



Measuring the Success Agency for Drug and Food Control Republic of Indonesia Facilitators as Food Safety Extension Workers in Simalungun, Karo, Serdang Bedagai and Samosir District In 2019

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Track Record Article	Abstract
<p>Accepted: 27 November 2023 Revised: 24 December 2023 Published: 30 December 2023</p> <p>How to cite : Sihalo, R. M., & Hadi, E. N. (2023). Measuring the Success Agency for Drug and Food Control Republic of Indonesia Facilitators as Food Safety Extension Workers in Simalungun, Karo, Serdang Bedagai and Samosir District In 2019. <i>Contagion : Scientific Periodical of Public Health and Coastal Health</i>, 5(4), 1449–1458.</p>	<p><i>The agency for drug and food control republic of Indonesia in synergy with the academic community of Health Polytechnic in Medan implemented a food safety extension facilitator programme to protect the public from unqualified food. The study aims to measure the success of the facilitators in educating food business operators in Simalungun, Karo, Serdang Bedagai and Samosir districts on food safety. The research data were taken from the report on the results of activities as a facilitator of the agency for drug and food control republic of Indonesia in 2019, on behalf of the health polytechnic students in Medan. Counseling was conducted through presentations and discussions in the village hall or in the facilities of the participants, depending on the availability of facilities in each village. Prior to the presentation, a pre-test questionnaire was completed to measure the knowledge of participants, after which the material was presented and discussed. A post-test questionnaire was then completed to measure the participants' level of knowledge. The total number of participants from 5 districts was 268 people. Using the SPSS method of the Wilcoxon Matched-Pairs statistical test, the significance value (p-value) of the pre-test and post-test data was found to be 0.005 (<0.05). The face-to-face counselling methods or presentations followed by discussions were shown to increase participants' knowledge as measured by the pre-test and post-test scores. Thus, the food safety extension facilitator programme can improve participants' knowledge, is an intervention that can be continued throughout Indonesia by involving related sectors to achieve safe, quality and efficacious or beneficial food products based on the Small and Medium Enterprises (MSMEs) food.</i></p> <p>Keyword: Agency for Drug and Food Control, facilitator, food safety, counseling, MSMEs</p>

INTRODUCTION

The Republic of Indonesia Law Number 25 of 2004 governs the national development planning system. The development strategy prioritises human resources through community empowerment. Thus, the challenge of food and drug control, especially food products, is not only through product supervision but also through community empowerment. According to (Adekalu et al., 2018) stated that community engagement can be recognized as a key function of higher education, a long with research and teaching that helps in promoting the economic, environmental and socio-cultural development of the community.

With the food safety facilitator programme in 2019 from the agency for drug and food control in synergy with the academic community from the health polytechnic in Medan as an intellectual community in providing food safety counseling in Simalungun, Karo, Serdang

Bedagai and Samosir districts, it can increase the knowledge of food business actors, especially household products to produce safe, quality and efficacious or beneficial food products.

According to Khazanah (2020), food comes from life and water as food and drink or additives in processing food. Unclean food processing will affect human health so it is necessary to pay attention to food safety in processing, especially in household kitchens. Food safety education is a means to provide knowledge for housewives about food susceptibility to foodborne diseases. By providing education, it is hoped that mothers can implement good food safety in the home kitchen.

Safe food has a different meaning from healthy food. According to the (U.S. Food & Drug Administration, 2016), food that's are claimed to be "healthy" have a low fat content with a fatty acid profile dominated by unsaturated fatty acids, as well as foods that provide good or excellent sources of nutrients, including potassium, vitamin D, iron and calcium. A healthy diet not only limits nutrients that increase the risk of chronic disease, but also helps to ensure nutritional adequacy to ensure adequate intake of nutrients essential for maintaining body function and reducing the risk of disease.

Village community empowerment is training activities for village communities to improve skills, behavior, ability, and awareness tourism for village communities (Sirait et al., 2020) . One important part is overseeing the implementation of the Village Law through mentoring activities. Village facilitators are reflected in the Village Community Development and Empowerment Program, which has been adopted since 2014 (Gunawan et al., 2021) .

