

HACCP (Hazard Analysis Critical Control Point) Implementation in Fast Food at Cakra Hotel

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Abstract: The objectives of this study are: To determine the application of HACCP (Hazard Analysis Critical Control Point) in the implementation of food, especially fast food at Arjuna Resto Hotel Cakra. To find out the factors that cause danger in fast food processing at Arjuna Resto Hotel Cakra. The location of this research was conducted at Arjuna Resto Hotel Cakra. Informants in this study amounted to 5 people. The analytical technique used in this research is the qualitative descriptive analysis technique. The results of the study found that: The implementation of HACCP in the provision of food, especially fast food at Arjuna Resto Cakra Hotel is still not effective because the restaurant has not fully implemented the HACCP principle and the results of the answers to the questionnaire have different answers. The hazard factors identified as more dominant in the processing of fast food at the Cakra hotel restaurant are biological contaminants which are thought to be bacteria or pathogens that exceed the quality standard but do not cause. changes in the color, taste and smell of the finished food.

Keywords: Cakra Hotel, Fast Food, HACCP

History Article: Submitted October 2022

Introduction

A hotel is an industry or service business that is managed commercially (Hermawan, 2018). Hotels in providing services which are also known as 'products' to guests have the aim of making a profit. The main income of a hotel is from the sale of its rooms, and the second is from the sale of food and beverages, both in restaurants and in organizing an event. Along with the times, delicious food and drinks are not enough for guests. Food and drinks that meet nutritional needs and are safe for consumption are a priority for guests today. However, the issue of food safety in Indonesia has not become a major concern. Whereas more than 90% of diseases in humans are related to food consumption factors caused by microbiological contamination, such as bacteria, parasites, protozoa and viruses.

Food quality and safety as well as effectiveness in the production process are important things to pay attention to gain an edge in the global market. Food contamination by germs and toxins is still a problem for developing countries, including Indonesia.

Unhealthy food due to contamination by pathogenic microbes and foreign substances can trigger various diseases from mild to dangerous to health. This is the background of HACCP or hazards analysis and critical point control which is very important to be applied in the catering business, including the Arjuna Resto business. Arjuna Resto is a catering business in the field of food procurement and service to people in the Cakra Hotel environment. The existence of Arjuna Resto is very useful, especially for guests who stay at Hotel Cakra. In addition to relatively cheap prices, varied menus and ample portions of food, these are some of the reasons guests like the food at Arjuna Resto.

Food that is not safe for consumption is very dangerous for human health. HACCP is a quality assurance system based on awareness or appreciation that hazards can arise at various points or stages of the hazard. The key to HACCP is the anticipation of hazards and the identification of control points that emphasize prevention rather than control of final product testing. The HACCP system is not a zero-risk or no-risk food assurance system but is designed to minimize the risk of food safety hazards. The HACCP system is also considered a management tool used to produce food supply chains and the protection process against contamination by microbiological, chemical, and physical hazards (Winarno, 2004). The need for the implementation of HACCP at Arjuna Resto Hotel Cakra because based on the results of initial observations that have been made the author sees that food handlers at Arjuna Resto Hotel Cakra lack awareness of the food served and lack of knowledge about sanitation and food

safety. Such as the irregular layout of food storage in the kitchen department at Arjuna Resto Hotel Cakra. So it is very possible for contamination and potential hazards indicated in food, both biological, chemical, and physical hazards.

Hotel Cakra has several outlets. One of them is Arjuna Resto which has 1 restaurant selling various kinds of food, both ready-to-eat food, and made-to-order food. This study will be analyzed fast food. Fast food in question is food that can be served and served quickly at Arjuna resto. The reason the author chooses ready-to-eat food to study is that at Arjuna Resto the food that is popular among guests or guests is fast food such as burgers, wedges, etc. Efforts to manage food quality and safety can be applied by analyzing to identify the hazards associated with the process of making ready-to-eat food and providing recommendations for developing a HACCP system to produce food that is safe for consumption.

From the description above, the authors are interested in conducting research related to the implementation of HACCP at the Cakra Hotel as an effort to maintain the quality of the food served to keep it clean and safe for consumption. The research conducted entitled "Application of HACCP (Hazard Analysis Critical Control Point) on Fast Food at Cakra Hotel". The purpose of this study is to know the implementation of HACCP (Hazard Analysis Critical Control Point) at Arjuna Resto Hotel Cakra and also to know the factors that cause danger in fast food processing at Arjuna Resto Hotel Cakra.

