

Conference Paper

Community Empowerment Program in Bojong Terong, Depok, West Java: Established a Healthy Catering Business that Takes into Account the Industrial Hygiene Aspects

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Abstract

Based on the baseline survey and observation that was conducted by the research team, the community empowerment program is really needed to be implemented in Bojong Pondok Terong. The community in that area faces some social issues that are related to their health, education, and economic condition. Hence, a healthy catering business that also concerns the industrial hygiene aspects is one of the suggested solutions to improve the economic condition of the people in that area. The aim of this research is to investigate people's knowledge about the industrial hygiene before and after the community empowerment program was developed. This research used quantitative method by using questionnaires. Questionnaires were given to around 20 women who were being mentored about developing a healthy catering business that concern to industrial hygiene aspects. The result was analyzed by using SPSS software. The result from the questionnaire presents that 90.62 percent of the respondents observed understand about the industrial hygiene aspects during the pre-test, and it was increased to 98.06 percent during the post-test or after the program was developed.

Keywords: industrial hygiene, community, program, business

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1. Introduction

Numerous microbiological hazards and risks are associated with different areas of the food industry [23]. According to Food and Agriculture Organization (FAO), good hygiene practices can be described as all practices that related to the conditions which is necessary to ensure the safety and the suitability of the food in each stage of the food making process [11]. The hygiene practice itself include the proper stage in



preparing food items, maintenance of creating clean environment, especially for food preparation and assurance of all the food being served in clean and free of bacteria condition [15]. The bacteria has a big potential in causing some food borne illnesses [15].

Food borne diseases can cause some significant reduction in economic productivity [16]. Based on report that established by WHO, the number of people who suffering food borne diseases increased to 30 percent in industrialized countries [25]. Hence, food borne disease are a serious public health issue, even in developed countries, such as United States. The diseases creating a significant social and economic burden among the communities and also the health system. A prior study estimated that the total cost to the US in solving the food borne diseases that caused by bacteria, viral agents and parasitic is almost \$152 billion a year [20]. Developing countries, including Indonesia also facing the same issue due to the presence of a wide range of food borne diseases that mostly caused by parasites [19].

On the other hand, it is also believed that the high number of diarrheal prevalence in many developing countries, such as in Indonesia, contribute as the major underlying cause of food safety problems [25]. The mishandling of food plays a significant cause in the occurrence of food borne illnesses. For example, the improper of food handling contributing to around 90 percent of cholera cases globally [1]. In addition, poor food handling practices were also the major underlying cause of infectious intestinal outbreaks in England and Wales [9]. Based on the data published by European Food Safety Authority (EFSA) [10], in 2010, 48.7 percent of verified food borne cases were related to catering service or canteen.

Generally, the catering sector employs large number of employees with a low level of formal education and they are usually offered by a high proportion of temporary jobs with limited average stay with the same employer [8]. The application of good food handling practice in food business industries, such as catering sector and restaurants is necessary to protect consumers from food borne illnesses. Food handlers should have adequate knowledge and skills to enable them to implement a good food handling practices. In most cases, the low level of knowledge of good handling practice and inadequate skills of food handling are based on insufficient training of food handling [24]. Hence, training and education are important to ensure that the employees have the awareness and knowledge to comply with food hygiene demands although the training and education do not always result a positive change in food handling behavior and practice [2]. On the other hand, one of the reasons of not providing the food training programs for food handlers or food personnel in catering industry is the cost and

risk of investment loss due to a high number of the employees' turnover, especially in small and medium sized industries, including the catering sector [24]. On another case, when the employer provide the education and training, the results showed that the level of knowledge through training does not directly lead to a positive change in the attitude and behavior of food handling [6]. The other reason of not providing the food hygiene training is the inadequate time to implement the food safety and hygiene. The employer usually more concerned about how to serve consumers than the hygiene of the food [22].

These prior studies suggested that preventing disease transmission within the food industry, including the catering industry is critical [7]. Based on the baseline survey and observation that conducted by the research team, the community empowerment program is really needed to be implemented in Bojong Pondok Terong. The community in that area face some social issues that related to their health, education, and economic condition. Hence, a healthy catering business which also concerns the industrial hygiene aspects is one of the suggested solutions to improve the economic condition of the people in that area. The aim of this research is to investigate the people's knowledge about the industrial hygiene before and after the community empowerment program was developed.

