



## Factors Associated with the Implementation of Food Hygiene and Sanitation in Restaurants

Anisah Adillah<sup>1\*</sup>, Fadillah Ulva<sup>2</sup>, Radian Ilmaskal<sup>3</sup>

Alifah Health Science Collage, Indonesia<sup>1-3</sup>

[anisah.adillah1602@gmail.com](mailto:anisah.adillah1602@gmail.com)<sup>1</sup>, [fadillah.ulva21@gmail.com](mailto:fadillah.ulva21@gmail.com)<sup>2</sup>, [radian.ilmaskal@gmail.com](mailto:radian.ilmaskal@gmail.com)<sup>3</sup>

### Abstract

The food management facilities in the Pauh Primary Health Care working area were the lowest in food hygiene and sanitation standards in Padang. The aim of this study was to determine the factors associated with the implementation of food hygiene and sanitation in restaurants. This research was of a quantitative study with an analytical approach and a cross-sectional study design. The research population was 230 food handlers. A sample of 87 food handlers was taken using the accidental sampling technique. The research findings showed that 48.3% of food handlers had a poor implementation of food hygiene and sanitation, 49.4% had low levels of knowledge and inadequate sanitation facilities also 70.1% were poorly supervised by sanitation personnel. Based on bivariate analysis, there was a significant relationship between the availability of sanitation facilities ( $p=0.001$ ) and the supervision of sanitation personnel ( $p=0.000$ ) with the implementation of food hygiene and sanitation. Additionally, there was no relationship between the level of knowledge and the implementation of food hygiene and sanitation ( $p=0.589$ ). The implementation of food hygiene and sanitation was influenced by several factors, namely the availability of sanitation facilities and the supervision of sanitation personnel. It was recommended for food handlers to practice personal hygiene.

**Keywords:** Facility, Sanitation Hygiene, Supervision, Knowledge

### \*Corresponding author:

Address : STIKes Alifah Padang

E-mail : [anisah.adillah1602@gmail.com](mailto:anisah.adillah1602@gmail.com)

### INTRODUCTION

Food is the basic necessity needed by living things to obtain nutrients which are then processed into energy for basic human needs. In order for food consumed to be of good nutritional value, healthy, safe and clean, it must be processed properly and correctly in accordance with predetermined requirements. Contamination of food and drink can make food and drink a means of transmitting disease, so sanitary hygiene needs to be applied (Kementerian Kesehatan RI, 2013).

Serious problems that often occur in food processing that is not correct and does not meet health requirements or that is contaminated by bacteria will be able to cause food-borne illness called foodborne disease, and the occurrence of food poisoning which often causes extraordinary events (KLB). Food poisoning in developed and developing countries has become a global problem. It is estimated that around 600 million people or 1 in 10 people in the world fall ill after consuming contaminated food and 420,000 of them die each year. Southeast Asia is the second highest region after Africa for the incidence of

foodborne diseases. About 175,000 people in Southeast Asia die each year as a result of foodborne diseases. One of the countries in Southeast Asia that has low food quality is Indonesia (WHO, 2022).

Based on the annual report of the Food and Drug Monitoring Agency (BPOM) in 2019, there were 77 reports of extraordinary events (KLB) of food poisoning reported from 34 BPOMs throughout Indonesia. It was recorded that the number of people reported to be exposed due to extraordinary events (KLB) of food poisoning was 7,244 people and 3,281 of them experienced symptoms of illness. While the death toll was 5 people. Based on the distribution of food poisoning outbreaks in all provinces in Indonesia, it is known that West Sumatra Province ranks first with the most reports, namely 14 incidents (18.2%) (Badan POM, 2019).

Food management places (TPM) in Indonesia in 2021 that met the sanitary hygiene requirements nationally amounted to 52.4%. This number has reached the 2021 strategic plan target of 44%. Meanwhile, food management places (TPM) that meet sanitary hygiene requirements in West Sumatra Province in 2021 amounted to 52.5% (Kementerian Kesehatan RI, 2022).

Padang City as the capital of West Sumatra Province in 2021 has 3,221 food management places (TPM) consisting of restaurants, eateries, food services, drinking water depots, canteens, etc., which are spread throughout the working areas of health centers. From the results of the supervision carried out by Padang City Health Office officials in 2021, it was found that out of the 23 health centers in Padang City, only 2,318 TPM (72%) met the sanitary hygiene requirements. Padang City has a TPM sanitary hygiene achievement target of 87%, which shows that the predetermined achievement target has not been met and there is a gap of 15% (Dinas Kesehatan Kota Padang, 2022).

