

Education on non-communicable disease (hypertension) for the elderly in banaran hamlet

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Abstract

Non-communicable diseases (NCDs), including hypertension, pose a serious health challenge due to their increasing prevalence, particularly among the elderly. Health education is an effective way to reduce the risk of NCDs through healthy lifestyle changes. This community service program aims to raise public awareness of the importance of a healthy lifestyle and reduce unhealthy food consumption. The community service method begins with blood pressure checks in the community in Banaran Hamlet, Playen, Gunungkidul, followed by a pre-test to determine the level of community knowledge, an educational process, and a post-test to measure the absorption of knowledge. The community service results show that most respondents have high blood pressure, and their understanding has improved after being educated. Increasing community knowledge about hypertension is expected to raise public awareness of the disease.

Keywords: elderly, health education, hypertension, non-communicable diseases (NCDs)

1. Introduction

Non-communicable diseases (NCDs) are a leading cause of morbidity and mortality worldwide. According to the WHO, by 2025, approximately 1.28 billion people worldwide aged 30–79 years will suffer from hypertension, and 46% will be unaware of their condition. Hypertension, or high blood pressure, is known as a silent killer because it often causes no symptoms, but can lead to serious complications such as stroke, heart failure, and chronic kidney disease if left uncontrolled.

In Indonesia, the prevalence of hypertension continues to increase. Data from the 2018 Basic Health Research (Riskesdas) showed a hypertension prevalence rate of 34.1%, with the highest prevalence among the elderly (Ministry of Health, 2019). This is due to the aging process, which can reduce blood vessel elasticity, and unhealthy lifestyle risk factors such as high-salt diets, lack of physical activity, obesity, smoking, and stress.

Hypertension in the elderly places a significant burden on individuals, families, and the healthcare system because it is associated with increased morbidity, disability, and mortality. Therefore, hypertension prevention and control efforts are carried out through promotive interventions.

Hypertension prevention and control can be achieved through health promotion efforts, including providing health education. Education is crucial in increasing knowledge, fostering positive attitudes, and raising public awareness of the importance of adopting a healthy lifestyle, such as limiting unhealthy food consumption, exercising regularly, and having regular blood pressure checks.

Based on this background, this community service was carried out to find out the condition of the community's blood pressure, especially in the elderly group, while also providing health education as a preventive measure against hypertension in Banaran Hamlet, Playen, Playen, Gunungkidul..

2. Method

2.1. Problem-Solving Framework

Educational activities on Non-Communicable Diseases (NCDs), specifically hypertension, were held on Sunday, August 24, 2025, from 1:00 PM to 3:00 PM WIB. This activity was conducted for older people in conjunction with the PKK (Pemberdayaan Kesejahteraan Keluarga) meeting. The activities included registration, a pre-test, a health check (blood pressure, weight, height, and waist circumference), health education on hypertension, and a post-test. The educational material covered the definition, symptoms, prevention, and management of hypertension. Education was provided using leaflets. The number of respondents was 22 people.

2.2. Implementation Flow

- a. Registration and pre-test.
- b. Measuring weight, height, and waist circumference.
- c. Blood pressure checks and recording results.
Blood pressure check using a tensiometer
- d. Providing health education regarding the examination and non-communicable diseases (NCDs)
Educate participants about hypertension through leaflets
- e. Post-test

3. Results and Discussion

The education program was delivered directly using leaflets and was attended by 22 participants. The hypertension education activity for the elderly (Figure 1) was held on August 24, 2025, from 1:00 PM to 3:00 PM at the Banaran Hamlet Hall.



Figure 1. Hypertension education activities for the elderly

3.1. Health Examination Result

Hypertension can increase the risk of heart disease, stroke, and other health problems (Widimský, 2016). Hypertension is a condition or state where a person's blood pressure exceeds the normal threshold, namely, >140 mmHg for systolic and >90 mmHg for diastolic. More than 10 participants had systolic and diastolic blood pressure above normal, which indicates hypertension.

Overweight and obesity contribute to hypertension. A BMI over 30 increases the risk of hypertension (Jiang et al, 2016). Participants had an average BMI of 25-30, with a higher BMI increasing the risk of hypertension. Meanwhile, all participants were women for waist circumference, with an average waist circumference of over 80 cm. A normal waist circumference for women is a maximum of 80 cm.

3.2. Education media

Education is carried out through explanations to participants via leaflets, Figure 2.



Figure 2. Content of leaflet

The leaflets distributed to participants explained hypertension, its symptoms, its causes, dietary recommendations for those with hypertension, its complications, how to manage it, and how to prevent it. Hopefully, these explanations and leaflets will increase participants' knowledge and awareness of hypertension.

3.3. Pre-test and Post - test

The pre-test was intended to determine the baseline knowledge of the education participants. Questions in the questionnaire covered knowledge about hypertension, its causes, complications, and steps to take if diagnosed. The pre-test results are presented in Table 1, with a correct answer rate of 14%. This indicates that the education participants' knowledge of hypertension remains low.

Table 1. Pre-Test and Post-Test Questionnaire Analysis Results

Question	Pre-test		Post-test	
	Correct	Wrong	Correct	Wrong
What is meant by hypertension?	14%	86%	41%	59%
The following factors can cause hypertension, except...	91%	9%	100%	0%
Uncontrolled hypertension can cause the following complications, except...	91%	9%	91%	9%
The right diet for elderly people with hypertension is...	64%	36%	95%	5%
What are the best steps to take if someone is diagnosed with hypertension?	86%	14%	95%	5%
If the elderly do not comply with taking their hypertension medication, the risks that could occur are...	82%	18%	86%	14%
If someone is diagnosed with hypertension, what is the best step to take?	91%	9%	100%	0%
Why do seniors need to limit high-fat foods?	82%	18%	86%	14%

One indicator of the activity's success can be seen from the post-test results in Table 1, correct answers on the post-test increased compared to the pre-test. This indicates an increase in participants' knowledge.

4. Conclusion

Hypertension education activities were provided to the elderly in Banaran Hamlet based on the residents' needs, as data shows that many elderly residents suffer from hypertension. The education offered increased participants' knowledge based on pre- and post-test results. This knowledge is expected to increase participants' awareness of hypertension.

5. Acknowledge

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