

## The Effect of Health Counseling on Pre-Elderly Knowledge Levels About Hypertension at RT 21 Glagahsari, Umbulharjo

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### ABSTRACT

Hypertension is a condition that causes abnormalities in blood pressure that can interfere with other organ systems and can cause other diseases such as coronary heart disease and stroke. Hypertension is caused by a disturbance in the blood vessels which results in the supply of oxygen and nutrients carried by the blood being blocked to the body's tissues that need it. Hypertension has become a major problem in public health in Indonesia and in several countries in the world. One of the efforts to improve public health is through the application of a healthy lifestyle. This will be achieved if people get correct information about health either through electronic media or through counseling methods. The purpose of this community service activity is to determine the effect of health education on the level of pre-elderly knowledge about hypertension. The design method in this activity is Pre experimental design and the design is in the form of. One group pre-test-post-test. The population in this activity is 70 families, the sample size uses a minimum sample size of 30 families as the sample with the target of this activity being pre-elderly people aged 45-59 years. In measuring the level of knowledge, pretest and posttest questions were filled in with 15 questions each. The test group was given health education through lectures using leaflets with the door to door technique (from house to house). Results: Based on the statistical test using the Wilcoxon test, it is known that the Asymp. Sig. (2-tailed) is 0.000, because  $0.000 < 0.05$ , then according to the established hypothesis, it means that the health education method given regarding hypertension in the pre-elderly has been proven to increase pre-elderly knowledge compared to before health education was conducted. Conclusion: Health education has an effect on the level of knowledge of pre-elderly.

**Keywords:** Hypertension, Health Counseling, Knowledge

### INTRODUCTION

Blood pressure is a measure of the force the heart uses to pump blood around the body. Usually divided into two, namely the pressure when the heart pushes blood out (systolic pressure) and the pressure when the heart is resting between heartbeats (diastolic pressure). Blood pressure is considered high when the systolic pressure is more than 140 mmHg and/or the diastolic pressure is more than 90 mmHg. The risk of developing high blood pressure increases with age (Siebenhofer *et al.*, 2021). People with high blood pressure (hypertension) do not experience the typical symptoms that cause loss of consciousness and do not receive regular monitoring and treatment. In addition, there is still a lack of knowledge about hypertension risk factors (Kartika and Purwaningsih, 2020).

Hypertension is a global disease with a significant increase in mortality and morbidity rates. Hypertension has become a major public health problem in Indonesia and other parts of the world. It is estimated that there will be an increase of 80 percent of hypertension cases, especially in developing countries from 639 million cases in 2000 to 1.15 billion cases in 2025 (Sinuraya *et al.*, 2018).

Based on (Risksesdas 2018 in (Dinas Kesehatan DIY, 2020)) the prevalence of hypertension is 11.01% or higher when compared to the national figure of 8.8%. This prevalence places DIY in the 4th position as a province with high hypertension cases. Hypertension has been included in the top 10 diseases that cause death in DIY for the last few years based on STP of Puskesmas and hospitals. Based on the Integrated Disease Surveillance Report in hospitals in Yogyakarta, there were 6,171 new cases of hypertension (ranap) and 33,507 (rajal). The total estimated number of hypertensive patients aged more than 15 years is 210,112 cases. In 2020, 69.6% of

the estimated number of hypertension sufferers aged over 15 years who have received health services.

The main risk factors for hypertension in Asia are unhealthy diet and lifestyle, Asians generally have a higher salt intake than Westerners. Excessive salt intake is associated with a significant increase in high blood pressure. In a preliminary study conducted (Hu HH, et al., 1992 in (Park, Kario and Wang, 2014)) in Taiwan salt intake and hypertension were found to be associated risk factors for stroke. Similarly, a study conducted (Umesawa, M, et al., 2008 in (Park, Kario and Wang, 2014) in Japan showed that a 100 mmol increase in daily sodium intake increased mortality from stroke by 83% (Park, Kario and Wang, 2014).

Pre-elderly age lifestyle, for example in physical movement (activity) has decreased (Fujikawa *et al.*, 2015). The increase in cholesterol levels in the body which is a risk factor for heart disease and stroke is caused by a lack of physical activity (Maryati, 2017). Unhealthy eating patterns such as eating fast food with high salt trigger the consequences of increasing cholesterol and developing hypertension (Purnamasari, Tahiruddin and Indriastuti, 2020).