Pauh Primary Health Care has the lowest number of TPMs meeting sanitary hygiene requirements out of 23 health centers in Padang City in 2021, which is 39.0%. This figure has also

decreased from the previous year when 48.9% of TPMs met sanitary hygiene requirements (Dinas Kesehatan Kota Padang, 2022). Pauh Primary Health Care in 2020 had 46 restaurants and only 30 restaurants (65.2%) met sanitary hygiene requirements (Dinas Kesehatan Kota Padang, 2021), while in 2021 there was a decrease in the number of restaurants that met sanitary hygiene requirements to 22 restaurants (47.8%) out of 46 restaurants (Dinas Kesehatan Kota Padang, 2022).

One of the TPMs that is often visited by the public and must receive attention is the restaurant. This is because restaurants are places to process, provide and serve food to the public and have the potential for disease transmission if the hygiene and sanitation of restaurants is not managed properly. Therefore, every restaurant must *fulfill* the requirements of food hygiene and sanitation properly according to the Decree of the Minister of Health of the Republic of Indonesia Number 1098/MENKES/SK/VII/2003 concerning Sanitary Hygiene Requirements for Restaurants and Restaurants. However, in practice many restaurants do not *fulfill* hygiene and sanitation requirements (Anwar et al., 2020).

Most restaurant entrepreneurs in Indonesia do not understand the requirements of sanitary hygiene which is closely related to health. Basically, restaurant entrepreneurs in running their business only think about the commercial aspect and pay less attention to regulations on health and sanitary hygiene of restaurants. In monitoring sanitary hygiene problems, policies are needed that regulate the establishment and management of sanitary hygiene in restaurants. Every restaurant registered at the District / City Health Office is required to fulfil the requirements of restaurant sanitary hygiene management based on the Indonesian Minister of Health Decree Number 1098 / MENKES / SK / VII / 2003 so that it can be said to be good at restaurant sanitary hygiene and the District / City Health Office can issue a certificate of good sanitary hygiene for restaurants (Anwar et al., 2020).

The knowledge of food handlers affects the occurrence of contamination in the food

processing process. Food handlers need the ability and understanding of basic food hygiene and safety as well as skills in health to prevent disease transmission. The incidence of food poisoning is strongly influenced by the level of knowledge of food handlers (Nildawati et al., 2020). This is in line with research conducted in restaurants in the Kampung Bugis Health Center Working Area of Tanjungpinang City, which found that 61.3% of food handlers had insufficient knowledge and 83.9% of restaurants did not meet sanitary hygiene requirements. There is a significant relationship between knowledge and food sanitation hygiene with a p-value of 0.002 (Herdianti et al., 2019).

Other factors that influence the application of food sanitation hygiene such as the lack of availability of sanitation facilities as research conducted on Sate Languan traders on Pantai Lebih Gianyar Bali found that 53% of sanitation facilities were inadequate and 79% of food handler hygiene was in the poor category. Of the 19 samples examined, 15 food stalls were found to be contaminated with e.coli. The results of the analysis conducted obtained a p-value of 0.033, meaning that there is a significant relationship between the availability of sanitation facilities and e.coli contamination (Purnama, S. & Subrata, 2019).

The absence of routine supervision by sanitation officers can affect the implementation of food hygiene and sanitation. Supervision of TPM sanitary hygiene greatly affects the quality of food produced (Dakwani, 2019). This is in line with research conducted in the food industry PT Bandeng Juwana Elrina, the results obtained were 76.9% of poor food management sanitary hygiene practices were more in poor supervision as well and obtained a p-value of  $0.01 < 0.05$ , this means that there is a significant relationship between supervision and worker practices in the

implementation of food hygiene and sanitation (Cahyaningsih et al., 2018).

Based on the background description above, the researcher is interested in conducting research on factors related to the implementation of food hygiene and sanitation in restaurants in the Pauh Primary Health Care working area in Padang in 2023.