Method

This study was conducted in Arjuna Resto Cakra Hotel which is located at Jl. Bypass Ngurah Rai 28 Kesiman Kertalangu, West Denpasar. This study was conducted from April to July 2022 period. The object of this study is the implementation of HACCP (Hazard Analysis Critical Control Point) at Arjuna Resto Hotel Cakra. The variables that are used in this study are the internal variable and external variable. The internal variable is HACCP (Hazard Analysis Critical Control Point) and the external variable is fast food.

The data used is qualitative. Qualitative data is data that is presented in the form of words or sentences, not in the form of numbers, figures, or arithmetic operations that cannot be carried out such as personal documents, field notes, respondents' words and actions, documents and others (Sugiyono, 2015). The type of qualitative data in this study is the results of interviews that have been processed and presented.

Sources of research data according to Lofland and Lofand (Moleong, 2007) are the main data sources in qualitative research in the form of words, and actions from those who are observed or interviewed, besides that only additional data can be obtained through documents and others. Primary data is data obtained from research results, in the form of data from direct observations to locations using observation sheets and conducting direct interviews with respondents. The primary data used in this research is the result of interviews based on the questions that have been given by the researcher. Secondary data sources are sources of data obtained from written sources, such as books, journals, articles, documents, and literature reviews related to the research, also supporting the primary data that has been obtained in the field. Secondary data in this study is the history of the company and organizational structure.

This study uses a qualitative descriptive design that describes the data that has been collected through observation and interviews as well as documentation carried out directly to the hotel related to the data that will be needed in this study. The selected informants are considered to know all the expected information, making it easier for researchers to obtain information or explore the object under study. Informants in this study consisted of Hotel Manager, Executive Chef, Receiving, F&B Manager and Steward amounted to 5 informants.

The technique of collecting data in this study are observation; interview; literature study; documentation; and questionnaire. Data analysis in qualitative research is carried out before entering the field, while in the field, and after finishing in the field (Sugiyono, 2013). Qualitative descriptive analysis aims to reveal events and facts, phenomena, and variables that occurred during the research by presenting what happened. Activities in qualitative data analysis using interactive models (interactive models of analysis). According to Miles & Huberman (1994) that activities in qualitative data analysis with interactive models will take place continuously until complete so that the data becomes saturated. There are activities in interactive model data analysis, namely: data reduction; data display; and verification/conclusion.

Result and Discussion

Based on data obtained from observations, interviews, and questionnaires regarding the assessment of the condition of the Restaurant at the Cakra Hotel. From the results of observations, interviews, and questionnaires, two sub-chapters will be discussed to determine the application of HACCP to the tested Arjuna Resto Hotel Cakra, namely:

1. The Implementation of HACCP at Arjuna Resto Cakra Hotel

The results of taking questionnaire data from 5 consumers regarding the implementation of HACCP at Arjuna Resto Hotel Cakra to respondents who have ordered food at Arjunaresto are as follows:

a. Consumer Rating of Food, Hygiene, and Employee Personal Hygiene

The results of the questionnaire analysis in this study were given to 5 (five) respondents who were determined based on the categories of comfort level, cleanliness, and personal hygiene. The results show that the level of consumer satisfaction with the type and way of serving food shows that most consumers rarely choose to eat at the hotel. This was revealed by consumers from the questionnaire that had been chosen because the 5 respondents, had only tried several menus provided by Arjuna Resto.

The consumer's assessment of the cleanliness of the kitchen shows that most consumers assume that the cleanliness of the kitchen has met the requirements and is by the requirements so that there has never been any poisoning caused by the food served by the hotel kitchen. Then the tableware in the entire kitchen is used is clean and suitable for use and the food served in the kitchen is suitable for consumption. Then in the presentation of food, some consumers say that the food served by the kitchen is tightly closed. This is very different from the direct observation that the food is served using a cover. And for overall cleanliness, consumers say that the kitchen is kept clean every day. This can be seen from the observation that there are only a few kitchens that keep the kitchen clean every day.

Consumers' assessment of the personal hygiene of food handlers shows that most food handlers use tools during the cooking process. From these results, it can be seen from the observational data that almost all food handlers in each kitchen use tools in cooking and preparing food. This can be proven by the observation that many food handlers use aprons, gloves, and masks in the food processing process, possibly because the handlers are comfortable with using these tools in the fast food processing process.

b. Assessment of Knowledge and Application of Personal Hygiene of Food Handlers and Examination from the Health Service

The results of interviews conducted with food handlers showed that most of the food handlers had heard about food safety. The food handlers know about food safety through television media, PKK, and even the Health Office. But the information they know about food safety is only limited to processed food that is healthy, clean, harmless, and fit for consumption.