According to the Regulation of the Head of The Agency for Drug and Food Control Republic of Indonesia Number 24 of 2015 provides guidelines for the Development of Safe Food Villages. The core values of safe villages include community empowerment, increased access to food safety, and the development of village superior products based on local wisdom. The supporting pillar of safe food villages are food safety included in village institutions, appropriate selection of village food safety cadres, village communities exposed to food safety and village food businesses implementing good food safety practices. The elements of safe food villages include food safety commitment, active village food safety cadres, and independent food safety programs (BPOM, 2015) .

The strategy for developing non-rice food programs, especially the acceleration of food consumption diversification program to support food security in North Sumatera, is carried out by: 1) women's group empowerment activities by increasing the participation of members to utilize the yard with integrated farming to produce food that contains non-rice carbohydrates, protein, vitamins and minerals; 2) optimally utilizing companion extension workers to increase

knowledge and utilization of yard land to meet the needs of diverse, nutritious, balanced and safe food for the families of group members; 3) improving the distribution of funds to increase the understanding and participation of groups towards diverse, nutritious, balanced and safe food by making optimal use of available activity costs; 4) improving organizational performance and work procedures to improve the process of group formation; and 5) improving the quality of program socialization to meet family nutritional needs and understanding and group participation towards diverse, nutritious, balanced and safe food (Sabrina et al., 2021) .

In line with the mission of the national agency of drugs and food control, to strengthen partnership with cross-sector, cross-government, academia, communities, media and community participation in food and drug monitoring, the strategy of community empowerment in the field of food safety is also implemented by the agency for drugs and food control. One of the efforts made to address food safety issues through the concept of community empowerment is the food safety facilitator program (BPOM, 2018).

The findings of Holmes et al., (2022), regarding community extension activities in higher education support the results of this study on the importance of community extension that is aligned with the academic unit's field of expertise of the academic unit. Support from the education community, in this case the academic community in higher education, especially lecturers and students, who are an intellectual community and part of society, is expected to contribute actively in maintaining food safety and can acts as a food safety facilitator to the community.

METHODS

This research is a quantitative study using the quasi-experimental method, which is research conducted with only one group without a comparison or control group (Arikunto, 2006). The population of this study was all people who are members of food MSMEs in Simalungun, Karo, Serdang Bedagai and Samosir districts.

The sampling technique was purposive stratified disproportionate sampling. The sample data used in this study were all participants, with a total of 268 participants who attended the food safety facilitator counselling in 2019.

The basis for the food safety facilitator activities is based on the cooperation agreement letter on food safety facilitators between the food and drug administration of the republic of Indonesia and several selected health polytechnics in Indonesia, one of which is Health polytechnic in medan. Prior to the consultation, health polytechnic in Medan. Coordinated with the local government and explained the purpose of the consultation, which was to assist the

government and communities engaged in processed food to improve product safety before distribution in the community.

As a matter of extension ethics, it was ensured that the participants who participated in the activity were willing to do so without any coercion from any source, and it was ensured that it would not interfere with the activities of the participants, so the participants first arranged their personal schedules so as not to interfere with the extension activities. Participants who attended the workshop were informed that the questionnaires completed during the pre-test and post-test would be kept confidential and analysed for the purpose of government support to Micro, Small and Medium Enterprises (MSMEs).

The extension activities would be conducted by student representative facilitators from Health Polytechnic in Medan with the regency of Simalungun, Karo, Serdang Bedagai and Samosir in August-September 2019. The facilitators would be assigned according to their respective schedules and locations. The reason for selecting the target locations was that these areas had never received food safety counselling.

Advice was given face-to-face or through presentations at village halls. The material was delivered using leaflet props and power point presentations on "How to Produce Good Food for MSMEs". Before the activity began, participants spent 15 minutes completing a 10-question pre-test questionnaire. This was followed by a presentation and discussion, and then a post-test questionnaire of 10 questions for 15 minutes. The facilitators' success in improving participants' knowledge was measured by the increase in the post-test scores.

