Jurnal Pemberdayaan Masyarakat Madani, 6 (2) 2022, 351 — 367
JURNAL PEMBERDAYAAN MASYARAKAT MADANI
http://journal.unj.ac.id/unj/index.php/jpm/index

Education on Sanitation and Hygiene Knowledge on Food Vendors in Semolowaru Culinary Tourism Center (CTC) Surabaya

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ARTICLE INFO

Article history:
Received: 17th February 2022
Accepted: 9th October 2022
Published: 1st December 2022

Keywords:
Culinary Tourism Centers, Hygiene Sanitation, Personal Hygiene, Business Actors, Food Traders.

ABSTRACT

The aims of this community service viceeise are to 1) increase the awareness of traders regarding the application of hygiene sanitation and food safety and 2) improve the skills of traders in maintaining the sanitation of the kitchen environment so that a healthy culinary tourism center will be created. Education is provided with presentations, demonstrations, and questions and answers. This research is a descriptive observational study, with a sample of 24 food and beverage traders. The data collection technique used a written test and observation. The results showed that 1) the traders' initial knowledge about sanitation hygiene and food safety was very low, and the awareness of traders regarding the application of hygiene sanitation, and food safety as seen from the traders' understanding of hygiene sanitation and food safety had increased significantly based on the results of the pre and post-test, and 2) The personal hygiene attitude of food vendors is quite good, but there is one very lacking indicator, namely the cleanliness of the equipment. This implies that educational activities regarding hygiene sanitation for food business actors are needed to improve food quality through changes in knowledge and attitudes in a positive direction so that consumer health will be more secure.

How to cite: Miranti, M. G., Handajani, S., Pangesthi, L. T., Astuti, N., Bahar, A., & Widagdo, A. K. (2022). Education on Sanitation and Hygiene Knowledge on Food Vendors in Semolowaru Culinary Tourism Center (CTC) Surabaya. *Jurnal Pemberdayaan Masyarakat Madani (JPMM)*, *6*(2), 351-367. https://doi.org/10.21009/JPMM.006.2.10

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ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

INTRODUCTION

According to Maslow's theory of needs, the most basic human needs are physiological needs, one of which is the need to eat because to sustain life, humans need to eat, so food is one of the most important factors for humans. Apart from nutrition and an attractive appearance, food must also be safe for consumption, namely free from all forms of contaminants that can harm consumers. Not all food consumed by the public is safe. The food consumed can be dangerous, because diseasediseaseslth problems are caused or transmitted by food. One of the health problems caused by consuming food is food poisoning. From the 2019 BPOM annual report data, information was obtained that East Java had the 2nd highest number of poisoning cases where the highest cause of poisoning was caused by animals, namely 47.34%, drink poisoning 13.19%, and food poisoning at 7.63%. The highest food poisoning is caused by household processed foods and processed food services. Transmission of disease through food is known as foodborne illness.

Foodborne illness is still a public health problem in Indonesia due to the lack of personal hygiene and environmental sanitation in food processing and serving (Islamy et al., 2018). WHO noted that diseases caused by foodborne and waterborne diseases, one of which is diarrhea, have resulted in at least 2 million victims (Sari, 2017). East Java Health Profile data (2020) explains that diarrhea cases in East Java reached 57.15% in 2018, then decreased to 56.6% in 2019, and fell again in 2020 to 44.83% due to the pandemic. Diarrhea cases that occur are thought to be due to a lack of knowledge of hygiene, sanitation, and other factors. If you look back, in the early days of the emergence of the coronavirus, the implementation of social distancing affected the trade sector a lot, including food traders. Many food businesses have closed, so this condition forces people to always eat at home.

The habit of eating at home is not always a tradition for everyone. Sometimes people buy food outside, for example at the culinary tourism center (CTC). CTC is one of the food sales centers that are visited by many people around it because it provides various types of food at affordable prices. SWK is filled by food traders, where it is not only food products and prices that are important and must be considered, but the quality and safety of the food provided must be maintained. Because every food processing process contains protein contamination that needs to be controlled to ensure the safety of food consumed by the community. So it is very important to apply personal sanitation and hygiene in food safety (Nildawati et al., 2020).