From the results of respondents' assessment of the knowledge and application of personal hygiene behavior of food handlers, it shows that food handlers only know a small part about sanitation and food safety and only apply a little information from what they get. Therefore, it is necessary to conduct training and counseling on food sanitation and safety and the application of HACCP in the processing of ready-to-eat food at Arjuna Resto Hotel Cakra.

Behavior or application of handlers, namely some food handlers apply the information they get about food safety and maintaining food health, but some do not. Food handlers can apply by processing food ingredients cleanly and correctly. Processed food can be ensured to be safe for consumption by monitoring it from insects by covering ready-to-eat food, choosing good food ingredients without preservatives, and tasting it before serving it to consumers. Meanwhile, to maintain food security for a long time, some employees cook food properly and until it is cooked.

2. Factors Causing Hazards in Fast Food Processing at Arjuna Resto Hotel Cakra

From the discussion above, several potential hazards are contained in the stages, namely biological, chemical and physical hazards. Biological hazards include bacteria, viruses, fungi, protozoa, and insects. Chemical hazards include natural toxins (cyanide), allergens, pesticides, and mycotoxins. And physical hazards include gravel, metal, glass, and hair.

Biological hazard is the greatest hazard in the HACCP analysis in this study because most cases of food poisoning are caused by microorganisms but there have been no cases of poisoning that have occurred in Arjuna Resto Hotel Cakra. These results have been tested in the laboratory, food samples at the restaurant at the Cakra Hotel tested did not contain E. Coli bacteria but it was estimated that there were Salmonella bacteria (Raditya, 2017). One of the biological hazards, namely at the stage of receiving raw materials, can be reduced in three stages, namely selection, sorting, and washing.

The product description of the food that will be served by the restaurant can be seen on the following table.

Table 1. Product/Food Description

No.	Food's Name	Fast Food (Chicken, Vegetable, Water)
1	Food composition:	Chicken, vegetables, water, oil, salt, sugar, turmeric, onion, garlic, and pepper.
2	Product characteristics important ending:	Smell
3	Processing method:	Receiving raw materials, storing fresh vegetables, sorting raw materials, first washing, cutting/slicing, milling, second washing, drying, mixing of raw materials, the process of cooking, packaging, and serving.
4	Preservation method:	Reheating, cooling (storage in the refrigerator)
5	Packaging:	Plastic container or plate
6	Storing condition:	Refrigerator temperature (5-10°C)
7	Storing time:	1 day
8	Special supervision in sales:	Pay attention to odors in food, as well as the presence of biological, chemical, and physical contamination
9	Where is the food will be sold:	Cakra Hotel Resto

Table 2. Product User

1	Consumtion description:	Ready to eat
2	Product user:	All age

From the product description above, it can be done by making a flow diagram of the food processing process. This process flow chart is a sequence of work stages in the production process of fast food processing at the test restaurant which can be seen in the picture below.