As the data from the pre-test and post-test questionnaires were not normally distributed, all validity data were analysed using the SPSS application with the Wilcoxon matched pairs test method.

RESULTS

Table 1. Characteristics of Respondents (n=268)

Gender	n	%
Male	79	29.48%
Female	189	70.52%

After coordinating with the local governments of the five districts, then collecting data on people working in the field of food MSMEs, data on all counseling participants were obtained as 268 participants. Consisting of 79 (29.48%) male and 189 (70.52%) female. Based on data analysis of pre-test and post-test scores of food safety counseling participants, significant changes were obtained in the pre-test and post-test scores of participants, namely

pre-test value data had an average (mean) increase (77.82%) of 47,31 and post-test values data had an average increase of 83,96. To validate the pre-test and post-test values, it is necessary to conduct statistical testing through a paired t-test. Before paired t-test testing, in order to draw valid conclusions, the data used must be normally distributed. According to Orcan (2020) Checking the normality assumption is necessary to decide whether a parametric or non-parametric test needs to be used. Thus, it is necessary to first check the distribution of pre-test and post-test data. The pre-test and post-test normality test data are as follows:

Table 2. Test of Normality Pre Test and Post Test (n=268)

	Kolmogorov - Smlmova			Shapiro – Wilk		
	Statistics	df	Sig.	Statistics	Df	Sig.
Pre - Test	.192	268	.005	.917	268	.005
Post - Test	.258	268	.005	.809	268	.005

According to table 2, Kolmogorov-Smirnov and Shapiro-Wilk statistical tests, known that the significance value (p-value) in both pre-test and post-test data has a significance value < 0.05 which means that normality is not met. So that the pre-test and post-test data are not normally distributed. Thus the parametric paired t-test cannot be performed.

In a study, there is often data from different but related groups. For this reason, the Wilcoxon test is often used, especially for nonparametric data (Konsultan Analisis Data, 2021) Given the non-normal distribution of the data (Shapiro – Wilk $p < 0.05$) we applied a nonparametric on sample T test (Wilcoxon one-sample signed rank test) (Zapparoli et al., 2019) For non-parametric data analysis, with the aim of testing whether there is an average difference between pre-test and post-test scores, the Wilcoxon Matched-Pairs Test was conduct.

Table 3. Wilcoxon Matched Pairs Test (n=268)

Variabel	Mean	Std. Deviasi	Std. Error Mean	P value	N
Pre - Test	47.31	20.778	1.269	0.005	268
Post - Test	83.96	15.889	0.971		

Based on the Wilcoxon Matched-Pairs test in Table 3, it is known that the significance value (p-value) for data of pre-test and post-test is 0.005 (< 0.05). This shows that there is a significant difference between the pre-test and post-test score of food safety counseling participants. These changes indicate that the participants' knowledge has increased after participating in counseling activities. It can be concluded, the counseling method with face-to-face or presentation followed by discussion in proven to be able to improve the knowledge of participants.

DISCUSSION

The goals of the state in the fourth paragraph of the Preamble of the 1945 Constitution in the Republic of Indonesia are protect the entire Indonesian nation and the blood of Indonesia and to promote public welfare, educate the nation's life and participate in implementing world order based on independence, eternal peace and social justice. One of the efforts to promote general welfare is done through improving the degree of public health. The Constitution of the Republic of Indonesia 1945, which reads "Every citizen has a human right to health, to live in physical and mental prosperity". In realizing the guarantee of the basic right to health, the government has an obligation to carry out health development and protect the community, especially from food that poses health risks. The Indonesian constitution states that is responsible, and must actively provide health service to citizens in accordance with the values of Pancasila (Arifat, 2018)

Law Number 18 of 2012 on Food Mandates that food is the most important basic human need, and its fulfillment is part of human rights guaranteed in the 1945 Constitution. According research by Damayanti et al., (2019) the number of poisoning cases that occur in Indonesia shows that food safety conditions in Indonesia are of lower quality. Protection of the right to health as stated in Health Law Number 36 of 2009 hasn't been implemented properly, one of the causes is that there are still many dangerous food products circulating in the market so that there needs to be attention from stakeholders in protecting the right to public health.