A study conducted by (Sabrina, 2021) showed that 100% of the food samples, 66.6% of the drinks and snacks samples did not meet the 2009 BPOM requirements (food and snacks samples > 3 APM/g; drinks > 0 APM/g). Likewise, it was found (Sakinah, 2019) that most food vendors in the religious tourism area of Sunan Ampel Surabaya do not use aprons when processing food, thiwhichn pose a higher risk of contamination of food. Such contamination can affect food safety which can have a

ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

health impact on humans. According to (Apriany et al., 2019), the degree of health is influenced by two factors, namely sanitation and personal hygiene. From the results of initial observations conducted at CTC Semolowaru Surabaya, it was found that many traders not only did not use aprons, but women traders did not use head protection and preferred to let their hair down. In addition, the windows used are rarely cleaned, and use the same cloth to clean tables and clean cutlery. Poor hygiene and sanitation in restaurants can transmit diseases to food. Given the importance of the role of healthy food for the community, the government needs to conduct guidance and supervision of the food consumed by the wider community (Jiastuti, 2018).

Based on the above problems, it is necessary to educate food business actors, especially in Culinary Tourism Centers regarding sanitation, hygiene, and food safety in circulation. This educational activity was carried out with the aim of 1) raising awareness among traders regarding the application of sanitation, hygiene, and food safety as seen from the traders' understanding of sanitation, hygiene, and food safety; and 2) improving the skills of traders in maintaining the sanitation of the kitchen environment so that a healthy culinary tourism center will be created. In the other hand this activity has a fundamental contribution to the target audience as community service partners, namely the knowledge and understanding of the community, especially food sellers about the importance how to maintainingitation and hygiene in processing and handling food.

LITERATURE REVIEW

Hygiene Sanitation

Hygiene is a public health effort that includes all efforts to protect, maintain and enhance the degree of health both for the public and for individuals, with the aim of enhancing the welfare of human life (Mundiatun & Daryanto, 2015) and an effort to maintain or control the factors of food, people, places and equipment that can or may cause disease or health problems (Hasyim et al., 2014). In line with that, (Nurudeen & Toyin, 2020) explain that hygiene is defined as personal and household practices at preserving cleanliness and health. While sanitation is the cultivation of clean living by preventing humans from coming into direct contact with dirty materials and other hazardous waste materials in the hope that this effort will maintain and improve human health (Mundiatun & Daryanto, 2015). There are 6 principles of hygiene and sanitation that must be considered (Rahmadhani & Sumarmi, 2017) (Lumare & Ranti, 2016), namely:

1. **Selection of Food Raw Materials**

   Protection of raw materials from chemical hazards or the growth of pathogenic microorganisms and the formation of toxins during the transportation and storage of raw materials must be considered.

ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

2. **Food Storage**

   Damage to foodstuffs can occur due to contamination with bacteria, due to nature and human treatment. The presence of enzymes in foods that are needed in the ripening process such as in fruits. Preventing the occurrence of damage can be controlled by preventing bacterial contamination. The nature and characteristics of bacteria such as the nature of life, heat resistance, environmental factors, oxygen demand, and based on growth. Food storage according to its temperature is divided into 4 (four) ways, namely cooling, chilling, freezing, and frozen storage.

3. **Food Processing**

   Food processing is the process of changing the shape of raw materials into ready-to-eat food. Good food processing follows the rules and principles of sanitation and hygiene, such as:

   a. Kitchens that meet the requirements based on Kepmenkes No. 942/Menkes/SK/VII/2003 concerning Snack Food Sanitation Hygiene Requirements
   b. Cooking utensils must be easy to clean, must not have angles/grooves, and must not be used for purposes other than cooking.
   c. Food storage containers must be clean.
   d. Use of PPE such as an Apron, Hair Cover, Gloves, Mask, etc

4. **Food Transport**

   Healthy food transportation will play a very important role in preventing food contamination. Contamination of cooked food has a higher risk than contamination of foodstuffs when transporting food.