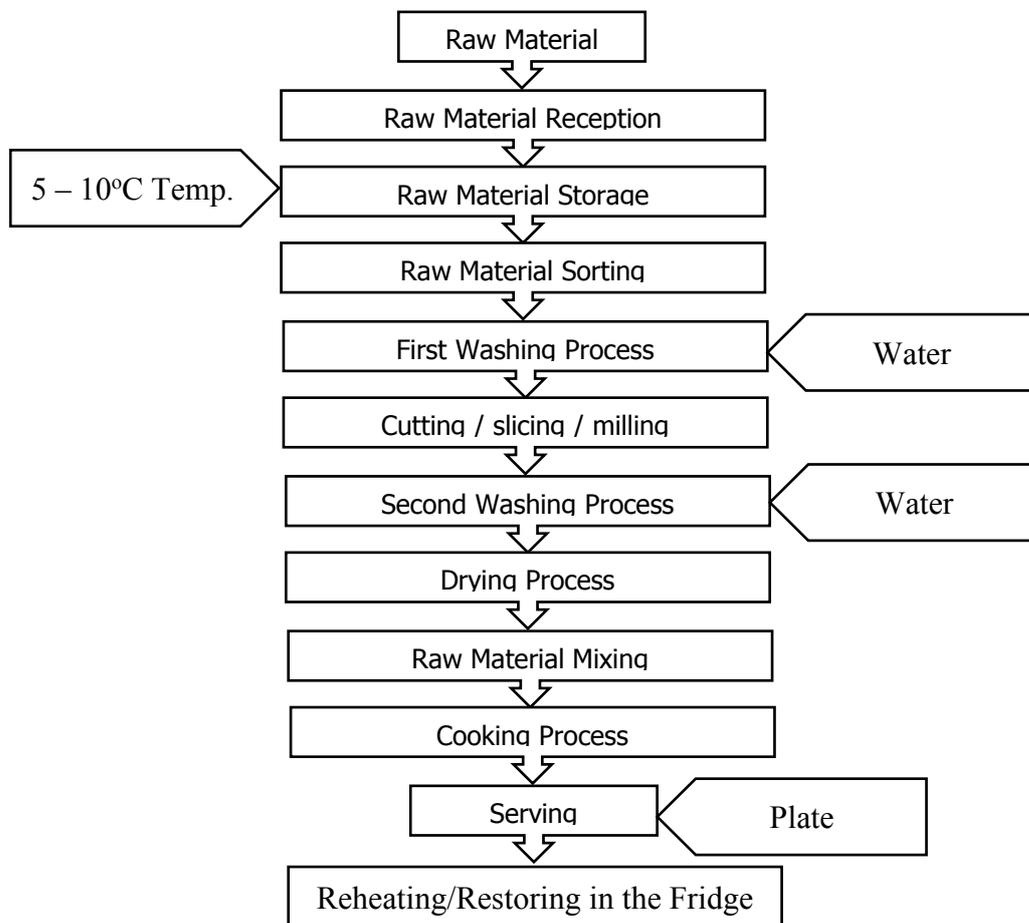


Figure 1. Fast Food Production Process

The picture above describes the stages of the process from receiving or purchasing raw materials to the stage of serving and reheating food that is not sold at that time. HACCP identification can be done by preparing a work plan or HACCP principle steps which include:

a. Hazard Identification and Prevention

Hazard identification is divided into two parts, namely: identification of hazards in raw materials and identification of hazards in food processing processes. Identification of potential hazards in fast food products Arjuna Resto Hotel Cakra in the form of biological, chemical, and physical hazards can be seen in the following table.

Table 3. Hazard Analysis of Production Raw Materials

	Hazards	Hazards' Types	Cause/Source/Justification of Hazard	Opportunity	Severity	Sig.	Control Measures
				[L; M; H]	[L; M; H]		
Chicken	Biological	<i>Salmonella, S. Aureus, Shigella, Streptococci</i>	Low-quality chicken & improper selection	Medium	High	Yes	Carry out the selection process at the time of purchase
	Chemical	<i>Antibiotik Penicillin</i>		Low	High	Yes	
	Physical	Hair		Low	Medium	No	
Vegetables	Biological	Parasites, <i>Shigella spp, L. Monocytogenes, E. Coli, B. Cereus, Insects</i>	Improper post-harvest handling, bacteria attached to vegetables	Medium	Low	No	Carry out the sorting/selection & washing process
	Chemical	Pesticide		High	Medium	Yes	
	Physical	Soil, sand, stone, gravel		Low	Low	No	
Water	Biological	<i>E.Coli</i> , insects, mosses	The water used is not clean / not by clean water requirements	Low	High	Yes	Do not use dirty water/surface
	Chemical	heavy metal substances		Low	Low	No	
	Physical	Stone, gravel, sand, metal material		Low	Low	No	
Sugar	Chemical	heavy metal substances	Low/poor sugar quality	Low	Medium	No	Using good quality, white, clean sugar
	Physical	Ants, hair, insect body pieces		Medium	Medium	Yes	
Garam	Chemical	heavy metal substances	Low/poor salt quality	Low	Low	No	Using good quality salt

	Physical	Stone, gravel, sand, metal material		Low	Low	No	
Tumeric	Physical	Soil, sand	The turmeric used is not clean from soil & sand	Low	Low	No	Do the washing process correctly
Pepper	Physical	Sand		Low	Low	No	Do sorting process

Table 4. Hazard Analysis in Processed Food Processing

HACCP MANUAL

HAZARD ANALYSIS

Step	Hazard	Hazards' Types	Cause/Source/Justification of Hazard	Control Measures	Opportunity	Severity	CP/CCP	Sig.
Raw Material Reception	Biological	<i>E. Coli</i> , <i>Salmonella</i>	Environment & sanitation	Do sorting process	Low	High	CCP	Yes
	Chemical	Pesticide			Medium	Medium	CCP	Yes
	Physical	Rocks, hair, dirt			Medium	Low	CP	No
Raw Material Storage	Biological	<i>E. Coli</i> & insect	Bacteria that are resistant to cold temperatures	Separate on contaminants	Low	Low	CP	No
Raw Material Sorting	Biological	<i>E. Coli</i> & insect	Handling of raw materials is not good, the hands of handlers are dirty	Do sorting process	Low	Low	CP	No
First Washing Process	Biological	<i>E. Coli</i> & insect	Sanitation in the previous treatment, use of dirty water	Doing repeated washing & clean water	Medium	Medium	CCP	Yes
	Chemical	Pesticide & heavy metal substances			Medium	Low	CP	No
Cutting / slicing / milling	Biological	<i>E. Coli</i> , <i>Salmonella</i> , & insect	Sanitation in previous processing, dirty environment & tools	Do the cutting/slicing process by using clean tools	Medium	Medium	CCP	Yes
	Physical	Rocks, hair, dirt			Medium	Low	CP	No