Age, gender, genetics, obesity, smoking habits, consumption of saturated fat, salt consumption, habit of consuming caffeinated beverages, drinking alcoholic beverages, lack of exercise, and stress are risk factors that cause a person to develop hypertension (P2PTM KEMENKES RI, 2019). In addition, the lack of knowledge and attitudes related to hypertension is also a factor that affects someone affected by hypertension (Wulansari, Ichsan and Usdiana, 2013). Knowledge about hypertension can be obtained through health education, by providing health education about hypertension treatment to family members, it can provide the information needed by the family so that it can increase family knowledge in order to determine a good attitude in treating hypertension for family members (Mardhiah, Abdullah and Hermansyah, 2015). Health education has an influence on increasing one's behavioral knowledge about hypertension, it will improve a healthy lifestyle so that it can control blood pressure well (Purwati, Bidjuni and Babakal, 2014).

Based on a preliminary study that was carried out on October 22, 2021 and October 23, 2021 through in-depth interviews with the head of RT 21, the head of the PKK, and the head of the community health center at RT 21, he said that hypertension in the pre-elderly (45-59 years old) is one of the health problems. The main one is in the area of RT 21 Glagahsari, Warung Boto sub-district, Umbulharjo sub-district, Yogyakarta City. Based on the results of interviews that have been conducted, it is known that one of the causes of hypertension is due to age, unhealthy lifestyles such as many people who consume foods high in salt.

Based on the background that has been described, this service activity carried out is about the effect of health counseling on the level of pre-elderly knowledge about hypertension in RT 21 Glagahsari hamlet, Warung Boto village, Umbulharjo sub-district, Yogyakarta City. So the authors formulate that is there any effect of health education on the level of pre-elderly knowledge about hypertension in RT 21 Glagahsari, Umbulharjo?

The purpose of this service is to determine the effect of health counseling on the level of pre-elderly knowledge about hypertension in RT 21 Glagahsari, Umbulharjo.

## METHOD

This community service is carried out with a *door to door* technique (from house to house). This is because it is still during the Covid-19 pandemic, so that community restrictions are carried out so as not to cause crowds, the aim is to prevent the transmission of Covid-19. The method used in this community service activity is Pre experimental design and with a design in the form of . One group pre-test-post-test is a pre-experimental method that is carried out before being given treatment, measured first (pre-test) after which treatment is carried out and after treatment is carried out measurement (post-test) (Alimul, 2015).

The total population in RT 21 is as many as 70 families in this community service, the selection of the sample size uses a minimum size of 30 families as samples. According to (Gay, Mills, and Airasian, 2009 in (Susanti *et al.*, 2021). said that for experimental and comparative research a sample of 30 respondents is needed for each group being compared. The materials

used in health education activities are leaflets as a medium for health education, a sphygmomanometer used to measure blood pressure and a pretest and posttest question sheet used to measure the level of public knowledge before and after health education about hypertension was conducted.

## RESULTS

### 1. Characteristics of Respondents

Pre-elderly characteristics are related to hypertension health problems which can be approached with several components, one of which is age and gender. In this activity, the information stated by the respondents regarding the characteristics of age and gender, these components do not become variables that are further investigated to determine their relationship with the objectives of this activity, but their distribution becomes a factor to be considered in the discussion and conclusion.

Variable	Category	N	%
Age	45	4	13.3
	46-50	8	26.7
	51-59	18	60.0
Total		30	100.0

**Table 1.** Age of Respondents

Variabel	N	%	
Gender	L	10	33.3
	P	20	66.7
Total		30	100.0

**Table 2.** Gender of  
Tables 1 and 2

the characteristics of the age and gender categories of respondents in RT 21, Glagahsari, Umbulharjo which are in accordance with the data that has been obtained. Based on the percentage of respondents' age, it can be seen that the age range of 51-59 is the most involved in participating in the activity, while for gender, based on the large percentage of gender, it can be seen that the most women participate in participating in this activity with a percentage of 66.7%.

### 2. Blood Pressure Check

Checks on community service activities were carried out at RT 21, Glagahsari, Umbulharjo, Yogyakarta City. This aims to see the amount of blood pressure in the pre-elderly community which is useful for controlling as well as preventing or anticipating the occurrence of hypertension.

**Table 3.** Results of checking blood pressure in pre-elderly RT 21, Glagahsari, Umbulharjo

Variable	Category	N	%
Respondent's Blood Pressure	Normal	13	43.3
	Tinggi	17	56.7
Total		30	100

Based on table 3. It can be seen that many pre-elderly people in RT 21, Glagahsari, Umbulharjo still experience hypertension, which is 56.7%.