## **METHOD**

This type of research is quantitative research with an analytical approach and cross-sectional study design where the independent and dependent variables are measured at the same time. The independent variables of this study are the level of knowledge, availability of sanitation facilities, and supervision of sanitation officers, while the dependent variable is the implementation of food hygiene and sanitation. This research was conducted in Padang restaurants in the Pauh Primary Health Care working area in Padang. The population in the study was all food handlers in 46 restaurants in the Pauh Primary Health Care working area of 230 food handlers and the sample in this study was 87 food handlers. The sampling technique used was accidental sampling. The research data were collected through interviews and observations using questionnaires and observation sheets. Data were analyzed *univariately* and *bivariately* using the chi-square test with a confidence degree of 95% ( $\alpha=0.05$ ).

## **RESULTS AND DISCUSSION**

Based on the results of research that has been obtained through interviews and observations of food handlers in restaurants in the Pauh Primary Health Care working area in Padang in 2023, the following results were obtained in table 1.

**Table 1 Frequency Distribution Based on Respondents' Characteristics in restaurants in the Pauh Primary Health Care working area in Padang in 2023**

No	Characteristics	Frequency	Percentage (%)
<b>1</b>	<b>Gender</b>		
	Male	25	28,7
	Female	62	71,3
<b>2</b>	<b>Education</b>		
	Not in school/not completed primary school	11	12,6
	PS/equivalent	8	9,2
	JHS/equivalent	17	19,5
	HS/equivalent	48	55,2
	College	3	3,4
<b>3</b>	<b>Age (Years)</b>		
	26-35	31	35,6
	36-45	26	29,9
	46-55	22	25,3
	56-65	8	9,2
<b>4</b>	<b>Length of Service (Years)</b>		
	1-10	81	93,1
	11-20	3	3,4
	21-25	3	3,4
<b>5</b>	<b>Food Hygiene Sanitation Training</b>		
	Ever	2	2,3
	Never	85	97,7
<b>6</b>	<b>Possession of a Certificate of Fitness</b>		
	Available	0	0
	None	87	100,0
	<b>Total</b>	<b>87</b>	<b>100</b>

**Table 2 Frequency Distribution of Respondents Based on Implementation of Food Hygiene and Sanitation, Level of Knowledge, Availability of Sanitation Facilities and Supervision of Sanitation Personnel in Restaurants in the Pauh Primary Health Care working area in Padang in 2023**

No	Variables	Frequency	Percentage (%)
<b>1</b>	<b>Implementation of Food Hygiene and Sanitation</b>		
	Bad	42	48,3
	Good	45	51,7
<b>2</b>	<b>Level of Knowledge</b>		
	Low	43	49,4
	High	44	50,6
<b>3</b>	<b>Availability of Sanitation Facilities</b>		
	Inadequate	43	49,4
	Adequate	44	50,6
<b>4</b>	<b>Supervision of Sanitation Personnel</b>		
	Bad	61	70,1
	Good	26	29,9
	<b>Total</b>	<b>87</b>	<b>100</b>

Based on table 1, it is known that the respondents in this study were mostly female, namely 62 people (71.3%). The highest level of education of respondents is high school graduates as many as 48 people (55.2%). In terms of age, the most in the age group 26-35 years as many as 31 people (35.6%). Food handlers worked the longest in the 1-10 year period as many as 81 people (93.1%). A total of 85 people (97.7%) of food handlers had never attended food hygiene and sanitation training and none of the restaurants had a certificate of fitness.

### **Implementation of Food Hygiene and Sanitation**

Based on research conducted on 87 food handlers in restaurants in the Pauh Primary Health Care working area in Padang, it is known that a small proportion of food handlers (48.3%) had poor implementation of food hygiene and sanitation. The results of this study are in line with research conducted in restaurants on the beachside of Pariaman City which shows that a small proportion of food handlers (40.4%) have poor application of food sanitation hygiene (Mesra, 2019)

In the food processing process, a food handler must wear special work clothes to process food, always protect food from direct contact with the body, use aprons and other personal protective equipment. A food handler is not allowed to chat during food processing, chew food and should not smoke. Cooked food must be kept in closed storage. This is stated in the Decree of the Minister of Health of the Republic of Indonesia No.1098/MENKES/SK/VII/2003 concerning sanitary hygiene requirements for restaurants (Menteri Kesehatan RI, 2003).