Second Washing Process	Biological	<i>E. Coli</i> & insect	Sanitation in the previous processing, there are still pesticides attached	Doing repeated washing & clean water	Medium	Medium	CCP	Yes
	Chemical	Pesticide & heavy metal substances			Medium	Low	CP	No
Drying Process	Biological	<i>Salmonella</i> & insect	Sanitation in previous processing, environment & not using any cover	Put a lid on the container	Medium	Medium	CCP	Yes
	Chemical	Rock & Hair			High	Low	CCP	Yes
Raw Material Mixing	Biological	<i>Salmonella</i> & insect	Food handlers' sanitation & environment	Carry out the selection process & use cooking aids	Medium	Medium	CCP	Yes
	Physical	Rock & Hair			Medium	Low	CP	No
Cooking Process	Biological	<i>E. Coli</i> & <i>Salmonella</i>	Food handlers' sanitation & environment	Carry out the selection process & use clean cooking utensils	Medium	Low	CP	No
	Physical	Rock & Hair			Medium	Medium	CCP	Yes
Packaging Process	Biological	<i>E. Coli</i> , <i>Salmonella</i> , & insect	Food handlers' sanitation & environment	Carry out the selection process & use clean cooking utensils	Medium	Medium	CCP	Yes
	Physical	Stones, hair, staples			Medium	Low	CP	No
Serving Process	Biological	<i>Salmonella</i> & insect	Sanitize the place of presentation & the room is not crowded with insects	Put a lid on the container	Medium	Medium	CCP	Yes
	Physical	Hair & dirt			High	Low	CCP	Yes
Reheat/Recook	Biological	<i>S. Aureus</i>	Bacteria that are resistant to extreme temperatures & food handler sanitation	Not reheated & cooked sufficiently	Medium	Medium	CCP	Yes
	Physical	Rocks, hair, sand			Medium	Low	CP	No
Storing in the fridge	Biological	<i>Salmonella</i>	Bacteria that	Not	Medium	Medium	CCP	Yes

Physical	Rocks, hair, sand	are resistant to extreme temperatures & food handler sanitation	stored in the refrigerator & cooking sufficiently	Medium	Low	CP	No
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Source: Processed Data

b. Identification of Hazards in Raw Materials

The process of processing ready-to-eat food uses raw materials for chicken, vegetables, water, and other food additives, namely sugar, salt, turmeric, and pepper. Hazards identified in raw materials and additives can be seen in table 3.

In raw materials, what needs to be considered in identifying the hazards of raw materials is the danger to chickens which are estimated to contain chemical hazards caused by the antibiotic Penicillin which is mostly found in broiler-type chickens (Russiana and DN Iswarawanti, 2004). For prevention that can be done, namely by reducing excessive consumption of chicken, food handlers must be careful before buying chicken to be cooked. Vegetable raw materials also have chemical hazards, namely pesticides. The source of these chemical hazards comes from farmers who spray pesticides on vegetables. Raw materials such as vegetables and fruit in the kitchen at Arjuna Resto are stored in the fry in the following picture.



Figure 2. Storage for Fruits and Vegetables

Prevention that can be done is by washing, selecting, and buying organic vegetables. And the raw material for granulated sugar also has physical hazards in the form of ants, hair, and insect body pieces. This is due to the use of low-quality or poor raw sugar raw materials.

c. Hazard Identification in Fast Food Processing

Identification of hazards in the process produced in the processing of ready-to-eat food can be seen in table 4. The first process in the processing of ready-to-eat food is the stage of receiving raw materials, the identified hazards are biological, chemical, and physical. The types of biological hazards are *E. Coli* and *Salmonella* bacteria caused by an unsanitary environment. The type of chemical hazard is from pesticides caused by spraying chemicals by farmers. And the types of physical hazards are stones, hair, and dirt caused by the environment and personnel from food handlers. The severity of this stage is rated moderate and is classified as CCP. Control measures that can be taken are to conduct a selection process at the time of receipt and purchase of raw materials.

The next stage is the first washing stage. This stage identifies the biological hazards in the form of *E. Coli* and insects caused by sanitation in previous processing and the use of dirty water. The severity of this stage is rated moderate which is classified as CCP. Control measures that can be taken are repeated washing and using clean or running water.