5. **Food Storage**

   Contamination can occur during the food processing process or through containers and/or food handlers that leave food at room temperature. The optimum conditions for pathogenic microorganisms in ready-to-eat food are 1-2 hours. Some environmental characteristics that are suitable for bacterial growth include; food with lots of protein and lots of water (moisture), normal pH (6.8–7.5), and optimum temperature (100–600 C). Meanwhile, several studies concluded that the risk factors for the occurrence of foodborne disease occurred during the cleaning of cutlery, incompatibility with storage temperature, and low personal hygiene.

6. **Food Serving**

   The principle of serving food is that the container for each type of food must be placed in a separate container and closed. The goal is that food is not cross-contaminated.

ISSN
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Food Safety

Food is the most important basic human need and its fulfillment is also part of human rights. Food has a composition of main food substances such as protein, fat, carbohydrates, water, vitamins, and minerals. Besides that, it also has non-nutritive compounds as well as bioactive components, and phytochemicals that have properties and taste, flavor, and fragrance compounds (Lestari, 2020). Food safety is a science that discusses the preparation, handling, and storage of food or beverages so that they are not contaminated by physical, biological, and chemical substances. The main purpose of food safety is to prevent food and beverages from being contaminated by foreign substances, both physical, biological, and chemical to reduce the potential for illness due to food hazards. Physical contamination is a foreign object that gets into food or drink. For example hair, metal, plastic, dirt, dust, nails, and others. The meaning of biological contamination is a substance produced by living things (such as humans, rats, cockroaches, and others) that enters food or drink. Chemical contamination includes herbicides, pesticides, and veterinary drugs. Chemical contamination is also sourced from the environment such as air or soil and water pollution. There is also migration from food packaging, use of addictive substances or natural toxins, as well as cross-contamination that occurs during food processing (Knechtges, 2014). Various efforts to implement food safety have been carried out, including the implementation of supervision of food and beverages, both domestically produced and imported products. Regulations regarding special food safety are regulated in Chapter VII. Article 69 states that the implementation of food safety is carried out through: a) Foo sanitation; b) Regulation of food additives; c) Regulation of genetically engineered food products; d) Regulation of food irradiation; e) Application of food packaging standards; f) Provision of food safety and food quality guarantees; and Guarantee of halal products for those who are required.

Referring to WHO, five factors need to be considered for the provision of safe food (Friska Yolanda, 2018), namely: 1) Maintaining cleanliness. Wash hands with soap and clean water before cooking or preparing food. Avoid hand touch because through hand touch, food contamination will generally occur. Microorganisms attached to hands will transfer to food and multiply in food, especially in prepared food. Use gloves or tools such as spoons and others when coming into contact with food. 2) Protect food from contamination. Food or foodstuffs must be stored in a closed and properly wrapped so that there is no chance of exposure to dust. Separate raw food from cooked and based on the type, as well as for the utensils. 3) Store food at a safe temperature, such as in the refrigerator if indeed food or food ingredients should be stored in the refrigerator so that they are not easily damaged or spoiled. Don't store food for too long. Cooked food should not be stored at room temperature for more than 4 hours because it is feared that bacteria will breed. 4) Do the heating process of food at a really hot temperature before consumption so that microorganisms do not grow and multiply quickly. 5) Use water and safe raw materials that are colorless and odorless.

ISSN
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Community Education

Education or also called education is any planned effort to influence other people, whether individuals, groups, or communities so that they do what is expected by education actors (Notoatmodjo, 2012). Education is a learning process from not knowing to know. Education knowing a very important need for human life, and ts should be made to develop a systematic and quality education that needs to be continuously pursued so that the objectives of the educational process can be achieved optimally. Education has an important meaning for individuals, further education has a great influence on the progress of a nation.