According to the researcher's assumption, food handlers have a very large role and potential for cross-contamination of food. Therefore, the implementation of food hygiene and sanitation is an important thing to be applied by food handlers during the food processing process to prevent foodborne disease transmission. Food handlers in restaurants are expected to always maintain

personal hygiene. Wearing personal protective equipment and special work clothes and washing hands before and after processing food are very important things that must always be a concern for every food handler. To avoid foodborne disease transmission, food handlers are expected to cover their mouth/nose with a handkerchief when coughing or sneezing and not chatting during food processing. By paying attention to this, the application of food sanitation hygiene can be done properly so as to reduce the risk of pollution to food.

### **Level of Knowledge**

Based on research conducted on 87 food handlers in restaurants in the Pauh Primary Health Care working area in Padang, it is known that a small proportion of food handlers (49.4%) had a low level of knowledge about the implementation of food hygiene and sanitation. The results of this study are in line with research conducted by Hidayati (2022) in restaurants in the Padang Port Health Office Work Area, which showed that a small proportion of food handlers (47.8%) had a poor level of knowledge about the implementation of food hygiene and sanitation.

Knowledge is a very important domain to change behavior. Knowledge is the result of knowing that occurs after people perceive a certain object. Sensing can occur through the five human senses, namely sight, hearing, smell, taste and touch. The knowledge provided is very important to improve the quality of a person so that it can raise awareness of healthy and clean behavior. Knowledge of food handlers is everything that is known about food hygiene and sanitation practices (Notoatmodjo, 2012).

The results showed that most of the food handlers who work in restaurants have a high level of knowledge about the application of food sanitation hygiene. Only a small proportion of food handlers have low knowledge. This can be influenced by the factor of education level, because most of the food handlers who work in restaurants are high school graduates.

According to the researcher's assumption, the knowledge of food handlers is very important in organizing food, especially in restaurants. A food handler who does not know food processing procedures and the selection of good food ingredients will become an intermediary for food-borne diseases. Food handlers with low knowledge of food processing will not meet food hygiene and sanitation standards properly. Training and counseling on food hygiene and sanitation can be given to food handlers to further improve their knowledge. To improve their knowledge, food handlers are expected to want to attend training and counseling on the implementation of food hygiene and sanitation. Knowledge about the implementation of food hygiene and sanitation is expected to be applied by food handlers so as to better ensure food quality and safety.

#### **Availability of Sanitation Facilities**

Based on research conducted on 87 food handlers in restaurants in the Pauh Primary Health Care working area in Padang, it is known that a small proportion of food handlers (49.4%) have inadequate sanitation facilities. The results of this study are in line with research conducted in restaurants in the culinary tourism area of Depok Beach, Bantul Regency which shows that a small proportion of food handlers (42.7%) have incomplete sanitation facilities (Aspiani & Rustiawan, 2020). Based on the Decree of the Minister of Health of the Republic of Indonesia No.1098/MENKES/SK/VII/2003 concerning sanitary hygiene requirements for restaurants, restaurants must be equipped with sanitation facilities in the implementation of food hygiene and sanitation. Restaurants must have equipment to prevent the entry of insects and rats so that food ingredients and finished food are protected from contamination by pests and other animals. Waste bins are made of impermeable and closed materials and must be available at every place of activity that produces waste so that waste is not scattered and to keep every food management place always in a clean condition so as to avoid

pollution. Wastewater disposal systems must be adequate, sewerage must be closed and made of impermeable materials and not a source of pollution, for example by using septic tanks.

According to the researcher's assumption, the inadequacy of sanitation facilities in restaurants is due to restaurant owners who do not provide sanitation facilities to maintain the cleanliness of the restaurant. Every restaurant must have equipment to prevent the entry of insects and rats. Foodstuffs stored in the kitchen can easily be contaminated by insects, rats and other animals if not equipped with such equipment. Waste bins are made of strong, watertight and closed materials, and must be available at every place of activity that produces waste so that the kitchen is always maintained in a clean condition and protected from contamination caused by waste. Each restaurant must provide a sink for washing hands equipped with running water, a reservoir with a smooth surface, easy to clean and the waste is channeled into a closed sewer. The sewerage must be made in a closed, watertight condition and use septic tanks because waste from restaurants is a source of pollution. In addition, restaurants must have a place to wash equipment made of strong, safe, non-rusting materials and consisting of at least 3 (three) wash cubicles/basins. Each restaurant should have employee lockers, the number of which is adjusted to the number of employees.

