

EDUCATION ON HYPERTENSION PREVENTION IN THE ELDERLY

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Doi: <https://doi.org/10.33024/jkpm.v6i10.12137>**ABSTRACT**

Elderly people generally experience various kinds of changes that have an impact on the incidence of hypertension. Hypertension is still a disease that dominates the elderly and is a major risk factor for cardiovascular disease, stroke and kidney failure. A more common cause related to hypertension is the lack of knowledge of the elderly themselves about hypertension. The aim of this community service is to provide education on preventing hypertension in the elderly. The community service theme was Education on Handling Hypertension in the Elderly which was held on December 23 2022 at the WCS Mental Revolution House and was attended by 32 elderly people. The activity was carried out by delivering hypertension prevention material using leaflets and powerpoints, followed by discussions and questions and answers. From the results of an assessment of elderly people's knowledge about treating hypertension before being given education (pretest), most of them were poor, 10 people (31.3%). After being given education using leaflets and power points (posttest), the level of knowledge of the elderly regarding hypertension management was mostly good, 18 people (56.3%). The results of the Marginal Homogeneity Test analysis obtained a value of 0.005, indicating that there is an influence of education on hypertension management on the knowledge of the elderly. Providing education using leaflets and powerpoint media can increase the knowledge of the elderly

Keywords : Health Education, Hypertension, Elderly

1. INTRODUCTION

Hypertension is the morbidity that most dominates the elderly and can be a complication of kidney failure, stroke, and even cardiovascular disease (Smeltzer, 2017). This occurs when the arterioles are experiencing vasoconstriction. Blood flow is hampered by artery vasoconstriction, which also raises pressure on the artery walls. If left untreated, hypertension damages the heart and blood vessels by increasing the strain on the heart and arteries. (Alley WD & Schick, 2022; Shao et al., 2018).

The number of people with hypertension in the world in 2021 will reach 1.28 million, ranging from people aged 30-79 years of the total world population (World Health Organization, 2021). In the United States, the increase in hypertension will be in line with the occurrence of various kinds of complications (Desta et al., 2020). In 2016, the European Union was also the highest contributor to elderly hypertension cases, with 5.4% of the total population and details of 27.3 million cases aged 80 years and over,

compared to only 4.6% of the total population and details of 20 million cases in 2006 (Benetos et al., 2019). In Shanghai, the rate of hypertension in elderly people over 60 years old reached 59.4% of cases (Yang et al., 2017). In Indonesia, the incidence of hypertension is highest at ages 55-64 years (55.2%), 65-74 years (63.2%), and >75 years (69.5%) (Kementerian Kesehatan Republik Indonesia, 2018).

A more common cause of hypertension is a lack of knowledge among the elderly themselves, such as non-compliance with treatment, ignorance related to lifestyle, and ignorance related to the concept of disease, which causes the worsening of hypertension. This is a concern for health workers to provide health education so that hypertension does not develop into more severe disease complications (Paini et al., 2018; Watson et al., 2018).

Many older people are unaware of the factors that contribute to hypertensive, which can result from bad lifestyle choices and increase hypertension. This may raise the elderly's chance of developing hypertensive crises as well as their mortality risk. The elderly should receive early education since it will enhance their quality of life and lower their risk of passing away. Therefore, discovering and disseminating pertinent information to deal with hypertension in the elderly must be a concern for health professionals (Butarbutar et al., 2021; Situngkir et al., 2019).

The purpose of this community service is to determine the effect of health education to prevent hypertension on the knowledge of the elderly in preventing hypertension in the elderly

2. PROBLEMS AND QUESTIONS

Many elderly people have hypertension. The most common causes related to hypertension in the elderly are lack of knowledge, which results in non-compliance with treatment, ignorance related to disease, and even ignorance related to healthy lifestyles, which will have an impact on increasing and even worsening hypertension. The formulation of the question in this community service is

1. Can education on prevention of hypertension in the elderly increase knowledge of the elderly regarding prevention of hypertension ?