Recreative educational activities and methods include 1) Indoor, namely educational activities carried out indoors, for example: reading in the library, viewing research results and others; 2) outdoor, namely education that is carried out outside the room/in a special place, for example conducting observational research on certain things on land, water or places where knowledge is obtained; 3) formal, namely, education that has a clear and official form of program, for example, education in educational institutions, and 4) informal, education that does not have a clear and official program form, for example, education in the family.

MATERIAL AND METHOD

This activity consists of three stages, firstly observing environmental conditions at the culinary tourism center in Semolowaru. The objects observed are 1) work environment sanitary; 2) cleanliness of equipment; 3) food hygiene; 4) availability of clean water and 5) personal hygiene. The second stage was educating traders who sell food and drinks from each stand in CTC Semolowaru. The sample of traders was taken using a saturated sampling technique. Education of food traders was carried out by involving three lecturers as speakers and four students. Education was conducted using lecture and question-and-answer methods with participants, and at the beginning and end of the activity, an evaluation of the understanding of sanitation, hygiene, and food safety was carried out using pre and post-tests. Meanwhile, in the third stage, simulations and evaluations of randomly selected stands/ outlets were carried out.

In delivering material on sanitation, hygiene, and food safety, the resource persons used posters that had been previously designed, namely the five key food safety posters and personal hygiene posters. Participants also received material in the form of a pocketbook on sanitation, hygiene, and food safety. More details regarding the methods in this community service can be seen in the chart below:

ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

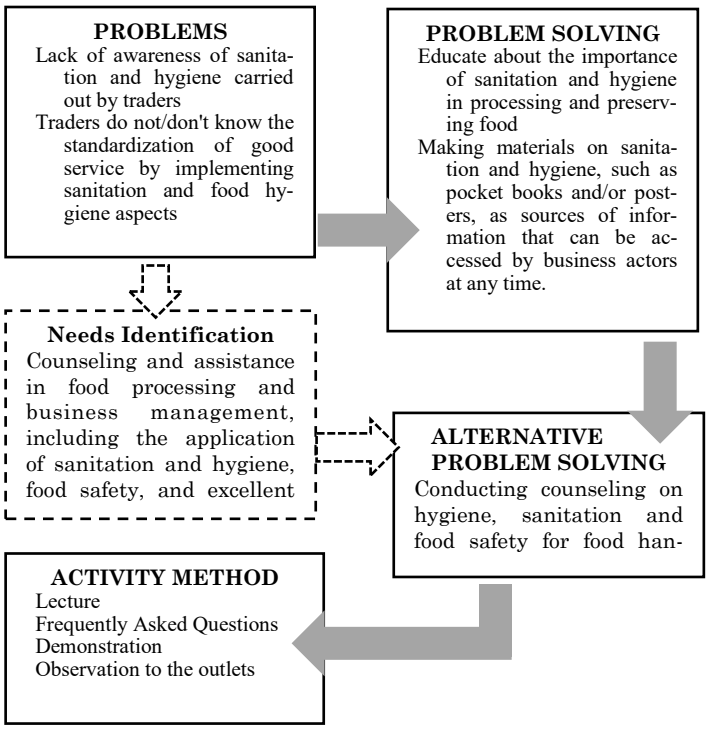

Chart 1.

Problem Solving Framework

ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

RESULT AND DISCUSSION

The main goal of development is the formation of an empowered or possessing society power, strength, or ability, one of which is in terms of economy. Ability empowered has the same meaning as community independence and self-reliance the community can be achieved through the education process (Sulasih et al., 2021). The educational process must be facilitated by the presence of community empowerment figures (Miranti, Pasngesthi, et al., 2021), for this reason, this service activity is carried out, namely face-to-face. The educational activities provided were related to sanitation, hygiene, and food safety, followed by discussions and outlet inspections by random sampling. The number of available stands is 31 outlets, but only 24 outlets are occupied. So that the participants who attended the service activities were 24 people. The following is the distribution of participants:

Table 1.