Law Number 25 of 2004 concerning the National Development Planning System where the development strategy emphasizes human capital through community empowerment. Thus, the challenge of food and drug control, especially food products, is not only through product supervision but also through community empowerment. The purpose of community empowerment is to increase individual and community awareness of health problems and increase competence, so that they can independently improve their health (Laverack, 2006).

Case of Extraordinary Events of food poisoning in 2017 caused by household cooking accounted for 37,74% of the incidents, snacks/prepared food accounted for 11,32% of the incidents, processed food and food services accounted for 13,21% of the incidents. The highest percentage of food types causing cases of Extraordinary Events of food poisoning is household cooking. This indicates that the community has not yet understood and implemented food safety practices (BPOM, 2018).

The factors that contribute most to cases of food poisoning are food processing factors related to the survival of pathogenic bacteria, too long preparation before serving and inappropriate food storage (Arisanti et al., 2018). According to Cannon through (Neetoo et al.,

2023) norovirus (NOV) and Hepatitis A virus (HAV) are currently the viral agents responsible for foodborne illness cases and outbreaks.

According to Haryadi in Damayanti et al., (2019) reported that the Agency of Drug and Food Control Republic of Indonesia stated that the food poisoning outbreaks cause the death of 2.500 people and sicken as many as 411.500 people each year. Food safety is a right for the community society but hasn't been achieved until now. In response to this phenomenon, the Agency of Drug and Food Control Republic of Indonesia can't work alone and needs to collaborate with stakeholders to strengthen the function of supervision and community empowerment. Universities, as the backbone of the younger generation, can be strategic partners in supporting the agency of drug and food control through community empowerment activities.

In accordance with the mandate of Presidential Regulation Number 80 of 2017 concerning the Food and Drug Supervisory Agency and Presidential Instruction Number 3 of 2017 concerning Increasing the Effectiveness of Food and Drug Control. The Agency of Drug and Food Control has made various supervisory efforts to provide assurance of Food and Drug safety and community empowerment through communication, education and information (IEC) programs, one of which is a program that has been implemented, namely the Food Safety Facilitator in 2019.

According to Ife (1997) community empowerment theory, defines empowerment as the provision of resources, opportunities, knowledge, and skills to citizens, enabling them to determine their own future and participate in efforts to influence the lives of their groups. Jim Ife also identifies 6 types of community power that can be utilized in the empowerment process including the ability to make personal choices; the ability to determine one's own needs; freedom of expression; institutional capacity; access to economic resources; and freedom in the reproduction process.

College students as intellectuals are important assets of the nation that must be empowered to become spokespersons for safe, useful and quality food campaigns in the community. Thus, the agency of drug and food control synergizes with the academic communities to empower the community, through the Food Safety Facilitator program. Through the food safety facilitator program in 2019, which synergizes with the academic communities, one of which is with the Health Polytechnic in Medan, is one of the innovations to increase public awareness by involving related sectors to realize MSMEs food products that are safe, quality, and efficacious of beneficial.

The existence of the program attracted the author's attention to examine the extent to which the participants' knowledge related to food safety increased, with the hope that food circulating in the community, especially processed household food, can be guaranteed safety. In this case, the authors measured the increase in participants' knowledge through the pre-test and post-test questionnaire assessments. This is in line with research of Magdalena et al., (2021) which states that the pre-test and post-test techniques carried out by class IV teachers are said to be successful in measuring students' increased understanding.

Knowledge has a very important role in the information of a person's actions, because from experience and research it turns out that behavior based on knowledge will have a more positive effect than behavior that is not based on knowledge (Notoatmodjo, 2012).

Increased knowledge is influenced by the training and counseling methods, the participants' activities are not too monotonous on the lecture method from the resource person but there is discussion that makes the trainees become enthusiastic so that there is an increase in knowledge during counseling (Wijiastuti et al., 2020). In this activity, the transfer knowledge was carried out through direct counseling and after the post test was carried out, the results showed an increase in participants' knowledge. These results are in line with the results of Khazanah (2020) research where there was an increase in knowledge for participants after food safety counseling.