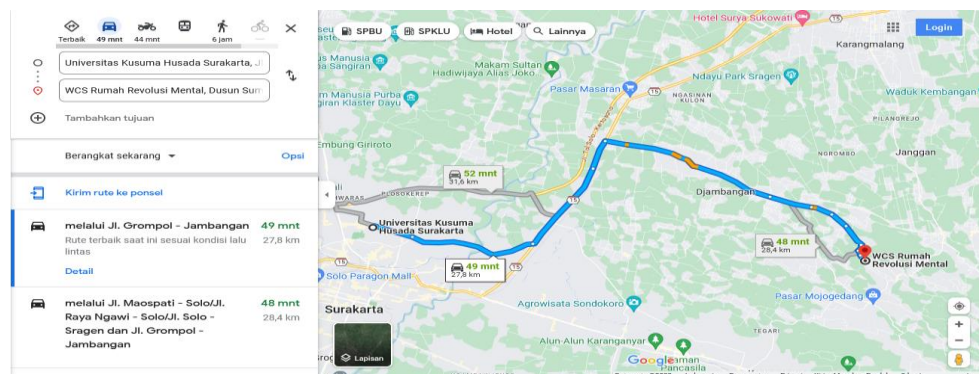


Figure 1. Location of Community Service

3. LITERATURE REVIEW

Hypertension in the elderly occurs due to changes in the function of the blood vessel system. Changes such as atherosclerosis can cause a loss of elasticity in blood vessel connective tissue, reduce the ability to relax smooth muscles, and result in impaired distension and stretchability of blood vessels. As a consequence, the aorta and large arteries experience disruption in the heart's blood pumping mechanism (stroke volume), resulting in a decrease in cardiac output and an increase in peripheral resistance (Grillo et al., 2019; Smeltzer, 2017).

The sympathetic nervous system constricts blood vessels in response to emotional stimuli, and the adrenal glands will likewise constrict blood vessels in response to this stimulation. Epinephrine is secreted by the adrenal medulla and produces vasoconstriction. Cortisol and other steroids that can enhance the blood vessels' vasoconstrictor response are secreted by the adrenal cortex. Renin is released as a result of vasoconstriction, which reduces blood flow to the kidneys. Renin induces the production of angiotensin I, which is subsequently transformed into a potent vasoconstrictor known as angiotensin II, which in turn enhances the adrenal cortex's secretion of the hormone aldosterone. The renal tubules experience sodium and water retention as a result of this hormone, which also increases intravascular volume. These all frequently lead to hypertension (Smeltzer, 2017; Turana et al., 2021).

Some of these things are actually closely related to the risk factors that exist for the elderly. Risk factors, which include smoking, not exercising, and unhealthy lifestyles, will worsen the incidence of hypertension. However, a more common cause related to hypertension is a lack of knowledge among the elderly themselves, such as non-compliance with treatment, ignorance related to lifestyle, and ignorance related to the concept of disease, which causes the worsening of hypertension. This is a concern for health workers to provide health education so that hypertension does not develop into a hypertensive crisis (Paini et al., 2018; Watson et al., 2018).

Community service by Kusuma et al. (2020), where health education using leaflets and power points covers risk factors for hypertension, non-pharmacological treatment of hypertension, complications that can be caused by hypertension, and increasing awareness of the importance of taking hypertension medication regularly, can increase the elderly's new understanding regarding the management of hypertension. In line with research by Ramadhini et al. (2021) and Machaalani et al. (2022), where there is an effect of health education on increasing the knowledge of hypertension sufferers regarding hypertension management. Lack of knowledge will influence elderly people with hypertension to be able to overcome recurrence or take precautions so that complications do not occur, so knowledge and attitudes about hypertension are very important things to have in order to be able to overcome hypertension itself (Machaalani et al., 2022).

