

Socialization of Personal Hygiene for Danu's Tofu Home Industry Workers in Alue Peunyareng, Meureubo Subdistrict, West Aceh Regency, Aceh

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Abstract Tofu is one of the favorite foods of Indonesian people. Tofu processing has been carried out in several home industries in West Aceh Subdistrict. This community engagement program focused on the tofu home industry starting from a survey and mapping of the business condition followed by training and supervision activity. This training was given to tofu home industry owners and their workers. This training and supervision aimed to improve partners' knowledge and understanding about the importance of applying personal hygiene to the workers. Increased knowledge will in turn raise the awareness and motivation of the workers to apply personal hygiene procedures in tofu processing.

1. INTRODUCTION

Tofu is one of the favorite foods of Indonesian people. This food is commonly served as part of the daily menu of Indonesian people. It is normally eaten with rice in the regular form of tofu or as a snack that is modified into other forms of tofu-based snacks. Tofu is believed to provide nutritional improvement as a soybean processed product because it has the most complete amino acid composition and thus high-quality plant-based protein. It is also known to have high digestibility. Tofu is produced by utilizing protein properties that will clot when it reacts with acids, such as vinegar (Widaningrum, 2015).

Tofu is made from crushed soybeans that are extracted into a puree and fermented with vinegar (Bintoro et al., 2017). It is rich in nutrients and cheap to produce, making it a basic necessity for Indonesian people (Tandian and Praptiningsih, 2013).

Quality and safe food for consumption are a must for humans because it impacts human health. According to Government Regulation No. 86 of 2019, food safety is a condition and effort needed to prevent food from being contaminated by biological, chemical, and other objects that can disturb, harm, or endanger human health and does not conflict with religion, beliefs, and culture of the community that makes it safe for consumption. Food that is safe for consumption is food that does not contain harmful microorganisms, chemicals, and other contaminants. Contaminants in food can be caused by the workers' bad behavior, such as maintaining long nails, scratching limbs, not wearing safety clothes, chewing food, and picking nose while working (Manayang, 2018). This condition often occurs due to the workers' lack of understanding on personal hygiene.

Personal hygiene is someone's effort to maintain their own health and hygiene. Maintaining personal

hygiene and health is a personal responsibility to avoid food contamination that can interfere with the customers' health, both physically and psychologically. Personal hygiene aims to prevent disease transmission through food and increase the customers' confidence in food producers. Personal hygiene can be influenced by appearances, social practice, socioeconomic status, and knowledge. Efforts that can be made to maintain food industry workers' hygiene are maintaining personal hygiene, clothes, production rooms, and their environment (Wahyunanto and Topowijono, 2018).

Personal hygiene is closely related to food management practices to prevent contamination, food poisoning, and minimize disease transmission through food. Personal hygiene is crucial in preventing food contamination because food handlers such as workers are carriers of various infectious diseases. Food handlers are the main medium for cross-contamination and transmission of diseases such as cholera and typhoid. Even slight contamination of food by these pathogens through food handlers can cause serious problems with the development of foodborne diseases. Food handlers are supposed to protect food by separating the food from anything that can contaminate it at all processing stages.

Tofu processing has been carried out in several home industries in West Aceh. One of the tofu home industries is Danu's tofu home industry, located at KOREM 02/ TU Complex, Alue Peunyareng Street, Meureubo Subdistrict, West Aceh. Danu's tofu home industry was founded in December 2014, with two men as the workers. Mr. Danu and his wife initiated this business. Tofu processing is carried out every two days, starting from 5 am in the morning to 4 pm in the afternoon. However, the workers rarely pay any attention to personal hygiene aspect, as observed from their behavior.

Hygiene is a preventive effort that focused on individual health and is closely related to individuals, food, and beverages (Wahyunanto and Topowijono, 2018). Personal hygiene is very important to be applied to workers, especially for workers in the food processing industry. This is closely related to food safety and security for workers.

This community engagement focused on the tofu home industry from a survey and mapping of the business condition followed by training and supervision sessions. The training was given to the owners of the tofu home industry and their workers. This training and supervision aimed to improve partners' knowledge and understanding about the importance of applying personal hygiene to the workers.