In 2019, The Agency for Drug and Food Control launched a food safety facilitator program in collaboration with the academic community from the Medan Health Polytechnic as an intellectual community. The program aims to provide food safety counseling in Simalungun, Karo, Serdang Bedagai and Samosir districts. Its goal is to increase the knowledge of food business actors, particularly those producing household products, to ensure production of safe, quality, and efficacious or beneficial food products.

Program sustainability is a never-ending follow-up for all organizations, this is for the improvement of the same program in the future. This is especially true for programs that are conducted for the benefit of rural communities. To ensure the sustainability of the program, it is important that the community takes an active part in the program. On the other hand, organizations running programs need to conduct effective monitoring and evaluation to determine the impact of their initiatives (Mutiso et al., 2020). Therefore, for the next, it is necessary to carry out a process of fostering the household industry in the food sector (IRTP) in term of the use of food additives (Sari et al., 2019).

The Indonesian Government is committed to empowering MSMEs. To support the competition of local food products at the national and international level, innovative

empowerment programs are provided to MSMEs. The priority is to ensure safe, useful, and quality food products, which in turn guarantees people's health and helps eradicate poverty.

CONCLUSIONS

Based on the measurement of pre-test and post-test values measured using the SPSS application, the Wilcoxon Matched-Pairs Test statistical method proves that the program of The Agency for Drug and Food Control related to food safety extension facilitators in 2019 represented by students from Health Polytechnic in Medan by method face-to-face counseling or presentation followed by discussion, has proven to be able to increase the knowledge of extension participants.

For continuous improvement of activities, it is necessary to conduct monitoring and evaluation of counseling to participants on a regular basis, so that the implementation of the program is not only limited to extension activities, but can also be used as an intervention to be implemented in all regions of Indonesia by involving related sectors to realize safe, quality and efficacious/beneficial of product based on the MSMEs food.

REFERENCE

- Adekalu, S. O., Krauss, S. E., Ismail, I. A., & Suandi, T. (2018). Teaching Professors' Challenges about Community Engagement Outreach and Intervention in Nigerian Universities. *International Journal of Academic Research in Business and Social Sciences*, 8(8), 191–204. <https://doi.org/10.6007/IJARBSS/v8-i8/4458>
- Arifat, N. (2018). *Pemenuhan Has Atas Kesehatan dan Makanan yang Layak bagi Warga Binaan Perempuan Hamil*. Fakultas Hukum Universitas Islam Indonesia.
- Arikunto, M. (2006). *Prosedur Penelitian Suatu Pendekatan Praktek*. Rineka Cipta.
- Arisanti, R. R., Indriani, C., & Wilopo, S. A. (2018). Kontribusi Agen dan Faktor Penyebab Kejadian Luar Biasa Keracunan Pangan di Indonesia: Kajian Sistematis. *BKM Journal of Community Medicine and Public Health*, 34(3), 99–106.
- BPOM. (2015). Peraturan Kepala BPOM RI Nomor Nomor 24 Tahun 2015 tentang Pedoman Pengembangan Desa Pangan Aman. In *Peraturan kepala BPOM RI*.
- BPOM. (2018). *Kerangka Acuan Kerja Gerakan Keamanan Pangan Desa Tahun 2018*.
- Chang, R., & Little, T. D. (2018). Innovation for Evaluation Research: Multiform Protocols, Visual Analog Scaling, and the Retrospective Pretest – Posttest Design. In *Evaluation & the Health Profession* (Vol. 41, Issue 2, pp. 246–269).
- Damayanti, F. N., & Wahyati, E. (2019). Food Safety in the Protection of the Right to Health. *IOP Conference Series: Earth and Environmental Science*, 292(1), 012047. <https://doi.org/10.1088/1755-1315/292/1/012047>
- Gunawan, Mahin, M., Cahyana, Y., & Ratnasari, D. (2021). Implementasi Program Pemberdayaan Masyarakat Mandiri Perdesaan di Desa Ensaid Panjang Kecamatan Kelam Permai Kabupaten Sintang. *Jurnal Ilmu Administrasi Publik UMA*, 9(2), 33–43.
- Holmes, A. F., Webb, K. J., & Albritton, B. R. (2022). Connecting Students to Community: Engaging Students Through Course-Embedded Service-Learning Activities. *International Journal of Management Education*, 20(1).