2. Methods

This study was undertaken in Bojong Pondok Terong, Ciatayam, Depok, West Java. Data was collected by administering pre-tested semi structured questionnaire to a number of women who conduct a catering small business in Bojong Pondok Terong area from May to July 2017. The questions covered the knowledge of food hygiene or food safety practices and kitchen sanitation. Purposive sampling method utilized in this research. The inclusion criteria is the women who already developed a small catering business. The exclusion criteria was the women who were not involved in any catering business activity.

This research used quantitative method by using questionnaires. Questionnaires were given to around 20 women who were being mentored about developing a healthy catering business that concern to industrial hygiene aspects. Since the number of population in Bojong Terong was not big, hence the number of women who involved in the catering business was only 20 people. The result was analyzed by using SPSS software.

3. Results

The result from the questionnaire presents that 90.62 percent of the respondents observed understand about the industrial hygiene aspects during the pre-test and it was increase to 98.06 percent during the post-test or after the program was developed.

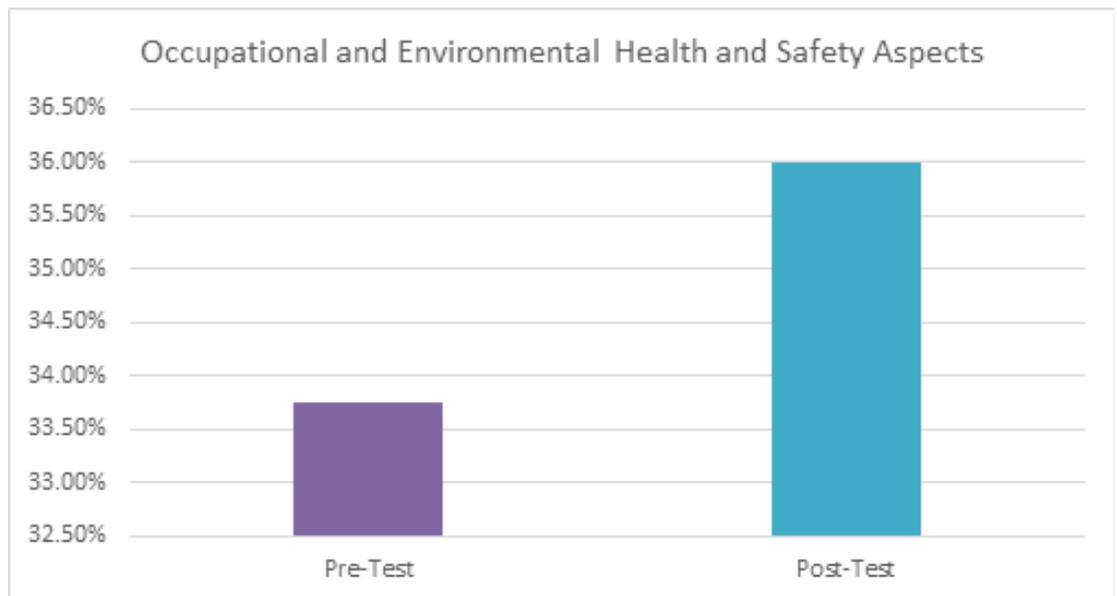


Figure 1: Percentage of respondents related to industrial hygiene, before community empowerment.