The quality of food served in restaurants is influenced by the sanitation facilities provided in the restaurant. The application of food sanitation hygiene can be done well if it is supported by adequate sanitation facilities. Therefore, restaurants are expected to be provided with adequate sanitation facilities so that the food produced is of higher quality, safe from contamination, and meets food sanitation hygiene.

#### **Supervision of Sanitation Personnel**

Based on research conducted on 87 food handlers in restaurants in the Pauh Primary Health Care working area in Padang, it is known that most food handlers (70.1%) had poor supervision

of sanitation officers in restaurants. This study is in line with research related to restaurant supervision that has been carried out in restaurants in the Air Tawar Primary Health Care working area in Padang, which found that most food handlers (68.1%) did not get supervision (Sari, 2016).

Supervision of food and beverages is an important part of all public health activities, given the possibility of diseases due to contaminated food and beverages. Supervision of food and beverages includes business activities aimed at the cleanliness and purity of food and beverages so as not to cause disease. Purity here means purity by sight and taste (Syafitri, 2017). Decree of the Minister of Health of the Republic of Indonesia No.1098/MENKES/SK/VII/2003 concerning sanitary hygiene requirements for restaurants says that, guidance and supervision in the technical implementation of restaurants is carried out by the district / city health office. The district/city health office can include restaurant associations and other related agencies.

According to the researcher's assumption, most restaurants still do not get supervision of

sanitation officers regarding the implementation of food hygiene sanitation. This is due to the reluctance of the restaurant to allow sanitation officers to supervise the restaurant on the grounds that they are busy in the kitchen and serving consumers. Whereas supervision of restaurants is very important, because effective supervision can prevent the spread of disease caused by unsafe or contaminated food. Supervision helps ensure that restaurants fulfill the necessary sanitary hygiene practices, including food handler hygiene, equipment sanitation, proper handling of food ingredients, and safe storage.

Supervision of sanitary hygiene in restaurants is aimed at protecting consumers from food and beverages that do not fulfill sanitary hygiene and health requirements. Health aspects are very important to review in this supervision. Sanitary hygiene requirements of restaurants are important to meets. It is expected that the relevant agencies to pay special attention to the supervision of restaurants, so that the purpose of restaurant supervision can be achieved.

**Table 3 Relationship between Level of Knowledge, Availability of Sanitation Facilities and Supervision of Sanitation Personnel with the Implementation of Food Hygiene and Sanitation in Restaurant in the Pauh Primary Health Care working area in Padang in 2023**

Level of Knowledge	Implementation of Food Hygiene and Sanitation				Total		PR (95% CI)	p-value
	Bad		Good		F	%		
	f	%	f	%				
Low	19	44,2	24	55,8	43	100,0	0,845 (0,545 – 1,311)	0,589
High	23	52,3	21	47,7	44	100,0		
<b>Total</b>	<b>42</b>	<b>48,3</b>	<b>45</b>	<b>51,7</b>	<b>87</b>	<b>100,0</b>		
<b>Availability of Sanitation Facilities</b>								
Inadequate	29	67,4	14	32,6	43	100,0	2,283 (1,383 – 3,768)	0,001
Adequate	13	29,5	31	70,5	44	100,0		
<b>Total</b>	<b>42</b>	<b>48,3</b>	<b>45</b>	<b>51,7</b>	<b>87</b>	<b>100,0</b>		
<b>Supervision of Sanitation Personnel</b>								
Bad	29	67,4	14	32,6	43	100,0	2,283 (1,383 – 3,768)	0,001
Good	13	29,5	31	70,5	44	100,0		
<b>Total</b>	<b>42</b>	<b>48,3</b>	<b>45</b>	<b>51,7</b>	<b>87</b>	<b>100,0</b>		

### **Relationship between Level of Knowledge and Implementation of Food Hygiene and Sanitation**

The results of statistical tests using chi square obtained a p-value of 0.589, meaning that there is no significant relationship between knowledge and the implementation of food hygiene and sanitation in restaurants in the Pauh Primary Health Care working area in Padang in 2023. The results of this study are in line with research conducted in restaurants along Jalan Raya Tajem Maguwoharjo Yogyakarta, showing that there is no significant relationship between knowledge and the practice of implementing food hygiene and sanitation with a  $\rho$ -value of 0.095 (Maghafirah et al., 2018).

Knowledge is a very important domain to change behavior. Knowledge is obtained from experiences that have been carried out by the individual concerned. A high level of education will make it easier for the individual concerned to analyze the conditions faced (Notoatmodjo, 2012).