- Ife, J. (1997). *Community Development; Creating Community Alternatives – Vision, Analysis and Practice*. Longman.
- Khazanah, W. (2020). Edukasi Keamanan Pangan di Dapur Rumah Tangga. *Department of Nutrition at the Health Polytechnic of Aceh*, 5(1), 1–6.
- Laverack, G. (2006). Improving Health Outcomes through Community Empowerment: A Review of the Literature. *Health Population Nutrition*, 24(1), 113–120.
- Magdalena, I., Annisa, M. N., Ragin, G., & Ishaq, A. R. (2021). Analisis Penggunaan Teknis Pre-Test dan Post-Test pada Mata Pelajaran Matematika dalam Keberhasilan Evaluasi Pembelajaran di SDN Bojong 04. *Nusantara: Jurnal Pendidikan Dan Ilmu Sosial*, 3(2), 150–165.
- Mutiso, R. M., & Omwenga, J. (2020). Influence of Participatory Monitoring and Evaluation on The Sustainability of Community Based Projects in Kenya: A Case of Samburu-Vigurungani Water Project, Kwale County. *International Journal of Social Science and Humanities Research*, 8(4), 120–150.
- Neetoo, H., Juggoo, K., Johaheer, H., Ranghoo, M., Sanmukhiya, Manoga, Z., & Gurib, N. (2023). A study on The Occurance of Human Enteric Viruses in Salad Vegetables and Seafood and Associated Health Risks for Cunsomers in Mauritius. *Italian Journal of Food Safety*, 12(11447).
- Notoatmodjo, S. (2012). *Pendidikan dan Perilaku Kesehatan*. PT Rineka Cipta.
- Orcan, F. (2020). Parametric or Non-Parametric: Skewness to Test Normality for Mean Comparison. *International Journal of Assessment Tools in Education*, 7(2), 255–265.
- Sabrina, R., Bilter, A., & Imelda, A. (2021). *Membangun Ketahanan Pangan Indonesia dari Sumatera Utara*. Usu Press.
- Sari, D. M., Andarwulan, N., & Fardiaz, D. (2019). Profil Komposisi BTP Campuran, Pelabelan, dan Penggunaannya pada Industri Rumah Tangga Pangan (IRTP) di DKI Jakarta. *Jurnal Mutu Pangan : Indonesian Journal of Food Quality*, 6(1), 38–45. <https://doi.org/10.29244/jmpi.2019.6.38>
- Sirait, Alexander, R., & Octavia, E. (2020). *Tinjauan Singkat Dana Desa Tahun 2015-2020. Analisis Ringkas Cepat*, 01/ARC.PKA/III/2021.
- U.S. Food & Drug Administration. (2016). *Use of the Term “Healthy” in the Labeling of Human Food Products*.
- Van Breukelen GJ. (2013). *ANCOVA versus CHANGE From Baselin in Nonrandomized Studies: The Difference Multivariate Behav* (Vol. 48, pp. 895–922).
- Wijiastuti, W., Putri, E. S. Y., & Indriyati, L. H. (2020). Identifikasi Boraks dan Formalin pada Jajanan Sekolah dengan Menggunakan Metode Sederhana dan Efeknya bagi Tubuh. *E-Dimas: Jurnal Pengabdian Kepada Masyarakat*, 11(2), 202–208. <https://doi.org/10.26877/e-dimas.v11i2.3469>
- Zapparoli, L., Macerollo, A., Joyce, E. M., Martino, D., & Kilner, J. M. (2019). Voluntary tic suppression and the normalization of motor cortical beta power in Gilles de la Tourette syndrome: an <sc>EEG</sc> study. *European Journal of Neuroscience*, 50(12), 3944–3957. <https://doi.org/10.1111/ejn.14548>