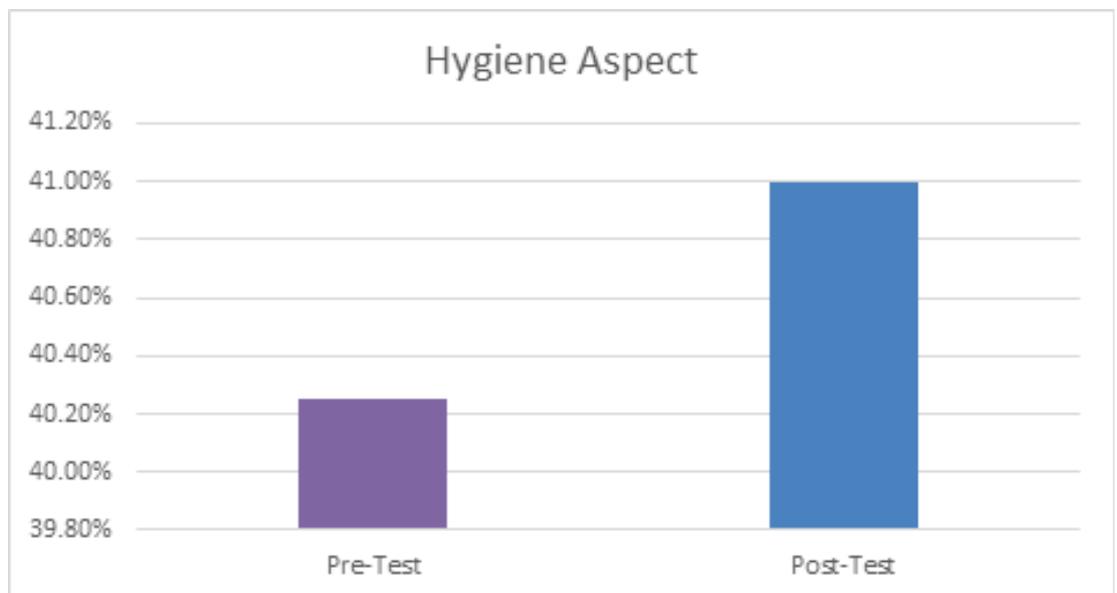


Figure 2: Percentage of respondents related to industrial hygiene, after community empowerment.

Based on the findings, the researchers found that without sufficient knowledge, it was very difficult for the women in Bojong Pondok Terong to create a catering business

that provide safe and hygiene food. Therefore, the development of a healthy catering business in Bojong Pondok Terong was very helpful to increase public awareness towards health and safety in developing a business.

4. Discussion

Without a better understanding of the risks and hazards in their business, it might be difficult for the women who conduct a small catering business in Bojong Pondok Terong to provide foods that are safe and clean to be consumed and reduced the probability of food poisoning incidence. This is related to previous study which stated that the workers in small and medium sized industries, such as the small catering business have low level of knowledge and understanding in implementing a good food handling practices [24].

Previous study that conducted by Clayton et al. [4] presented that the pressure of time in making food could prevent the food handlers from carrying food safely and can contribute to increase the number of decontamination activities [3]. On the other hand, Harrison [12] recommend that encourage the food handlers and food makers think about the order of their work activities and ways in which the decontamination can be reduced may help in minimizing the spread of pathogens and lower the risk of food borne diseases.

A number of previous studies showed that the lack of knowledge may result in poor hygiene practice among the employees [14]. However, in a prior study, there was a considerable evidence that 63 percent of the catering staff with knowledge of food safety actions did not conduct behavior in favor of food safety [5]. Based on the findings, the development of healthy catering business in Bojong Terong that also concern the industrial hygiene aspects can help the people understand about the occupational health and safety factor in establishing a business. This also can be presented that the catering staff might not practice food safety when handling the foods although most of them in this survey gave positive answers. Then, motivation, initiative, and training should be considered to encourage the catering staff or owner and the food handlers practicing appropriate attitudes and procedures during food preparation [18].

5. Conclusions

This study is limited by the number of participants but demonstrates the immediate need of retraining the women who conduct a small catering business in Bojong Pondok Terong in food hygiene. The limited participants were caused by the small number of population who lives in Bojong Pondok Terong. On the other hand, the knowledge of the participants about the industrial hygiene improved to 98.06 percent after the mentoring was conducted. The finding of this study also demonstrated the opportunity for further study research related to the knowledge and food practices of the food hygiene, especially in small and medium sized sector, such as the small catering business. However, providing an industrial hygiene training should be considered as a further solution to help the people in Bojong Terong improving their knowledge about industrial hygiene and also helping their economic condition