From the results of the study, it was found that there was no significant relationship between the level of knowledge and the implementation of food hygiene and sanitation. According to the researcher's assumption, the level of knowledge of food handlers that is high enough is not necessarily followed by the implementation of food hygiene and sanitation as well. Similarly, food handlers in restaurants know a lot about the implementation of food hygiene and sanitation but do not apply it in their daily lives because they have bad habits and feel it is not important, such as food handlers know the work clothes that must be worn by food handlers during food processing, namely aprons and head coverings, but during the food processing process food handlers do not apply what they know because they feel they do not need it and feel they are used to not wearing aprons and head coverings before.

The absence of a relationship between knowledge level and the implementation of food hygiene and sanitation can be seen from the results of the study that food handlers with good

implementation of food hygiene and sanitation but low knowledge level were 24 people (55.8%). So it does not rule out the possibility that low knowledge can still apply food sanitation hygiene properly. This is due to other factors such as length of work. Where the majority of food handlers have a length of work in the period of 1-10 years, namely 81 people (93.1%). Thus, many food handlers are classified as having a length of work exceeding 1 year so it is possible that the application of good food sanitation hygiene is influenced by experience in the work. Work experience entering 2 years and above has a positive influence on increasing knowledge.

There are also food handlers with poor implementation of food hygiene and sanitation but a high level of knowledge, namely 23 people (52.3%). This condition occurs because of bad habits that have been attached to them during work. A person's behavior is more influenced by habits, so it is possible that someone with a high level of knowledge but in applying food sanitation hygiene during food processing remains poor if the habits they carry out are also not good. In addition, according to the food handlers, not doing what they know is also not a problem.

### **Relationship between Availability of Sanitation Facilities and Implementation of Food Hygiene and Sanitation**

Based on the results of the study, it is known that poor the implementation of food hygiene and sanitation is found more in respondents who have inadequate sanitation facilities, namely 29 people (67.4%) than in respondents who have adequate sanitation facilities, namely 13 people (29.5%). The statistical test results obtained a p-value of 0.001, it can be interpreted that there is a significant relationship between the availability of sanitation facilities and the implementation of food hygiene and sanitation in restaurants in the Pauh Primary Health Care working area in Padang in 2023. The results of this study are in line with research conducted in restaurants in the Air Tawar Primary Health Care working area in Padang obtained a p-

value of 0.018, it can be interpreted that there is a significant relationship between the availability of supporting facilities and food sanitation hygiene (Sari, 2016).

Restaurants must be equipped with adequate sanitation facilities so that the implementation of food hygiene and sanitation can be implemented properly. Sanitary facilities in restaurants must meet the requirements of food hygiene sanitation in accordance with those listed in the Decree of the Minister of Health of the Republic of Indonesia No.1098/MENKES/SK/VII/2003 concerning sanitary hygiene requirements for restaurants in restaurants. The requirements for sanitation facilities include clean water, waste water, toilets, waste bins, hand washing stations, equipment washing stations, food washing stations and insect and rat entry prevention equipment (Menteri Kesehatan RI, 2003).

Based on the theory of health behavior according to Lawrence Green in Notoatmodjo (2012), one of the factors in the formation of health behavior is the availability of sanitation facilities. The availability of sanitation facilities can support food handlers in carrying out food sanitation hygiene practices. With adequate sanitation facilities, it will support food handlers to apply food sanitation hygiene properly during the food processing process according to existing regulations.

According to the researcher's assumption, there is a tendency that if the sanitation facilities are adequate, then the application of food sanitation hygiene will also be good. Conversely, if sanitation facilities are inadequate then the application of food sanitation hygiene will tend to be poor. The application of food sanitation hygiene can be done well if it is equipped with adequate sanitation facilities. The quality of food served in restaurants is strongly influenced by the sanitation facilities provided. Restaurants equipped with adequate sanitation facilities will produce food that meets health requirements and is safe from contamination. For example, if the restaurant provides a sink, food handlers will

apply food sanitation hygiene by washing their hands properly before handling food and after leaving the toilet or washroom using clean water and antiseptic soap.

The unavailability of sanitation facilities in restaurants is due to a lack of funds to provide adequate sanitation facilities. This condition inhibits food handlers to meet good food sanitation hygiene. It is expected that restaurant owners complete sanitation facilities in the food processing process such as providing toilets that are separate from the kitchen, providing sinks for washing hands equipped with liquid soap and drying equipment, washing equipment equipped with a three-tub system, providing insect and rat entry prevention equipment, and providing employee lockers so that in food processing food handlers can apply food sanitation hygiene.