The next stage is the cutting/slicing stage. This stage identifies biological hazards in the form of *E. Coli* bacteria, *Salmonella*, and insects caused by sanitation in previous processing, dirty environment, and tools. The severity of this stage is rated moderate which is classified as CCP. Control measures that can be taken care of by cutting/slicing using clean tools.

The next stage is the second washing stage. This stage is the same as the first washing stage, identified

biological hazards in the form of *E. Coli* and insects caused by sanitation in previous processing and the use of dirty water. The severity of this stage is rated moderate which is classified as CCP. Control measures that can be taken are repeated washing and using clean or running water.

The next stage is the drying stage. This stage identifies biological hazards in the form of *E. Coli* bacteria and insects caused by the environment and sanitation in the previous processing and physical hazards, namely dust and hair caused by sanitation where raw materials dry and need to be cleaned regularly. The severity of this stage is rated high and is classified as CCP. Control measures that can be taken care to provide a cover on the food container to be cooked to avoid contamination by existing hazards.

The next stage is mixing the raw materials. This stage identifies biological hazards in the form of Salmonella and insects caused by the environment and sanitation of food handlers. The severity of this stage is rated moderate and is classified as CCP. Control measures can be taken care of by conducting a selection process and using cooking aids.

The next stage is the cooking process. This stage identifies biological hazards in the form of *E. Coli*, Salmonella, and insects caused by the environment and sanitation of food handlers. The severity of this stage is rated moderate and is classified as CCP. Control measures can be taken care of by conducting a selection process and using cooking aids during the food processing process to avoid contamination.

The next stage is the packaging. In this stage, biological hazards are identified in the form of *E. Coli* bacteria, *Salmonella*, and insects caused by the environment and sanitation of food handlers. The severity of this stage is rated moderate and is classified as CCP. Control measures can be taken care of by conducting a selection process and using cooking aids.

The next stage is presented. This stage identifies biological hazards in the form of Salmonella bacteria and insects caused by the environment and rooms that are not dense with insects as well as sanitation in previous processing and physical hazards, namely dust, and hair caused by the sanitation of the serving place which must be cleaned regularly. The severity at this stage is rated high and is classified as CCP. Control measures that can be taken care of to provide a cover on ready-to-eat food containers to avoid contamination and tightness by insects. The next stage is reheating if the food is not sold out which is identified as a biological hazard in the form of Salmonella bacteria caused by bacteria that are resistant to extreme temperatures and have endospores that allow it to breed in the heating process and physical hazards, namely stones, hair and sand caused by the environment and personal. food handler. In the kitchen at Arjuna Resto Hotel Cakra, for heating and cooking food using the oven or stove shown in the following picture.



Figure 3. Food heaters and Stove

The severity of this stage is rated high and is classified as CCP. Control measures that can be taken are to cook food sufficiently and not to reheat food that is not sold out.

And the last stage is re-storage in the refrigerator which identified biological hazards in the form of *S.aureus* bacteria caused by bacteria that are resistant to cold temperatures and allow for reproduction and physical hazards, namely stones, hair, and sand caused by the environment and personal food handlers. The severity of this stage is high and is classified as CCP. Control measures that can be taken are to cook sufficiently and not to store unfinished food in the refrigerator.

d. Identification of CCPs in the process

CCP on ready-to-eat food products at Arjuna Resto Hotel Cakra can be determined by raw materials, to the stages of the process which can be seen in Table 3 and Table 4. Determination of critical control points in the hazard analysis of raw materials there is significant hazard identification, namely the chemical hazard of chickens. The type of chemical hazard to chickens is estimated at the time of injection with the antibiotic penicillin. If chicken meat containing penicillin antibiotics is consumed for a long period, it will be at risk for health. Diseases caused by consuming broiler meat and liver containing antibiotics for a prolonged period can cause teratogenic effects, carcinogenic effects, mutagenic effects, and resistance to antibiotics themselves (Russiana and DN Iswarawanti, 2004). Actions that can be taken are to ensure and carry out the selection process at the time of purchasing chicken meat. In addition to chicken, vegetables also have chemical hazards in the form of pesticides. Pesticides commonly used for vegetables are insecticide-type pesticides. The danger of pesticides causing poisoning in animals and humans. Eradication of pests and plant diseases by using pesticides can cause ecological problems that are vulnerable. This situation results in soil and water pollution, a high risk of poisoning for humans who treat pesticides and plants, the possibility of high pesticide residues in marketed products, and high production costs (Arifin and Lubis, 2003).