2. METHOD

This community engagement program was carried out at Danu's tofu home industry located in Alue

Peunyareng Street, Meureubo Subdistrict, West Aceh. The activities were done from April to September 2020. The stages of this activity stages included field observation and problem identification (April to May), program planning and literature study (June), equipment purchases (July), training, and supervision (August to September). The target of this program was the workers in Danu's tofu home industry. This program was carried out in 3 sessions, consisted of a survey and problem mapping, training, and supervision. Training and supervision were done by lecturers and students from the Study Program of Agricultural Product Technology, Agricultural Faculty, Teuku Umar University.

3. RESULT AND DISCUSSION

3.1 Survey and problem mapping

Most of the workers at Danu's tofu home industry did not meet good hygiene standards and workers. Worker hygiene is one of the requirements that must be met in the food industry related to food safety, quality, and legal requirements. Some of the problems faced by Danu's tofu home industry that hindered them from applying proper hygiene system to workers included:

- The owner and workers did not have any knowledge about hygiene.
- The owner and workers did not understand the importance of applying hygiene for workers.
- The owner and workers did not know the function of using personal safety equipment while working.
- Workers did not use personal safety equipment such as aprons, hairnets, and gloves during the production process. An overview of workers' conditions before training can be seen in Figure 1.



Figure 1. Workers did not use personal safety equipment when carrying out the production process

3.2 Training

Training began with giving a questionnaire to the participants. The purpose of this questionnaire was to determine the participants' initial understanding of the knowledge to be presented. The questionnaire was given in the form of questions related to personal hygiene, including the importance of workers' personal hygiene and the use of protective clothing. The questionnaire result indicates that the training participant did not understand the importance of personal hygiene and protective clothing while working (such as mask, hairnet and apron). Participants also did not know the negative impact that would happen if they did not wear personal protective clothing for both workers and processed food products. The activity was continued by providing technical guidance in the application of personal hygiene for the workers. The explanation given was related to personal hygiene, the importance of applying personal hygiene in the food processing industry, introduction and function of clothing and equipment used to protect workers. This training also demonstrated how to use protective clothing and equipment, which was practiced directly by two workers and one student as a model (Figure 2).



Figure 2. Students and workers practiced how to use personal safety clothing and equipment

There are some important things that must be considered by workers to prevent food contamination, such as workers must wear clean and strong safety clothes (with strong buttons) complete with gloves and hairnet; then take off all jewelry, watches, and other small objects that are easily broken or fallen into the food mixture (Yulianto and Nurcholis, 2015). The use of hairnet aims to prevent the possibility of hair and dandruff falling or sweat flowing from the head into food processing equipment or into food dough. Workers also have to maintain the cleanliness of their nails by cutting them short and neatly.

In addition to protecting workers, safety clothes and equipment also help prevent microbiological contamination from the workers to tofu products. One of the contamination sources of food comes from

workers and food handlers (Nurjanah, 2006), which cause the presence of bacteria in food products such as *Escherichia coli*, *Staphylococcus aureus*, and *Salmonella* (Lues et al, 2006). Bacterial contamination usually comes from fingers, hair, saliva, and worker secretions.

4.3 Supervision

After the training session, partner mentoring and supervision in applying personal hygiene were done to ensure that the owner and workers clearly understood the importance of applying personal hygiene. The activity of mentoring and supervision sessions can be seen in Figure 3.



Figure 3. Partner supervision activities

This activity had succeeded in increasing workers' knowledge and understanding of personal hygiene importance in the tofu production process. The enthusiasm could be seen from the fact that workers used standard personal hygiene equipment when doing tofu processing the next day (Figure 4). Workers felt protected by wearing safety clothes and equipment. Workers also felt that they did not need to worry about product contamination from their body parts, such as hair, when wearing the safety clothes. The increase of workers understanding was observed from the questionnaire given before and after the personal hygiene training. The increase of knowledge was also measured from direct field monitoring carried out periodically every week for two months.



Figure 4. Workers use personal safety clothes and equipment during tofu processing.

4. CONCLUSIONS

Community engagement activities regarding personal hygiene for Danu's tofu home industry workers increased knowledge about the importance of applying personal hygiene. The increase of knowledge had an impact on the awareness and motivation of workers to apply personal hygiene procedures in tofu processing. The continuous application of personal hygiene will improve the quality and hygiene of processed tofu.

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