshness. Then we sanitized the cutting board, doing a proper hand washing with sanitizers, then use hand gloves to get ready for work.

Analysis: XYZ Hotel Jakarta has the Standard Operating Procedure before processing the food into a product, such as rewashing after accepting the product from receiving department with a food grade chlorine name XY12 with a correct standardize color code.

4. Did your staff know about HACCP (Hazard Analysis Critical Control Point) standards?

SC: Yes, all the staff should know about it because in our company, we have a HACCP training once every 6 months from ecolabs, there is questionnaire and

also practical training. And if we fail during the test, we have to repeat the test. This training is to refresh the memory, so yes, once every 6 months we have training in Food safety to remind everyone about the food safety standard itself.

CDP: I think everyone knows, because once every six month we have a training from ecolabs.

Analysis: HACCP is most basic training material that every cooks should know. In XYZ Hotel Jakarta, they do the training once every 6 months from the internationally accredited company in training of Food Safety and Hygiene called ecolabs. There are theory and practical training.

5. Did the hotel give training about the Food Safety and Hygiene?

SC: Beside that once every six months training, we have other training about how to wash hand correctly, then washing the utensils like knife and cutting board in a correct way. Also in Cold Kitchen or Garde Manger, we have a mixing bowl - to wash vegetables, how to wash it properly. And we have a record for every type of training. (Appendix 4)

CDP: For hygiene and sanitation training, we did it every session, we did with accordingly to the needs, or sometimes every month we have training for each staff, as to remind them to always do (the proper) hygiene and sanitation.

Analysis: As seen in Appendix 4, it was a training record about washing mix vegetable which is done once a month by the kitchen itself. With this proper training programs, the staffs must have known the standard of Food Safety and Hygiene, but why there are still people did not know or did not do it?

6. Can you give the training examples other than you have stated before?

SC: (There are training) on temperature checking, the temperature of food, everything has its control logs, we keep it in archives.

CDP: Usually there will be a training on how to do a proper hand washing, how to wash the cutting board and knife.

Analysis: Temperature control is one of the basic trainings, because every product need to stay away from the danger zone (5 °C - 57 °C), they have the control log as seen in Appendix 5. As observed, the temperature control log is always updated by the person in charge everyday and place in front of the chiller or freezer.

7. Do you understand about what they have given you?

SC: Yes, we understood, because even if we did not understand it now, we will have a retraining to keep refreshing until we understand for the implementation of food safety itself.

CDP: With God willing, I understood.

Analysis: As a higher level position, it is a compulsory that he has the wide knowledge for Food safety and hygiene, but some of his staffs do not understand the standard very well.

8. What are the difficulties in doing the food safety and hygiene?

SC: There always be obstacles, especially when the full occupancy of rooms, a lot of event banquet, there always be a problem in managing time, because we

have to set up on time, then we have to do everything on time, all in a on timing. But the obstacle can be solved when everything has been set up, the food will be recheck with the labeling and covering, also cleanliness of the working area before we off work.

CDP: I think the difficulties always occurs when we have full occupancy rate, when it is crowded, it is very difficult to manage people to do hygiene sanitation, especially to clean up the area, because we have too many goods, work load and to manage the goods is difficult in a limited space. So I think that's the difficulties.

Analysis: It is a common thing when the kitchen is busy and has the full work load, the chance of not doing the food safety and hygiene is higher, because it is forgotten. However the staffs need to make it a habit to keep on doing the proper thing every time they are doing the food production processes.

9. How do you do the FIFO standard in your department for storing the food product?

SC: For FIFO Standard, we do the controlling using labeling, and in the labeling (sticker) its written the name of who make the product, what is the time, what is the date, and also the shelf life. For food kept in chiller should not last longer than 3 days, and for freezer minimum shelf life is 1 month, because it is inside the freezer with a colder temperature because it is to be frozen.

We place the food in a separate trolley, for vegetables, seafood and poultry. For poultry always place in the lowest position of the trolley, because we are afraid there will be a spread of salmonella (or bacteria). And for vegetables, the newest always put in front, to be processed first.

CDP: for FIFO, we use label on every food. So we wrap, then we labeled it, or if using a container, we stick it on the cover. Then for banquet preparation, usually we wrote the name of the product, the making date on the wrap. Then for goods in packaging we use the expiry date as the reference. For fruits, we tried to place it separately between the old and new with a correct labeling.

Analysis: FIFO or First In First Out, not only used in stock rotation in factory, but it is a very important procedure in a kitchen as well to avoid cross contamination, to remove the expired or spoiled product from the new products, and to separate every products like fruit, vegetable, fish, seafood, eggs, meat, poultry, cheese and so on. In XYZ Hotel Jakarta, the Sous Chef in Cold Kitchen or Garde Manger always do his job to prevent any contamination, and always check the chiller and clean it at least once every two days.

1.6 Interpretation of Results

As the results shown in charts, most of the Cold Kitchen or Garde Manger staffs, do understand about the importance of following the Food Safety and Hygiene standard. However the results shown that a fraction of staffs did not following the procedures. This is because of the facilities provided by the hotel management to

the kitchen are not supporting the important procedures for the practice. As observed for six months, there are some problems arise due that affected the food safety and hygiene practice in XYZ Hotel Jakarta.