### 3. Knowledge of Respondents Before and After Counseling

The measurement of the level of knowledge of the pre-elderly community was carried out by filling out pretest questions first, then counseling with the lecture method, after completing the counseling, the respondents then filling in the posttest questions, this aims to see if there is a difference in the level of knowledge before and after

counseling. The following are the results of measuring the level of knowledge of pre-elderly about hypertension in RT 21, Glagahsari, Umbulharjo, Yogyakarta City

Based on the normality test in table 4. it can be seen that Sig (significance) is 0.001 which means the significance is below 0.05, it is stated that the pretest-posttest data values are not normally distributed. The next statistical test is using the Wilcoxon test.

**Table 4.** Normality Test Results of Respondents' Data Before and After Counseling

Data Origin	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest Score	.240	30	.000	.815	30	.000
Posttest score	.528	30	.000	.347	30	.000

a. Lilliefors Significance Correction

**Table 5.** Ranking Results According to the Wilcoxon Test

		N	Mean Rank	Sum of Ranks
Pretest Score -	Negative	0 <sup>a</sup>	.00	.00
Posttest score	Ranks			
	Positive Ranks	18 <sup>b</sup>	9.50	171.00
	Ties	12 <sup>c</sup>		
	Total	30		

a. Posttest score < Pretest score

b. Posttest Score > Pretest Score

c. Posttest Value = Pretest Score

Based on table 5, it can be seen that there are no respondents whose posttest scores are lower than the pretest scores, there are 18 respondents who have increased scores, and there are 12 respondents whose posttest scores are the same as the pretest scores or there is no increase.

**Table 6.** Wilcoxon Test Analysis

Nilai Posttest - Nilai Pretest	
Z	-3.866 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000

Based on table 6 according to the Wilcoxon method, the basis for making decisions is to compare the Asymp. Sig (2-tailed) with a critical limit of 0.05. It is known that the value of Asymp. Sig (2-tailed) is 0.000, because 0.000 < 0.05, then according to the established hypothesis, it means that the health education method provided regarding hypertension in the pre-elderly has been proven to increase the knowledge of the pre-elderly community in RT 21, Glagahsari, Umbulharjo compared to before it was carried out health education.

## DISCUSSION

This community service activity was carried out in the hamlet of Glagahsari RT 21, Umbulharjo sub-district, Yogyakarta City on November 4, 2021 to November 14, 2021. The population in this activity is 70 families, the sample size uses a minimum sample of 30 families as a sample with the target of this activity, namely pre-elderly community aged 45-59 years. The implementation of this activity provides counseling about hypertension, free blood pressure checks, distribution of leaflets about hypertension as well as measuring the level of public knowledge about hypertension through filling out the pretest and posttest by providing 15 questions each on the questionnaire sheet. This activity was carried out with a door to door technique due to the Covid-19 pandemic, in order to prevent the spread of Covid-19 while being carried out, therefore outreach activities were not possible to be carried out by gathering pre-elderly people. This outreach activity received a good response, many of which gave good responses "terimakasih Mbak, bermanfaat sekali, sudah memberikan informasi tentang hipertensi" and asked for advice regarding bad habits that can trigger hypertension.

The relationship between pretest and posttest results can be known through analysis using the Paired T-test or Wilcoxon method. Paired T-test includes parametric methods, the data group requirements are that the data that can be analyzed using this method is that the data must be normally distributed. Therefore, to be able to determine the pretest and posttest data which will then be analyzed using the Paired T-test or Wilcoxon, a normality test is carried out on them.

Normality test is needed to determine the distribution of data, in measuring the level of knowledge of pre-elderly related to hypertension using SPSS version 26 software there are two normality test methods, namely the Kolmogorov-Smirnov and Shapiro-Wilk test. The Kolmogorov-Smirnov test is a normality test method for data  $>50$ , while the Shapiro-Wilk test is used for normality tests with data  $<50$  (Mishra *et al.*, 2019). In the normality test, data from 30 families were used as a sample, then the normality test method used the Shapiro-Wilk test. The normality test is declared to be normally distributed, if the null hypothesis is more than 0.05, while the normality test is declared not normally distributed, if the alternative hypothesis is less than 0.05. Based on the normality test data that is not normally distributed, then the data is considered not to meet the requirements in parametric statistical testing, especially the Paired T-test. So that the data can be tested further, an alternative is needed, namely by using non-parametric statistical methods, in this case using the Wilcoxon test.