Distribution of Participants

Respondent Classification	f	f%
Gender:		
Male	4	17
Female	20	83
∑	**24**	**100**
Age*:		
12-16	0	0
17-25	0	0
26-35	4	17
36-45	11	46
46-55	6	25
56-65	3	12
∑	**24**	**100**
Educational Background:		
Uneducated	1	4
Elementary school	3	13
Junior high school	7	29
Senior high school	12	50
Bachelor	1	4
∑	**24**	**100**

* age category according to the Ministry of Health of the Republic of Indonesia (2009)

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Based on the distribution table of service participants, most of whom are women, the age range of most participants is 36-45 years old and that age is still classified as productive age (Marlina & Darmansyah, 2021). Most of the participants high were graduates, but it was also found that participants who had never received an education were unable to read and write. The following are the results of community service activities:

1. **Implementation of Hygiene Sanitation Education**

   The material on food safety, sanitation, and hygiene was delivered by Ms. Mauren Gita Miranti, then continued by Ms. Lucia Tri Pangesti regarding K3 and food presentation for food vendors, and finally an analysis of working environment conditions and solutions guided by Ms. Nugrahani Astuti. The PKM team uses key food safety posters as a tool to convey information about what things need to be done to make food safe. In addition, the team also conveyed an overview of personal hygiene that food processors need to pay attention to and apply. In line with the opinion of (Damayanti, 2018), picture media can improve student understanding and may increase student interest in learning (Mirnawati, 2020). The following posters are used in Community Service:

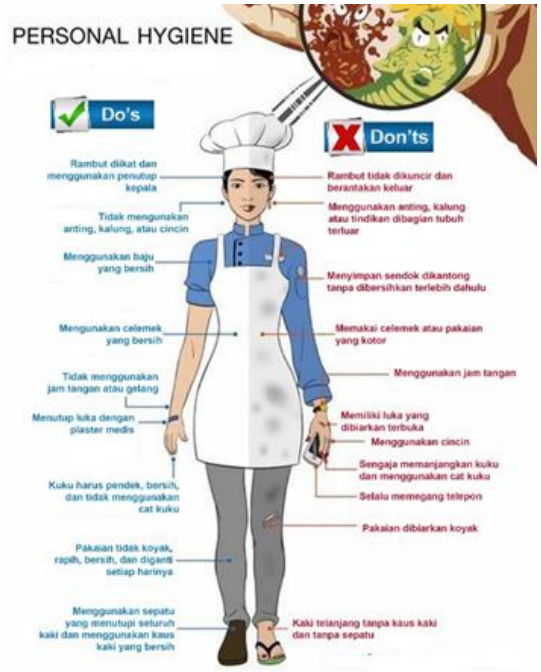

Figure 1.

Key Poster for Food Safety and personal hygiene

ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

In addition to posters on food safety, the PKM Team also presented and explained personal hygiene/ personal hygiene by using pictures so that participants could easily understand the correct way of personal hygiene as food processors. After presenting the material, the activity continued with a question-and-answer session. Participants were quite enthusiastic and listened to the speaker's explanation well even though they were cut off because they had to serve customers who bought food. Participants revealed that so far they had never received any socialization regarding sanitation, hygiene, and K3 or food safety, so there were many things that participants did not know before.

Figure 2.
Condition of Extension Participants

ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

The speaker explained sanitation and hygiene are not only limited to raw materials or oneself but also the cleanliness of the workplace in food processing. So to increase the understanding of the participants, the Team carried out simulations and evaluations of trader'sders workplaces, namely sales outlets. The simulation and evaluation were guided and assisted directly by Ms. Nugrahani Astuti by selecting outlets by random sampling.

Figure 3.
Simulation and Evaluation of Merchant Outlets

ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

At random, five outlets were evaluated with the permission of the outlet owner. The parts that are evaluated are the refrigerator/ chiller, the cleanliness of stove, the cleanliness of the bench, the cleanliness of the lathe grassland storage area, the age disposal, and the sink. Participants were also given information about cross-contamination between cooked and raw food ingredients in the refrigerator.