Things like the cooking utensils, they are not having enough and proper cooking utensils, most of them is not suitable to be used in a four-star hotel kitchen, lack of the availability of hand gloves - the important item to protect the food from the bare hands - also occurs where the Executive Chef limiting the order of hand gloves to cut cost.

In Richard Lawley, Laurie Curtis & Judy Davis (2008), there are three basic operation in the practice of food safety:

4. protection of the food supply from harmful contamination;
5. prevention of the development and spread of harmful contamination;
6. effective removal of contamination and contaminants.

By the lack of hand gloves and also self-awareness of personal hygiene like using excessive perfume during work in the kitchen, rarely doing a hand washing which is very important according to Claire Nash for Chartered Institute of Environmental Health (CIEH) in 1998 that people are a common source of pathogenic bacteria, so everyone who works with food must have the highest possible standards of personal hygiene and personal habits to avoid contaminating food. The researcher did not see anyone actually doing the six stage of hand washing technique as seen in Figure 2.1.

Temperature control also a problem in XYZ Hotel Jakarta's Cold Kitchen or Garde Manger, as stated by Claire Nash for Chartered Institute of Environmental Health (CIEH), 1998, as bacteria and other micro-organisms are an essential part of the natural world, some foods and ingredients could already be contaminated when they arrive at your workplace. Temperature control involves restricting the time that high risk foods are left at temperatures in the danger zone and using high temperatures to kill pathogenic micro-organisms.

The basic rules of good practice are:

- d. restrict the time that high risk foods spend at danger zone temperatures
- e. keep cold food really cold, ideally at 5°C or cooler.
- f. Keep hot food really hot, at 63°C or hotter.

However, most of the Cold Kitchen or Garde Manger staff do not know about this matter, they just depending on the digitalized and sometimes wrongly stated temperature above the freezer or refrigeration room.

Finally according to Dr. Kavita Marwaha (2007), food safety involves more than just cleanliness; it includes all practices involved with:

- d. Protecting food from the risk of contamination, including harmful bacteria, poisons and foreign objects.
- e. Preventing any bacteria present in the food multiplying to a level that would result in food poisoning, or the early spoilage of the food.
- f. Destroying any harmful bacteria in the food by thorough cooking or processing.

Therefore with this result the problem mostly because the hotel's kitchen cannot support every standards needed while some of it actually important like providing hand gloves, hand washing signs and sinks, also proper cooking utensils like thermometer to check on the food temperature.

CHAPTER V

CONCLUSION AND RECOMMENDATION

1.7 Conclusion

To conclude the purpose of the research, is to find out the reasons why the Cold Kitchen or Garde Manger staffs at XYZ Hotel Jakarta, are not implementing the food safety and hygiene standards stated by international Food Safety and Hygiene, Claire Nash for Chartered Institute of Environmental Health (CIEH). To find the results, researcher did gave out questionnaire to ask the staffs on their knowledge of Food Safety and Hygiene Standards, also interviews as well as findings for evidence, as the results shown that majority of the staffs did not fully understand the importance of keeping the food safe and hygienic according to the standard.

According to the results, the training given by the company is useless, unless the company shows support for the staffs to implement the standards. And also to educate them more wisely and more effectively.

There are difficulties for them to implement the standards, like:

- a. Difficult terms used by the training company.
- b. Does not know the correct procedure for the specific training.
- c. Not all the standards can be implemented in the hotel, where it consider as important like temperature control.
- d. No proper training for the trainees and daily workers, make them unaware of the situation.
- e. They are not having enough and proper cooking utensils, most of them is not suitable to be used in a four-star hotel kitchen.
- f. Not enough facilities to support the implementation.
- g. Cost saving affect the implementation.

Therefore to summarize the problems, with a handful of training on Food Safety and Hygiene Standard in XYZ Hotel Jakarta, not all can be implemented in the

kitchen, also it hindered by the cost saving strategies as well as lack of awareness to support the implementation by the hotel management while the kitchen department trying their best to keep the standard in place once in a while.

This research provides the image of the importance of the hotel management and the staffs working together in ensuring that the safety of the customer especially in providing clean and hygienic food and beverage as it is the no. 1 source of income for the hotel.

1.8 Recommendation

For the next research, it is better to focus on the hotel standards in storage and receiving because it is the starting point on the Food Safety and Hygiene standard procedures.

According to the research and conclusion above, there are some recommendations proposed in this research, as follow:

1. For the Hotel

The XYZ Hotel Jakarta may take consideration in providing proper and good facilities for the implementation of Food Safety and Hygiene Standard. Also designing new methods and messages to aim at increasing food safety risk reductions like Food Safety Information Sheets or manual books, also frequent control by outside hygiene companies.

Also recommending to paste more hand washing sign, safety procedure posters, and how-to posters in the kitchen, provide more hand washing stations, and sanitizers as well.

2. For further research

It is recommended to conduct other research in Receiving and Storage because it is the starting point of Food Safety and Hygiene Standards. The research in this area would get another results in prevention of contamination. However the research again to use qualitative methods to make a deeper understanding of the problem and what can be applied to the rest of the kitchen.

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APPENDICES