4. METHODS

The theme of community service is Education on Handling Hypertension in the Elderly, which will be held on December 23, 2022, at the WCS Mental Revolution House. The total population for this activity is all the elderly people who take part in the Posyandu program. The subjects who took part in this activity were 32 elderly people who were active in elderly posyandu activities. The activity was carried out by delivering hypertension prevention material using leaflets and PowerPoints, followed by discussions and questions and answers. This aims to increase the knowledge of the elderly and also encourage them to discuss their hypertension complaints.

The community service steps that have been carried out include several stages.

a. Preparation of proposal and application for permits

This activity begins with preparing a proposal for community service for the head of the nursing diploma study program and, after approval, proposing a permit letter to the dean of the health sciences faculty at Kusuma Husada University. After that, the proposal for community service will be reviewed to see if it is appropriate and will receive a recommendation to the Institute for Research and Community Service, Kusuma Husada University.

b. Internal coordination meeting

Phase 1 team internal coordination meeting in the second week of December 2022 to discuss implementation strategy, convey information about program objectives and benefits, and time contract for program implementation

c. Implementation of community service

On December 23, 2022, health education carried out community service activities regarding the prevention of hypertension in the elderly using pre- and post-education methods. Before the counseling activity was carried out, the team carried out blood pressure measurement activities and assessed the knowledge of the elderly before giving them counseling. After that, the elderly will be placed in a prepared room and given counseling, after which a knowledge measurement (post) will be carried out.

d. Monitoring and evaluation

The monitoring and evaluation process was carried out with the aim of finding out the knowledge of families and the elderly about preventing hypertension.

5. RESULTS AND DISCUSSION

a. Results

Community service is carried out at the WCS Mental Revolution House located in Sumber Bulu Hamlet, Pendem Village, Kec. Mojogedang, Karanganyar, Sumberbulu, Pendem, Kec. Mojogedang, Karanganyar agency, Central Java. Activity. The WCS Mental Revolution House has a large enough room and yard to allow for direct education. The elderly Posyandu at the WCS location had 12 cadres and 32 elderly participants who attended.

A community service with the theme "Education for Handling Hypertension in the Elderly" was held on December 23, 2022, and was attended by 32 elderly people. The activity began with checking vital

signs for blood pressure in the elderly and continued with identifying the pre-test knowledge of the elderly regarding hypertension management. After that, the team provided health education related to the introduction and treatment of hypertension.

At the point of treating hypertension, the team emphasized changing lifestyles with a salt diet (no more than ½ teaspoon of salt per day) and losing weight if you are overweight in accordance with the recommendations of the Ministry of Health with a normal body mass index (BMI) value of 18.5-22.9. Then you must consume fruit and vegetables (unless there are complications with the kidneys), stop smoking, do regular exercise (30 minutes 3-5 days a week), and regularly take antihypertensive medication. Community service activities run smoothly, and the elderly are very active during the activities.

Based on the results of a study of the demographic data of 32 elderly people at the Mental Revolution House WCS, most of them were women, numbering 27 people (84.4%), and men, numbering 5 people (15.6%). From the results of the study, it was also found that the elderly's knowledge regarding hypertension management before being given education (pretest) showed that the level of knowledge was not good at 2 people (6.3%), poor at 10 people (31.3%), quite good at 10 people (31.3%), and both at 10 people (31.3%). After being given education using leaflets and power points (posttest), the knowledge level of the elderly regarding hypertension management was found to be 2 people (6.3%) who had poor knowledge, 6 people (18.8%) who had poor knowledge, and 6 people (18.8%) who had a good level of knowledge (6. 18.8%), both 18 people (56.3%). The results of the Marginal Homogeneity Test analysis showed a p value of 0.005, This indicates that hypertension prevention education in the elderly can increase the elderly's knowledge regarding hypertension prevention

