

# SHOPI (Sosialisasi Pencegahan Hipertensi): Building Community Resilience Against Hypertension in Banyuwangi, Indonesia

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**Abstract** This community service was aimed at increasing knowledge to prevent hypertension by utilizing the role of mother cadres of PKK, which stands for *Pemberdayaan dan Kesejahteraan Keluarga*, a hamlet/village-level association focusing on family welfare and empowerment. These cadres are representatives of neighborhood associations (RT/*Rukun Tetangga*) in the village area. This community empowerment was held through counseling lectures. This activity was carried out in 2022; the data, which were the participants' responses, were collected using pretest and post-test questionnaires. The sampling was carried out using accidental sampling with a cross-sectional design. This activity targeted 30 PKK mothers as representatives from each neighborhood in Karangrejo Village, Banyuwangi Regency. This empowerment increased the knowledge of the target community regarding the prevention of hypertension by 22.7 points. The average score of the participants' pretest was 52.26, and that of the post-test was 74.96. This is in line with studies that found that community service activities carried out using the roles of cadres and the elderly showed optimal results in increasing the target communities' knowledge in the operation of tensimeters and measuring blood sugar, uric acid, and cholesterol as well as increasing knowledge of cadres and the elderly in hypertension management, and dietary management of hypertension. The SHOPI Project (Education on Hypertension Prevention) effectively enhances public awareness regarding hypertension prevention, with a focus on women from the PKK community in Karangrejo Village, Banyuwangi Regency.

## 1. INTRODUCTION

Banyuwangi is a district with an area of 5,872 square km. Banyuwangi Regency has a considerable population accumulation. According to the Central Bureau of Statistics of Banyuwangi Regency, its population in 2020 reached 1,708,114 people, with a demographic bonus of 70.49%. The area of this district includes 25 sub-districts, 28 urban villages, and 189 villages (BPS Banyuwangi, 2021). One of them is the community of Karangrejo Village, Banyuwangi Regency. This population distribution causes the emergence of various forms of diversity, such as cultural diversity, lifestyles, and consumption patterns. In the consumer aspect, people also depend on the location where they settle. Karangrejo Village is one part of the area in Banyuwangi Regency that has the majority of livelihoods

as fishermen, as much as 52%, based on the survey results. In addition, salt, sea fish, salted fish, and other marine products tend to be consumed at a high level. If it lasts for a long time, this can impact resistance to saltiness in the taste buds of each community.

The actions taken by society depend on their level of knowledge in life. The level of education and knowledge has a significant relationship with people's actions and behavior patterns (Monintja, 2015). So often found many impacts of inappropriate consumption patterns and behaviors on public health as a whole. The emergence of lifestyle and dietary changes, including the emergence of ready-to-eat foods, and excessive salt consumption that is low in dietary fiber, will also affect the emergence of

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degenerative diseases such as hypertension (Arif et al., 2013). Knowledge among the community in Je'ne Village regarding hypertension is that the respondent's knowledge is in the sufficient category if the total score is greater than the mean, so in this study, there has been an increase in community knowledge in the sufficient category by 47.5% from previously 42.5% to 90.5% after being given intervention. Based on a survey conducted on public knowledge about hypertension in Karangrejo Village, 34,0% is quite sufficient.

Meanwhile, Indonesia's hypertension rate in 2018, according to the Basic Health Research Results (Riskesdas), showed a figure of 34%, with the accumulation of hypertension in East Java Province reaching 36% (Kementerian Kesehatan RI, 2018). In addition, hypertension in Banyuwangi Regency was 54%, and 791 people were found affected by hypertension in Karangrejo Village (Dinas Kesehatan Banyuwangi, 2021). Many things are risk factors for hypertension. These risk factors are classified as factors that can be controlled, including obesity, stress, excessive salt consumption, lack of exercise, cigarette consumption, and alcoholic beverages. In addition, factors that cannot be controlled are heredity, gender, and age (Syahrini et al., 2012).