This community service activity is in accordance with research conducted by Setiawan *et al* in 2018 which stated that there was an increase in participants' knowledge about preventing hypertension from an early age, as evidenced by a change in the questionnaire score (Setiawan *et al.*, 2018). Based on research by Muthia *et al* in 2015, it was found that there was a significant difference between the final level of knowledge and the level of initial knowledge of respondents who received health education. Health education is an activity that can influence changes in respondent behavior, one of which is knowledge change. By being given health education, respondents get educational insights that result in a change from not knowing anything to knowing and those who previously did not understand to understanding (Muthia, Fitriangga and R.S.A, 2015). This is also in accordance with research conducted by (Jauharie, 2015) which states that there is a significant effect of health promotion with leaflet media on increasing knowledge about preterm delivery.

Health education media used in community service activities are leaflets. This is because leaflets are short publications in the form of small sheets of paper. Usually this paper leaflet contains information on something that needs to be disseminated to the general public. Leaflets function as a means of promotion, informative means and a means of identification (Jauharie, 2015). In this activity, leaflets contain information about the definition of hypertension, causes of hypertension, symptoms of hypertension, the impact of hypertension, prevention of hypertension, salt dosage for hypertension sufferers and a balanced menu for hypertension sufferers.



In this activity, counseling aims to provide insight or information about health problems, namely hypertension to the community which is useful so that people can make efforts to prevent hypertension. Information that will be obtained from counseling can have a long-term impact so that it can produce changes or increase knowledge (Widianingrum and A, 2013). Counseling must be carried out continuously with the right method. It is intended that the counseling that has been delivered to the community can be meaningful and able to change not only knowledge but also attitudes and behavior towards a healthier direction. The method used must be appropriate so that knowledge does not only stop understanding but is also applied in everyday life (Purwati, Bidjuni and Babakal, 2014).

The increasing public understanding of hypertension will encourage people to behave in a healthy manner and also in controlling blood pressure can be done regularly, so that blood pressure can be controlled, public knowledge related to hypertension also affects the compliance of people who suffer from hypertension to treatment. Along with increasing knowledge about hypertension, it is possible to manage the disease so that people who suffer from hypertension become better (Wulansari, Ichsan and Usdiana, 2013).

### **CONCLUSIONS AND RECOMMENDATIONS**

Based on the results of the implementation of community service that has been carried out in the Glagahsari hamlet, RT 21, Umbulharjo sub-district, Yogyakarta City on November 4, 2021 to November 14, 2021, it can be concluded that health education activities regarding hypertension in the pre-elderly (aged 45-59 years) using the door technique to door can run smoothly. This is evidenced by the existence of a good response or response from the pre-elderly community, this is evidenced by the results obtained, namely the pre-elderly community with an age category ranging from 51-59 who participated the most in this activity and for the gender category, women were the most participated in this activity with a percentage of 66.7%. This is also related to the willingness of the pre-elderly community in checking blood pressure for free based on the results obtained, namely the pre-elderly community in RT 21, Glagahsari, Umbulharjo still many who experience hypertension, which is 56.7%. In addition, it was also proven by the results of the pretest and posttest that there was an increase in knowledge in the pre-elderly community after health counseling was carried out.

Then for the first suggestion given to the head of RT 21 Glagahsari, Umbulharjo, it is hoped that a free routine health check program for the pre-elderly or elderly should be held at least once a month, especially related to hypertension health problems that still occur in the community. The second is given to the entire community of RT 21 Glagahsari, Umbulharjo, you should do regular health checks, especially regarding hypertension and you should do prevention or anticipation so you don't get hypertension.

### **ACKNOWLEDGMENTS**

We thank God for the presence of Allah Subhanahu Wa Ta'ala, for the facilities provided so that this Community Service can run smoothly. This community service can be carried out well with the support of (1) Dean of the Public Health Study Program at Ahmad Dahlan University (2) Supervisor for Institutional Health Promotion Course (3) Head of RT 21 Glagahsari, Umbulharjo, Yogyakarta (4) Head of PKK Glagahsari, Umbulharjo, Yogyakarta (5) Head of Posyandu Glagahsari, Umbulharjo, Yogyakarta (6) All Communities in RT 21 Glagahsari, Umbulharjo, Yogyakarta who have participated (7) Undergraduate Public Health students, especially those with PKIP specialization. May Allah Subhanahu Wa Ta'ala reward you with the kindness you deserve. Amen.

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## APPENDIX



Figure 1. Leaflet media used in counseling at RT 21 Glagahsari, Umbulharjo



Figure 2. Health education by distributing questionnaire sheets that are used to measure the level of knowledge of the pre-elderly community



Figure 3. check blood pressure with a sphygmomanometer





**Figure 4.** leaflet distribution