2. Understanding Sanitation Hygiene and Food Safety

After participants were educated about sanitation, hygiene, and food safety, participants were then given several questions as reinforcement and reflection (Miranti, Lutfiati, et al., 2021). This is in line with the statement (Siswanto, 2012) that the purpose of education is to foster changes concerning the level of knowledge, skills, or attitudes. To assess the level of understanding of the participants, a written test with the type of multiple-choice was used, while to assess the attitudes and responses of the participants, a questionnaire with a Likert scale of 1-5 was used. The following are the results of the personal hygiene pretest and posttest of the counseling participants:

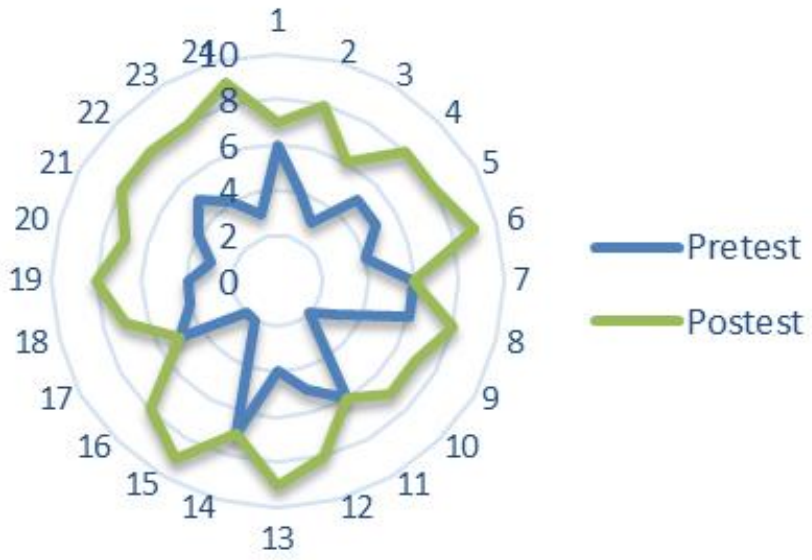

Figure 4.
Results of Pretest and Posttest Personal Hygiene

ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

Knowledge is defined as an introduction to the reality, truth, principles, and beauty of an object. Knowledge is the result of information stimulation that is noticed, understood, and remembered. Information can come from various forms including formal and non-formal education, conversation, reading, listening to the radio, watching television, and other life experiences (Pemiliana, 2019). A person's knowledge can be known and interpreted with a qualitative scale, namely: good with a percentage of 76%-100%; enough with a percentage result of 56% - 75, less with a percentage result > 56% (Setianingsih & Putri, 2017). From Figure 9, it can be seen that the trainees' initial knowledge of personal hygiene was very low. This condition is directly proportional to the visible field conditions, namely, the participants did not pay attention to their hygiene. For example, do not use an apron/apron, loose hair without a head covering, long nails, and use nail polish, ormayy also use rings when processing food. However, after being given an understanding through counseling, participants began to understand personal hygiene, which was indicated by an increase in the score on the post-test According to the researcher's assumption, the respondent's knowledge is low because the respondent does not read or find out information about personal hygiene. This is in line with the theory that health education is essentially an activity or effort to convey health messages to the public, groups, or individuals. In other words, the extension is expected to have an impact on changes in knowledge (Pemiliana, 2019).

According to the researcher's assumption, the knowledge that a person has affects personal hygiene, and the better a person's knowledge, the better personal hygiene and knowledge itself are influenced by the level of education, sources of information, and experience. Respondents who lack knowledge about personal hygiene and how to do personal hygiene properly in processing food have a higher risk of cross-contamination. So, after filling out the pretest, the PKM team provided counseling on proper hygiene and food safety so that participants as food business actors could maintain sanitation and hygiene. The next step is to look for data on respondents' attitudes toward personal hygiene behavior.