This empowerment to the community was held with the aim of increasing knowledge in efforts to prevent community hypertension through the role of PKK mother cadres as representatives of each neighborhood association (RT) in the village area. Therefore, efforts to prevent hypertension in Karangrejo Village can be optimally anticipated and improve the highest degree of public health. Efforts to treat hypertension diseases and complications that occur may need to be increased to reduce morbidity and mortality rates. Therefore, preventive efforts are needed, which are provided through understanding, knowledge, and managing the lifestyle of hypertensive patients. The level of public knowledge and understanding of hypertension as it relates to the disease can support the success of therapy so that the patient's blood pressure can be well controlled. Increasing knowledge is an effective first step to promote healthy living, one of which is efforts to increase knowledge through health education (Sumarni et al., 2020). Health education is one method that can be applied as a preventive effort to sharpen and recall people's memories regarding high blood pressure so that health maintenance can start from the awareness of individuals, families, groups, and the wider community (Fernanda et al., 2022). Community empowerment efforts where the community does not yet understand the contents of medical or other sciences so that it can be confusing and also clear operational information can help the community to increase their knowledge related to hypertension by using the help of teaching aids or media, pretest, and posttest.

## 2. METHOD

The design of this activity was cross-sectional. The research was conducted in Karangrejo Subdistrict, which consists of three areas, namely Kaliasin, Karanganom,

and Karanganyar, with a target age of 35-45 years who are members of the Subdistrict PKK. This activity was carried out in 2022 using data collection techniques: the distribution of pretest and posttest questionnaires. Sampling was carried out by accidental sampling with a cross-sectional design. The population found was 38 PKK mothers in Karangrejo Village, with a sample of 30 PKK mothers carried out by accidental sampling. Accidental sampling This activity was carried out in January 2022 and the data analysis was done using univariate analysis and SPSS 21. The descriptive statistics used are Mean, Median, Mode, and Percentage. This study discusses the knowledge of the people of Karangrejo Village related to hypertension prevention. Pretest and posttest questionnaires are 14 questions containing an understanding of hypertension, size of salt consumption, complications of hypertension, and how to prevent hypertension. The questionnaire scores were calculated using the total score multiplied by 100 divided by 14.

## 3. RESULT AND DISCUSSION

This community empowerment was organized to increase the target community's knowledge to prevent hypertension. This activity covered hypertension prevention counseling sessions (SHOPI/Education on Hypertension Prevention) and the administration of pretest and posttest to evaluate the outcome of the project. This activity was held at the Karangrejo Village Hall, Banyuwangi Regency. This activity was held on January 25, 2022. Parties who attended this activity included the head of Karangrejo Village, 30 mothers of PKK Karangrejo Village, the secretary of Karangrejo Village, Kertosari Health Center nurses, and midwives of Kertosari Health Center.

**Table 1 .** Age target of SHOPI empowerment

Age	Frequency	Percentage
35	10	33%
36	5	17%
37	5	17%
41	5	17%
42	5	17%
<b>Total</b>	<b>30</b>	<b>100%</b>

Broadly speaking, based on the Table 1, it can be seen that the accumulation of target ages is quite variable. The target age of SHOPI empowerment is at intervals of 35 – 42 years. The purpose of sampling in this age range is to make it easier for organizers to convey information so that it can be conveyed optimally and forwarded to each PKK mother at the neighborhood level (RT). The distribution of target ages includes 35 years as many as 10 people (33%), 36 years as many as five people (17%), 37 years as many as five people (17%), 41 years as many as five people (17%), and 42 years as many as five people (17%). In addition, empowerment targets are spread out across three areas of Karangrejo Village. The region covers the regions of Kaliasin, Karanganom, and Karanganyar. The representatives of each region are evenly divided, with 10 PKK mother delegates in each region (Table 2).

This series of SHOPI activities consists of counseling on hypertension prevention followed by a pretest and posttest (Table 3). The results of the evaluation showed improvement. The average pretest target was 52.26, and that of the posttest was 74.96. The score that often arises from the target pretest is a score of 50, while in the posttest, it is a score of 83.00. The increase in test evaluation was 22.70. Several question items are asked to the target as a measure of increasing or decreasing their knowledge. The question items include understanding hypertension, information on the size of salt consumption, complications of hypertension, and how to prevent hypertension.

**Table 2 .** Target areas and number of participants of SHOPI empowerment workshop

Region	Frequency
Kaliasin	10
Karanganom	10
Karanganyar	10
<b>Total</b>	<b>30</b>

**Table 3 .** SHOPI pretest and posttest final results scores

Statistics	Pretest	Posttest
Mean	52.26	74.96
Median	50.00	83.00
Mode	50.00	83.00

Based on Table 4, the first question item related to the definition of hypertension, the question item reads, "What do you know about hypertension?" with the answer choice, "high blood pressure/low blood pressure/high blood sugar/do not know." At the time of the pretest, the target was to accumulate answers 97% (29 people) answered correctly and 3% (1 person) answered incorrectly. Furthermore, the target posttest showed the same accumulation with a percentage of 97% (29 people) answering correctly and 3% (1 person) answering incorrectly. Knowledge did not change in the posttest because respondents already knew about systolic and diastolic, as well as other names for hypertension before there was education, and when there was a discussion carried out, it was in accordance with the information obtained before there was education.