The source of these chemical hazards comes from farmers who spray pesticides on vegetables so that there is an identification of significant hazards that can have an impact on the health of those who consume these vegetables. For control measures carry out the selection process at the time of purchasing vegetables. And besides chicken and vegetables, there are raw materials for granulated sugar which also have physical dangers in the form of ants, hair, and insect body parts caused by the use of low-quality granulated sugar. According to Haryadi (2001), chemical contaminants generally cannot be reduced or eliminated during processing. Chemical contamination can only be reduced to a minimum through specifications and strict raw material supervision of raw material providers. Meanwhile, to minimize the presence of physical contamination, it can be done by using good quality granulated sugar, with little or no impurities, especially physical contaminants. Can also carry out sieving or filtering actions before using granulated sugar in the cooking process.

Determination of critical control points (CCP) at the stage or production process there is significant hazard identification, namely the chemical hazard at the stage of receiving raw materials. The type of danger is in the form of pesticides. If there are a lot of pesticides in raw materials, it can be harmful to health. Actions that can be taken are conducting a selection process at the time of purchasing raw materials.

At the drying stage, there is significant hazard identification, namely the biological hazard from *E. Coli* bacteria and insects as well as the physical hazard, namely dust, and hair. Actions that must be taken care to provide a cover on the container during drying and adequate supervision so that insects cannot contaminate the raw material. In the presentation stage, there is significant hazard identification, namely the physical danger from dust and hair caused by the handler's lack of awareness of the cleanliness of the surrounding environment. The action that must be taken is to provide a cover for each food container that will be served to avoid contamination. In the reheating stage of food that is not sold out, there is significant hazard identification, namely the biological hazard caused by *S. aureus* bacteria which is estimated to be resistant to extreme temperatures that allow it to breed. *Enterotoxin S. aureus* is heat resistant to pasteurization temperature, and cooking temperature, and not easily damaged (Sudarwanto 2004). Actions that must be taken are not reheating food and cooking sufficiently so that no food is wasted.



Figure 4. Undercover Kitchen

The storage stage in the refrigerator has identified a significant hazard, namely the biological hazard caused by *Salmonella* bacteria which are thought to be resistant to cold temperatures and allow them to breed. *Salmonella* can live between 6.70°C – 450°C, stop breeding at 50°C, while at 550°C it can still live for 1 hour and at 600°C for 15-20 minutes, except *S. senftenberg* will die at 71.10 C. (Ray, 2004). Kathleen (2008), defines thermophilic bacteria as bacteria that grow optimally at temperatures of more than 45°C, and the general range of growth is between 45-80°C. Meanwhile, Margaret Barnet (1997) stated that *thermophilic* bacteria thrive at high temperatures, growing in hot springs, desert soil, and spas. Actions that must be taken are not to store food that is not finished and to cook sufficiently.

e. Setting Critical Limits For Each CCP

Critical limits in this study determined to determine the most dominant or most critical hazards in raw materials and stages. In the hazard analysis of raw materials, critical limits are set on the chemical hazards in chicken, the chemical hazards in vegetables, and the physical hazards in granulated sugar. While in the processing, critical limits are set on chemical hazards during the process of receiving raw materials, biological hazards during the first washing process, biological hazards during the cutting/slicing process, biological hazards during the second washing, biological and physical hazards during the drying process, and biological hazards during the drying process. mixing of raw materials, biological hazards during the cooking process, biological hazards during packaging, biological and physical hazards during serving, biological hazards during reheating, and biological hazards during food storage in the refrigerator due to unsold food.

f. Establishing CCP Monitoring

The monitoring procedure is carried out by observing or observing and establishing a series of monitoring procedures for each critical limit set. Monitoring results can be seen in the following table.

Table 5. Monitoring and Corrective Action

No	CCP	Hazard	Critical Limit	Monitoring			Corrective Action
				What	How	Frequency	
1	Raw Material Reception	Chemical	Sig.	Pesticides attached to raw materials	Direct & clean washing	Every Process	Rotten or damaged materials are separated
		Biological	Sig.	<i>E. Coli</i> and <i>Salmonella</i> found in raw materials	High-temperature washing & heating	Every Process	Heating with high temperature
2	First Washing Process	Biological	Sig.	<i>E. Coli</i> that is still attached to the raw material	Clean washing	Every Process	Wash again by using special soap
3	Cutting / slicing / milling	Biological	Sig.	<i>E. Coli</i> , <i>Salmonella</i> , insects contaminated on materials raw	High-temperature washing & heating	Every Process	Heating with high temperature
4	Second Washing Process	Biological	Sig.	<i>E. Coli</i> that is still attached to the raw material	Clean washing	Every Process	Wash again by using special soap
		Biological	Sig.	<i>E. Coli</i> that is still attached to the raw material	Clean drying	Every Process	Wash again by using special soap
5	Drying Process	Physical	Sig.	Dust and hair adhering to raw materials	Direct inspection & observation	Every Process	Using a cover on food