An attitude is a form of evaluation or feeling reaction. Attitude is a kind of readiness to react to an object in certain ways. It can be said that the intended readiness is a potential tendency to react in a certain way when an individual is faced with a stimulus that requires a response. A positive attitude will tend to encourage someone to behave positively (Setianingsih & Putri, 2017). Attitudes clearly show the connotation of a match between reactions to certain stimuli which in everyday life are emotional reactions to social stimuli (Pemiliana, 2019). The following is a description of the respondent's attitude toward personal hygiene attitudes or behavior:

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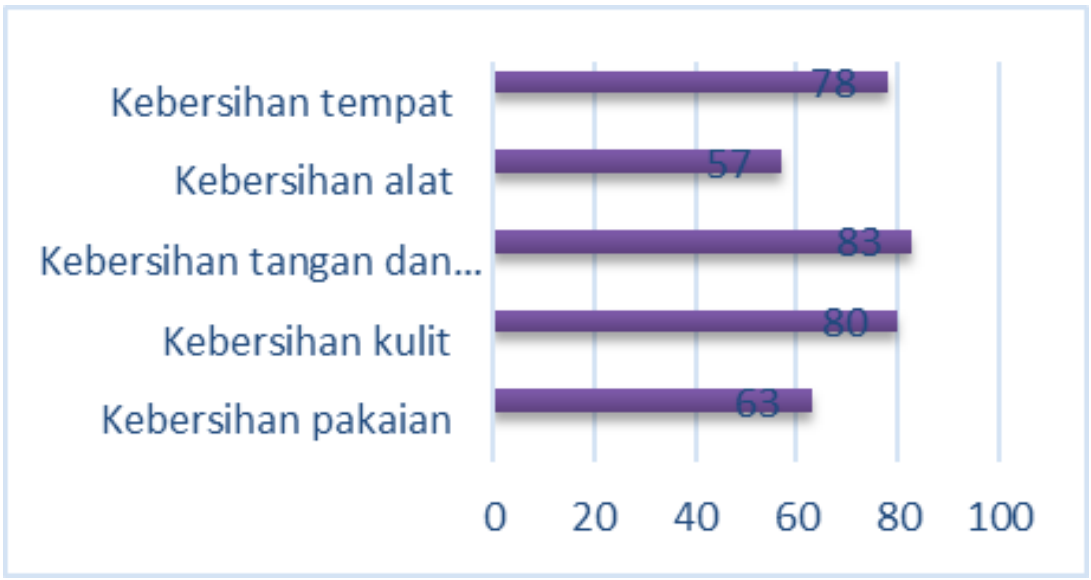

Figure 5.
Personal Hygiene Behavior of Participants

ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10

In addition to evaluating knowledge, the PKM Team also identified how the hygiene behavior of the counseling participants as food processors. From Figure 10, it can be seen that in general the behavior of the participants was sufficient, but the indicators for the cleanliness of the tools were very lacking. This condition is in line with the condition of the participants' knowledge based on Figure 9, which is that the participants' initial knowledge regarding sanitation and hygiene is very low. As the opinion of (Setianingsih & Putri, 2017) and (Khatib et al., 2019), knowledge influences a person's attitude, especially in personal hygiene. However, it is hoped that the participants' behavior will change for the better after this counseling is held. For this reason, it is necessary to make several efforts to improve the attitude of response to personal hygiene when processing food, namely by adding insight and knowledge of food safety and food processors regarding hygiene sanitation, and food safety.

CONCLUSIONS AND RECOMMENDATION

Based on the presentation of service activities, it can be concluded that: 1) the initial knowledge of traders regarding hygiene sanitation and food safety is very low, and the awareness of traders regarding the application of hygiene sanitation and food safety as seen from the traders' understanding of hygiene sanitation and food safety has increased significantly based on the results of the pre-test and post-test; 2) the personal hygiene attitude of food vendors is quite good, but there is one indicator that is very lacking, namely the cleanliness of the equipment. While based on the evaluation that has been carried out, several suggestions can be made as follows are to assist in structuring products to be sold at each existing outlet, assist in serving food, and making product rebranding using digital marketing; 3) beside that the assistance is needed to implement hygiene sanitation, how to display athletes well, food presentation, and excellent service.

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ISSN
2580-4332 (online)
DOI: doi.org/10.21009/JPMM.006.2.10