Based on the second question item related to the size of salt consumption, the question item reads "What size of salt consumption is allowed in one day?" with the answer choice "2,500 mg/2,400 mg/2,300 mg/2,200 mg". At the

time of the pretest, the target was to accumulate answers 67% (20 people) answered correctly, and 33% (10 people) answered incorrectly. Furthermore, the target posttest showed an increase with an accumulation of 90% (27 people) answering correctly and 10% (3 people) answering incorrectly.

Based on question items related to hypertension complications that read "What are the complications of hypertension?" with answer choices "stroke/heart & kidney/brain and nervous disorders/diarrhea." At the time of the pretest, the target was to accumulate answers 97% (29 people) answered correctly and 3% (1 person) answered incorrectly. Furthermore, the target posttest showed an increase with an accumulation of answers of 80% (24 people) answered correctly and 20% (6 people) answered incorrectly. The decrease in knowledge after the posttest could be influenced by respondents needing operational information when they have to limit how much they can use it. Apart from that, in the respondents' thoughts, there could be confusion in their delivery.

Based on question items related to hypertension prevention with question items that read "How to prevent hypertension?" with answer choices "consume salt 2,500 mg per day/consume foods containing sugar/reduce the intensity of exercise/do not smoke and alcohol consumption". At the time of the pretest, the target was to accumulate answers; 43% (13 people) answered correctly, and 57% (17 people) answered incorrectly. Furthermore, the posttest results showed an increase with an accumulation of 50% (15) answered correctly and 50% (15) answered incorrectly. The increase was very small after the SHOPI education did not reach 60%. The increase was only 50% who answered correctly. An increase of 2 respondents could have occurred due to the influence of the media, methods, and resources used, so only 50% understood.

The empowerment of SHOPI is one of the ideas of counseling-based community service developed to increase the knowledge of the target community. This empowerment uses the concept of health education. The health education was carried out through lectures and interactive discussion methods that can increase information, knowledge, and understanding of targets related to hypertension prevention. Health education that was held must be able to help change the way of thinking of the target to have an interest and desire to be ready to learn, willing to learn, and have a permanent reason to learn (Putri et al., 2018). According

**Table 4 .** Pretest and posttest result SHOPI empowerment

No.	Knowledge Item	Pretest (N=30)				Posttest (N=30)			
		Correct Answer		Not Correct Answer		Correct Answer		Not Correct Answer	
		Frequency	%	Frequency	%	Frequency	%	Frequency	%
1	Definition Hypertension Question	29	97%	1	3%	29	97%	1	3%
2	Salt Consumption Size Question	20	67%	10	33%	27	90%	3	10%
3	Hypertension Complications Question	29	97%	1	3%	24	80%	6	20%
4	Hypertension Prevention Questions	13	43%	17	57%	15	50%	15	50%

to Daryanto's 2015 research, health education using visual media equipped with materials, images, colors, and writing shows success in delivering information to targets (Nurcahyani et al., 2021). The information or knowledge obtained is an impression produced in the human mind as a result of capturing the five senses (Ramadhani et al., 2020). The activities of SHOPI empowerment carried out in this group of PKK cadres include the introduction of diseases and ways to prevent the disease based on references from the Ministry of Health of the Republic of Indonesia.

In addition, based on other studies, the method of effective communication approach to the target is an effective educational approach with mutual involvement that is formed quickly and supported by visual media *PowerPoint* (Nugraha et al., 2019). Another relevant study stated that the use of visual media in hypertension counseling showed an increase in public understanding by 22% (Yulianis et al., 2020). The use of health visual media can increase the interest and attention of the target because it involves the sense of sight so that the purpose of the message to be conveyed can be optimally absorbed by the target (Jumilah et al., 2017). Research in the form of cervical cancer counseling on target shows that the presentation of images and words through colorful media can increase knowledge and strongly affect short-term memory and visual attention (Wijayanti, 2009). The overall analysis shows alignment with the empowerment of SHOPI, which uses *PowerPoint* media to display visual writing, colors, and images.