#### **Relationship between Supervision of Sanitation Personnel and the Implementation of Food Hygiene and Sanitation**

Based on the results of the study, it is known that poor the implementation of food hygiene and sanitation is found more in respondents with poor supervision of sanitation officers, namely 39 people (63.9%) than in respondents with good supervision of sanitation officers, namely 3 people (11.5%). The results of the statistical test using chi square obtained a p-value of 0.0001, meaning that there is a significant relationship between the supervision of sanitation officers and the implementation of food hygiene and sanitation in the Pauh Primary Health Care working area in Padang in 2023. This study is in line with research conducted by Cahyaningsih et al. (2018) which shows that 76.9% of poor food management sanitary hygiene practices are more in poor supervision as well and obtained a p-value of 0.01, meaning that there is a significant relationship between supervision and food sanitation hygiene practices.

Restaurant is one of the food management places that is often visited by the public so that it requires special attention in the field of sanitation, because sanitation that does not meet the

requirements will cause health problems. In supervising food sanitation hygiene problems, regulations and policies governing the management of restaurant sanitation hygiene are needed (Anwar et al., 2020)

Supervision of restaurants in the Pauh Primary Health Care working area in Padang is carried out by the Pauh Primary Health Care sanitation officer as an extension of the Padang City Health Office. Supervision of restaurants is carried out annually. The form of supervision activities carried out by the Pauh Primary Health Care sanitation officer is filling in the implementation of food hygiene and sanitation checklist form. The form is filled in according to the state of the restaurant.

According to Lawrence Green's health behavior theory in Notoatmodjo (2012), one of the factors influencing health behavior is the supervision of sanitation officers. With the supervision carried out by sanitation officers to the restaurant will support food handlers can apply food sanitation hygiene in the food processing process properly.

According to the researcher's assumption, there is a tendency that if the supervision of a good restaurant, the implementation of food hygiene and sanitation will also be good. Conversely, if the supervision of restaurants is poor, the implementation of food hygiene and sanitation will tend to be poor. This is supported when the supervision of sanitation officers in restaurant to provide suggestions for improvement to food handlers who do not meet the requirements for the implementation of food hygiene and sanitation during food processing.

Restaurants need to be supervised regarding the implementation of food hygiene and sanitation, because supervision of sanitation hygiene in restaurants is intended to protect consumers from food and beverages that do not meet sanitary hygiene requirements. The sanitary hygiene requirements of restaurants are important to meets and the health aspect is very important to be reviewed in this supervision.

## CONCLUSION

Based on the results of the study it can be concluded that as many as 48.3% of food handlers had poor implementation of food hygiene sanitation, 49.4% had a low level of knowledge, 49.4% had inadequate availability of sanitation facilities, and 70.1% had poor supervision of sanitation officers. There was a significant relationship between the availability of sanitation facilities ( $p=0.001$ ) and Supervision of Sanitation Personnel ( $p=0.000$ ) with the implementation of food hygiene and sanitation. In addition, there was no significant relationship between the level of knowledge and the implementation of food hygiene and sanitation ( $p=0.589$ ).

## ACKNOWLEDGMENT

Thank you to the supervisors and examiners who have provided input for this research as well as support and prayers from parents, siblings and friends.

## REFERENCES

- Anwar, K., Navianti, D., & Rusilah, S. (2020). Perilaku Hygiene Sanitasi Penjamah Makanan di Rumah Makan Padang Wilayah Kerja Puskesmas Basuki Rahmat Kota Palembang. *Jurnal Dunia Kesmas*, 9(4), 512–520.
- Aspiani, M., & Rustiawan, A. (2020). *Hubungan Pengetahuan, Sikap Penjamah Makanan dan Fasilitas Sanitasi terhadap Keamanan Pangan di Rumah Makan Kawasan Wisata Kuliner Pantai Depok Kabupaten Bantul 2019*. University Research Colloquium.
- Badan POM. (2019). *Laporan Tahunan BPOM 2019*. Jakarta: Badan Pengawas Obat dan Makanan RI.
- Cahyaningsih, T., Nurjazuli, & Lanang, D, H. (2018). Hubungan Lama Pekerja, Pengawasan dan Ketersediaan Fasilitas Sanitasi dengan Praktik Higiene Sanitasi Penjamah Makanan di PT Bandeng Juwana Elrina Kota Semarang. *Jurnal Kesehatan Masyarakat*, 6(6), 2365–3346.
- Dakwani, T. (2019). Higiene Sanitasi Tempat Pengelolaan Makanan (TPM) di Gudang 100 pada Pelabuhan Laut Tanjung Perak Surabaya Tahun 2018. *Jurnal Kesehatan Lingkungan*, 11(1), 69–74.