References

- [1] Addo, K. A., Mensah, G. I., Bonsu, C. et al. (2007). Food and its preparation condition in hotels in Accra, Ghana: A concern for food safety. *African Journal of Food, Agriculture Nutrition and Development*, vol. 7, no. 5, pp. 1-12.
- [2] Clayton, D. and Griffith, C. J. (2008). Efficacy of an extended theory of planned behavior model for predicting cateters' hand hygiene practices. *International Journal of Environmental Health*, vol. 18, pp. 83-98.
- [3] Clayton, D. A. and Griffith, C. J. (2004). Observation of food safety practices in catering using notational analysis. *British Food Journal*, vol. 106, no. 3, pp. 211-227.
- [4] Clayton, D., Griffith, C. J., and Price, P. (2003). An investigation of the factors underlying consumers' implementation of specific food safety practices. *British Food Journal*, vol. 105, no. 7, pp. 434-453.
- [5] Clayton, D. A., Grifith, C. J., Price, P. et al. (2002). "Food Handlers" beliefs and self-reported practices. *International Journal of Environmental health Research*, vol. 12, no. 1, pp. 25-39.
- [6] Collins, J. E. (2001). Impact of changing consumer lifestyles on the emergence/re-emergence of foodborne pathogens. *Emergence Infection Disease*, vol. 3, pp. 1-13.
- [7] Darko, S., Mills-Robertson, F. C., and Wireko-Manu, F. D. (2015). Evaluation of some hotel kitchen staff on their knowledge on food safety and kitchen hygiene in the Kumasi Metropolis. *International Food Research Journal*, vol. 22, no. 6, pp. 2664-2669.
- [8] Demunter, C. (2008). *Eurostat-Statistics in Focus: Industry, Trade, and Services..*

- [9] Egan, M. B., Raats, M. M., Grubb, S. M., et al. (2007). Review of food safety and food hygiene training studies in the commercial sector. *Food Control*, vol. 18, pp. 1180–1190.
- [10] European Food Safety Authority (EFSA). (2010). The community summary report on trends and sources of zoonoses, zoonotic agents and food-borne outbreaks in the European Union in 2008. *The EFSA Journal*, vol. 8, no. 1, pp. 410, 1496.
- [11] Food and Agricultural Organization (FAO). (2012). *Fisheries and Agricultural Topics: Hygiene and Fish Safety. Topics Fact Sheet*.
- [12] Harrison, W. A., Griffith, C. J., Ayers, T., et al. (2003). Bacterial transfer rates and cross-contamination potential associated with paper towels dispensing. *American Journal of Infection Control*, vol. 31, pp. 387–392.
- [13] Jianu, C. and Codruța, C. (2012). Study on the hygiene knowledge of food handlers working in small and medium-sized companies in Western Romania. *Food Control*, pp. 151–156.
- [14] Lambiri, M., Mavridou, A., and Papadakis, J. (1995). The application of hazard analysis critical control point (haccp) in a flight catering establishment improved bacteriological quality of meats. *Journal of the Royal Society of Health*, pp. 26–30.
- [15] Lee, H. Y., Chik, W. N., Fatimah, A. B., et al. (2012). Sanitation practices among food handlers in a military food service institution, Malaysia. *Food and Nutrition Sciences*, vol. 3, pp. 1561–1566.
- [16] Mahami, T. and Odonkor, S. T. (2012). Food safety risks associated with tertiary students in self catering hostels in Accra Ghana. *International Journal of Biology, Pharmacy and Allied Sciences*, vol. 1, no. 4, pp. 537–550.
- [17] Martins, R. B., Hogg, T., and Otero, J. G. (2012). Food handlers' knowledge on food hygiene: The case of catering company in Portugal. *Food Control*, pp. 184–190.
- [18] Nurul Huda. Tahap pengetahuan, sikap, dan amalan kebersihan dan keselamatan makanan di kalangan pengendali makanan di hospital. MSc Thesis, Universiti Kebangsaan Malaysia.
- [19] Salas, D. (2011). Outbreak of food poisoning at a child naming ceremony. Anyaa, Ghana: Ghana News Agency (GNA) 2010.
- [20] Scharff, R. L. (2010). Health-related costs from foodborne illness in the United States.
- [21] Siau, M. F., Son, R., Mohiddin, O. et al. (2015). Food court hygiene assessment and food safety knowledge, attitudes, and practices of food handlers in Putrajaya. *International Food Research Journal*, vol. 22, no. 95, pp. 1843–1854.

- [22] Sienny, T. and Serli, W.(2010). The concern and awareness of consumers and food service operators towards food safety and food hygiene in small and medium restaurants in Surabaya, Indonesia. *International Food Research Journal*, pp. 641-650.
- [23] Todd, E. C. D. (2003). Microbiological safety standards and public health goals to reduce food borne disease. *Meat Science*, vol. 66, pp. 33-43.
- [24] Yapp, C. and Fairman, R. (2006). Factors affecting food safety compliance within small and medium-sized enterprises: Implications for regulatory and enforcement strategies. *Food Control*, vol. 17, no. 1, pp. 42-51.
- [25] World Health Organization (WHO). (2007). *Food Safety and Food Borne Illness*. Media Centre: Fact Sheet No. 237.