Community empowerment is a health education step that aims to create behavior change on target. Changes in people's behavior are influenced by their level of knowledge. Therefore, efforts are needed to improve this, one of which is through empowerment programs (Notoatmodjo, 2012). The empowerment held can utilize community organizations around the empowerment environment, one of which is the environmental PKK cadres. Research by Sari et al. (2018) states that the community service activities she held using the role of cadres and the elderly showed optimal results in increasing target knowledge in the operation of sphygmomanometers and measuring blood sugar, uric acid, and cholesterol as well as increasing the knowledge of cadres and the elderly in hypertension management and hypertension diet management (Sari et al., 2018). The increase in knowledge of PKK cadres also increased food safety counseling in Duri Selatan Village by 20.80% (Yusmaniar et al., 2021).

In addition, community service organized by Padjajaran University showed success in disseminating health information to families, groups, and the community in a directed and sustainable manner through the role of PKK cadres in the Jatinangor District (Rodiah et al., 2017). Another program that empowers PKK cadres is the Healthy and Safe Internet (INSAN) program, which has experienced success in increasing the knowledge of PKK cadres by 20.6% and can disseminate information to wider targets in Tembalang District (Endah et al., 2016). Hypertension health counseling was also held in Sumber

Sekar Village, Dau District, Malang Regency, by involving PKK cadres with an increase in knowledge and skills of each target related to checking blood pressure correctly (Rachmawati, 2021). Thus, the whole concept is relevant to the empowerment of SHOPI, which empowers PKK mother cadres in Karangrejo Village in its implementation. This shows success with an increase in the knowledge of PKK mother cadres by 22.7, which was measured using evaluation pretest and posttest.

Knowledge did not change in the posttest from the first knowledge item because respondents already knew about systolic, diastolic, and other names for hypertension before there was education. A discussion was carried out in accordance with the information obtained before there was education. Next, the third knowledge item is the decrease in knowledge after the posttest, which could be influenced by respondents needing operational information when they have to limit how much they can use it. Apart from that, in the respondents' thoughts, there could be confusion in their delivery. This could be due to a lack of understanding of medical complications in the language or sentences used, resulting in cognitive decline and a lack of knowledge of medical terms, which is unacceptable to village people. Media factors can also be caused by using physio-pathological language related to the storyline, such as why hypertension can cause a stroke, analogies using tools, pictures of organs, and interesting language videos. Finally, from the fourth knowledge item, when the increase was minimal after the SHOPI reduction did not reach 60%, the increase was only 50% who answered correctly. An increase of 2 respondents could occur due to the influence of the media, methods, and resources used, so only 50% understood. It can be influenced by good education, easy-to-absorb information, and reading information in print media and social media. Family history or family experience with hypertension can also be influential in triggering motivation to search for and read hypertension information. Family history makes it easier for people to understand how to prevent hypertension.

This SHOPI empowerment is a form of optimal empowerment implementation with realization concepts that are relevant to previous research. SHOPI empowerment activities carried out in this group of PKK cadres include the introduction of diseases to ways to prevent the disease based on references from the Ministry of Health of the Republic of Indonesia. Implementing the role of cadres, providing attractive visual media, and using the concepts of education and health promotion to increase community knowledge is one of the advantages of implementing this empowerment. Therefore, it can be an optimal combination of innovations in optimally increasing public knowledge.

## 4. CONCLUSION

Based on the overall analysis, it can be concluded that the implementation of SHOPI community empowerment is an innovative idea showing an increase in public knowledge. In addition, with this increase in knowledge, it is hoped that it can increase public awareness and awareness of healthy

lifestyles to prevent hypertension in their environment. The empowerment of the 30 PKK women in Karangrejo Village as community representatives showed optimal results. The increase in knowledge had an average pretest score of 52.26 and a posttest of 74.96, with an increase of 22.7. As a result, this empowerment can be used as a problem-solver to educate and prevent hypertension in the community and significantly improve public health. In addition, the empowerment program has made Karangrejo Village an independent and active role model in preventing hypertension.

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## CONFLICT OF INTERESTS

All the authors of this manuscript declare that there is no conflict of interest. All authors have proofread and approved their manuscript entitled SHOPI (*Sosialisasi Pencegahan Hipertensi*): Building Community Resilience Against Hypertension in Banyuwangi, Indonesia.

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