6	Raw Material Mixing	Biological	Sig.	<i>E. Coli</i> , <i>Salmonella</i> , insects contaminated by the environment & food handlers	The use of cooking utensils	Every Process	Use clean cooking utensils
7	Cooking Process	Biological	Sig.	<i>E. Coli</i> , <i>Salmonella</i> contaminated, insects	The use of cooking utensils	Every Process	Use clean cooking utensils
8	Packaging Process	Biological	Sig.	<i>E. Coli</i> , <i>Salmonella</i> contaminated, insects	The use of cooking utensils	Every Process	Use clean cooking utensils
9	Serving Process	Physical	Sig.	Dust and hair sticking to food	Direct inspection & observation	Every Process	Using a cover on food
		Biological	Sig.	<i>E. Coli</i> , <i>Salmonella</i> , insects contaminated with food	Direct inspection & observation	Every Process	Heating at high temperature/cooking to a boil
10	Reheat/Recook	Biological	Sig.	<i>S. aureus</i> contained in food	Check & not reheat	Every Process	Not reheating
11	Storing in the fridge	Biological	Sig.	<i>Salmonella</i> that grows due to resistance to extreme temperatures	Checking & not restoring	Every Process	Not restoring

g. Establishing Corrective Action

This action is taken if there is a deviation at the critical limit and CCP. This correction action can be seen in table 5.

h. Establishing Verification Procedure

The verification procedure was carried out by the HACCP team (researchers) to re-check that the HACCP plan at Arjuna Resto Hotel Cakra had been implemented properly in controlling potential hazards. This procedure is carried out if there is a change in raw materials, changes in process or process conditions, there are cases of adverse complaints, and there is new information about potential hazards. From the results of interviews and questionnaires to consumers there have been no adverse complaints against Arjuna resto so far. But from the results of laboratory tests, it is estimated that there are *Salmonella* bacteria contained in ready-to-eat food served in one of the test canteens (Raditya, 2017). There may be contamination in food.

i. Doing the Documentation Process

This documentation process is carried out if all stages of implementation have been carried out and recorded since receipt of raw materials, processing until it becomes cooked food that is ready to be served. This documentation process is written in the form of a research report. This is done to anticipate complaints from consumers, the Arjuna restaurant will more easily detect any deviations in the fast food served.

3. Evaluation of HACCP Implementation at Kitchen Resto Hotel Cakra

The unfulfilled steps for implementing HACCP at the Cakra Hotel Restaurant are caused by the limited knowledge and information about sanitation and food safety of respondents as entrepreneurs, employees, and food handlers because there is no attempt to obtain information about maintaining food safety quality, there is an assumption that there are no obstacles in food safety, and do not know how to deal with food safety issues. The

usual ways to maintain food safety are only to cook food until it is cooked, warm, or reheat unfinished food if it is not thrown away.

The unknown principles of sanitation and food safety in this study could also be caused by the unpublished HACCP principles in Resto Hotel Cakra. So the factors that cause danger in fast food processing at Arjuna Resto Hotel Cakra are biological, chemical, and physical factors, although physical hazards (visible) are not considered because they can usually be seen directly by the senses of sight, smell, taste, and taste of consumers.

From the evaluation results, several diseases are often suffered by visitors to Resto Hotel Cakra, namely: Cough, runny nose, sore throat, fever, ulcers, diarrhea, allergies, toothache, typhoid, and migraine. Diseases that may occur due to sanitation and food safety are diarrhea and typhoid.

Conclusion

Based on the results of observations and questionnaires conducted, the application of HACCP in food administration, especially ready-to-eat food in Indonesia Arjuna Resto Hotel Cakra is still not effective because the restaurant has not fully implemented the HACCP principle and the results of the questionnaire answers have different answers. The identified hazard factors are more dominant in the processing of ready-to-eat food at the Cakra hotel restaurant is a biological contaminant that is estimated to have bacteria or pathogens that exceed the quality standard but do not cause changes in the color, taste, and smell of the finished food. Suggestions that can be given for further research are Further research is needed on Arjuna Resto which has potential for food contamination to determine whether the food served is suitable or not for consumption. And the relevant agencies, especially the Cakra Hotel Resto, need to provide training to the owners or employees of Arjuna Resto on the HACCP principle as a standard procedure for the sanitation and food safety process.

Acknowledgment

In particular, the researcher would like to thank all those who have helped, guided, provided instructions as well as assistance and encouragement from various parties. In this opportunity, the writer would like to express his deepest gratitude to Management leaders, staff of Taco Casa Restaurant, Seminyak who has helped a lot in providing the data and information needed to complete this Applied Thesis.

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