- Dinas Kesehatan Kota Padang. (2021). *Laporan Tahunan Dinas Kesehatan Kota Padang Tahun 2020 Edisi 2021*.
- Dinas Kesehatan Kota Padang. (2022). *Laporan Tahunan Dinas Kesehatan Kota Padang Tahun 2021 Edisi 2022*.
- Herdianti, Trioktoriana, W., & Noviyanti. (2019). Perilaku dan Karakteristik Penjamah Makanan Terhadap Higiene Sanitasi Makanan Pada Rumah Makan. *Kampurui Jurnal Kesehatan Masyarakat (The Journal of Public Health)*, 1(1), 17–25.
- Hidayati, F. (2022). Faktor yang Berpengaruh Terhadap Higiene Penjamah Makanan di Rumah Makan yang Ada di Wilayah Kerja Kantor Kesehatan Pelabuhan Padang. *Jurnal Endurance : Kajian Ilmiah Problema Kesehatan*, 7(1), 138–147.
- Kementerian Kesehatan RI. (2013). *Pedoman Pelayanan Gizi Rumah Sakit*. Kementerian Kesehatan RI.
- Kementerian Kesehatan RI. (2022). *Profil Kesehatan Indonesia Tahun 2021*. Jakarta: Kementerian Kesehatan RI.
- Maghafirah, M., Sukismanto, & Rahmuniyati, M. E. (2018). Hubungan Pengetahuan dan Sikap dengan Praktik Hygiene Sanitasi Penjamah Makanan di Sepanjang Jalan Raya Tajem Maguwoharjo Yogyakarta Tahun 2017. *Jurnal Formil (Forum Ilmiah) Kesmas Respati*, 3, 15–22.
- Menteri Kesehatan RI. (2003). *Keputusan Menteri Kesehatan Republik Indonesia Nomor 1098/MENKES/SK/VII/2003 Tentang Persyaratan Higiene Sanitasi Rumah Makan dan Restoran*. Jakarta: Menteri Kesehatan RI.
- Mesra, Y. F. (2019). *Faktor-Faktor Yang Berhubungan dengan Penerapan Higiene Sanitasi Makanan Pada Rumah Makan dan Restoran Pinggir Pantai Pariaman Tahun 2019*. Skripsi (Tidak dipublikasi). Universitas Andalas.
- Nildawati, Ibrahim, H., Mallapiang, F., Afifah, M., K., & Bujawati, E. (2020). Penerapan Personal Hygiene Pada Penjamah Makanan di Pondok Pesantren Kecamatan Biring Kanaya Kota Makassar. *Jurnal Kesehatan Lingkungan*, 10(2), 68–75.
- Notoatmodjo, S. (2012). *Promosi Kesehatan dan Perilaku Kesehatan*. Jakarta: Rineka Cipta.
- Purnama, S., G., & Subrata, M. (2019). Hubungan Higiene, Fasilitas dan Sanitasi Lingkungan dengan Kualitas Mikrobiologi serta Identifikasi Escherichia Coli O157: H7 pada Sate Languan. *Jurnal Kesehatan Lingkungan Indonesia*, 18(2), 104–112.
- Sari, S. K. (2016). *Faktor-Faktor yang Berhubungan dengan Higiene Perorangan Penjamah Makanan Rumah Makan di Wilayah Kerja Puskesmas Air Tawar Tahun 2016*. Skripsi. (Tidak dipublikasi). Universitas Andalas.
- Syafitri, A. (2017). Pengawasan Tempat Pengelolaan Makanan dan Minuman oleh Dinas Kesehatan di Kota Pekanbaru. *JOM FISIP*, 4(2).
- WHO. (2022). *Food Safety*. Diakses pada 2 Desember 2022 <https://www.who.int/News-Room/Factsheets/Detail/Food-Safety>.