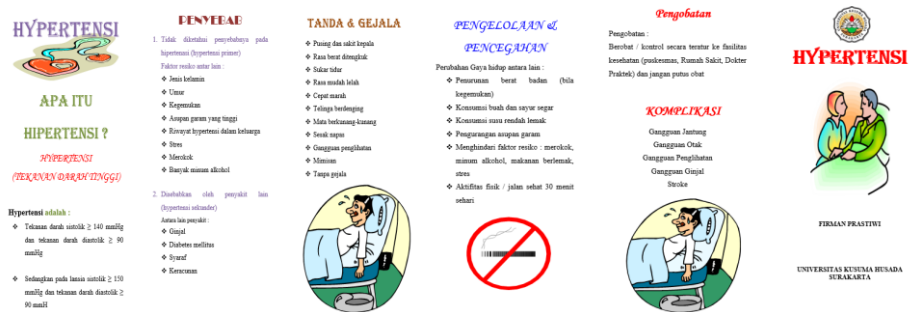


Figure 2. Leaflet for Prevention of Hypertension in the Elderly

b. Discussion

Of the 32 elderly people who took part in community service activities, the majority were women, totaling 27 people (84.4%). The findings are in line with Butarbutar et al. (2021), who found that women have a higher risk of developing hypertension, which is associated with changes in the hormone estrogen after menopause (Ibekwe, 2015). The role of the hormone estrogen is to increase HDL levels, which are a protective factor in the process of hardening of the blood vessels. If the production of estrogen hormone levels is disturbed, it cannot protect blood vessels from damage (Price & Wilson, 2013; Yang et al., 2017).

The results of the study, it was also found that the knowledge of the elderly related to handling hypertension before being given education (pretest) was the highest: not good for 10 people (31.3%), quite good for 10 people (31.3%), and good for 10 people (31.3%). After being given education using leaflets and power point media (posttest), the level of knowledge of the elderly related to the treatment of hypertension was mostly good, 18 people (56.3%). The results of the Marginal Homogeneity Test analysis obtained a p value of 0.005, which means that there is an effect of providing education on hypertension management on the knowledge of the elderly.

Community service is similar to that carried out by Kusuma et al. (2020), where health education using leaflets and power points covering risk factors for hypertension, non-pharmacological treatment of hypertension, complications that can be caused by hypertension, and increasing awareness of the importance of taking hypertension medication regularly can increase the elderly's new understanding regarding the management of hypertension. In line with research by Ramadhini et al. (2021) and Machaalani et al. (2022), there is an influence of health education on increasing knowledge of hypertension sufferers regarding hypertension management. Lack of knowledge will influence elderly people with hypertension to be able to overcome recurrence or take precautions so that complications do not occur, so knowledge and attitudes about hypertension are very important things to have in order to be able to overcome hypertension itself (Bantas & Gayatri, 2019; Machaalani et al., 2022).

Health education that can be given to prehypertension and hypertension sufferers leads to lifestyle modifications such as losing weight if you are overweight by keeping it within the body mass index (BMI) range, namely 18.5-24.9; adopting a diet rich in fruit, vegetables, and low-fat dairy products; reducing salt consumption to no more than 100 meq/L (around ½ teaspoon); do regular physical activity such as walking 30 minutes a day; and limiting alcohol consumption. Apart from that, patients are also advised to stop smoking and always take antihypertensive medication as recommended (Gamage & Seneviratne, 2021; Grillo et al., 2019; Price & Wilson, 2013; Santana et al., 2018).

6. CONCLUSION

Community service with health counseling methods for preventing hypertension in the elderly using leaflets and PowerPoint media is effective in increasing the knowledge of the elderly. It is hoped that the elderly, after community service, can prevent and treat hypertension in accordance with what was learned during community service. Elderly people who already know the risk factors can minimize it with prevention efforts by eating low-salt foods and increasing their consumption of fiber from fruit and vegetables. Next, it is hoped that future service executors can provide activities in the form of interventions and simulations that can be directly applied by the elderly. Interventions and simulations can be adjusted based on the latest research, and it is recommended that seniors carry them out according to their tolerance.

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