



THE EFFECT OF HEALTH EDUCATION WITH AUDIO VISUAL MEDIA ON OLDER ADULTS KNOWLEDGE ABOUT HYPERTENSION

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ABSTRACT

Introduction: Along with the increase of older adults' population in Indonesia, the health problems experienced by the older adults also increase. Hypertension is one of the most common cardiovascular diseases suffered by older adults. Health education is essentially important to increase the awareness of older adults about hypertension. The health education requires media that can be understood and accepted by older adults who may experience physical and cognitive function decline.

Method: This study used a pre-experimental method with one group pre-posttest design. A total of 19 older adults met the sample criteria and participated in this study. The instrument used in this research was a questionnaire that has been through expert tests, validity test and reliability tests. Wilcoxon signed rank test was used to determine the significance of the difference between the pretest and posttest scores of the respondents' knowledge about hypertension.

Results: The median of respondents' knowledge before health education was 6 with a range of 0-26. While after being given health education, the median score was 22 with a range of 6-24. There was a significant difference between the pretest and posttest scores. The knowledge of respondents after being given health education seemed to increase, both in terms of gender and age.

Conclusion: Health education using audio-visual media can significantly increase the knowledge of the older adults about hypertension in all gender and age categories.

Keywords: *health education; hypertension; media; older adults*

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INTRODUCTION

Population aging is a global challenge in both developed and developing countries. However, the rate of population aging in developed countries is slower than in developing countries (Chang et al., 2019). As a developing country, Indonesia is experiencing a fairly rapid increase in the older adults' population. The increase in the number of

older adults in Indonesia started from 18 million people (7.56%) in 2010 to 25.9 million people (9.7%) in 2019 and is expected to increase to 48.2 million people (15.77%) in 2035 (U. N. F. P. A. Indonesia, 2014).

Along with the increase of older adults' population in Indonesia, the health problems experienced by the older adults also increase (Juanita, et al., 2022).

Hypertension is one of the most common cardiovascular diseases and the most common in the older adults (Ministry of Health Republic of Indonesia, 2019). Most people with hypertension do not know that they are hypertensive, so they do not get treatment (Ministry of Health Republic of Indonesia, 2019). Therefore, hypertension is known as the silent killer.

In order for the older adults to have awareness and concern about health, especially awareness about hypertension and have good health behavior, health workers need to increase the knowledge of the older adults about hypertension. This effort can be done by providing health education to the older adults (Warjiman et.al 2020). Health education is essentially a very important thing, helping the older adults to take a wise attitude towards health and quality of life (Rahmatika et.al 2017).

In conducting health education for the older adults, it is necessary to consider the decline in physical and cognitive functions in the older adults, thus requiring a health education media that can be understood and accepted (Ulya et.al 2017). Audio-visual media is an educational media that contains elements of sound and images in accordance with the counseling material. This study aims to investigate whether the use of audio-visual media about hypertension can increase the knowledge of the older adults about hypertension.

METHOD

This study used a pre-experimental method with one group pre-posttest design by providing an intervention in the form of health education using audio-visual media in the older adults group with hypertension which can be access at <https://youtu.be/VGA4enmEP2c>. The population in

this study were all older adults in Copol Hamlet, Pesantren Village, Pemalang Regency, who suffered from hypertension, a total of 25 people. The sample in this study was obtained using a total sampling technique. Sample inclusion criteria were older adults (aged 60 years and over), suffering from hypertension (systolic blood pressure \geq 140 mmHg and/or diastolic blood pressure \geq 90 mmHg), and willing to be respondents. The exclusion criteria were the older adults who had visual and hearing impairments, and did not follow the complete intervention. A total of 19 older adults met the sample criteria and participated in this study.

The independent variable in this study is health education using audio-visual media and the dependent variable is the level of knowledge of the older adults about hypertension. The instrument used in this research was a questionnaire that has been through expert tests, validity and reliability tests. Validity and reliability tests were conducted on 30 older adults people in Sidokare Village, Ampelgading District, Pemalang Regency. The Pearson Product Moment test resulted that from a total of 19 items tested there were 13 valid items with an r value of < 0.05 (table 1). The Cronbach alpha value in the reliability test is 0.707 which states that the questionnaire is reliable.

Analysis of research data was carried out using the Wilcoxon signed rank test to determine the significance of the difference between the pretest and posttest scores in the respondent group. This study received a recommendation for ethical feasibility from the IRB of Pekalongan University No.53/B.02.01/KEPK/IV/2022 dated April 20, 2022.

Table 1. Research Questionnaire Validity Test (n=30)

No	Questions	r
1.	<i>The older a person is, the blood pressure will increase.</i>	0,003
2.	<i>Hypertension is a hereditary disease.</i>	0,010
3.	<i>Doing a healthy lifestyle can prevent hypertension.</i>	0,000
4.	<i>Consuming foods that are high in cholesterol can cause hypertension.</i>	0,001
5.	<i>Consuming excess salt can cause high blood pressure.</i>	0,046
6.	<i>Consuming sugary foods or drinks does not cause hypertension.</i>	0,000
7.	<i>Being overweight or obese can lead to hypertension.</i>	0,001
8.	<i>Smoking and drinking alcohol can cause hypertension.</i>	0,000
9.	<i>Consuming coffee in excess can cause hypertension.</i>	0,026
10.	<i>Stress can cause hypertension</i>	0,004
11.	<i>Lack of physical activity can cause hypertension</i>	0,000
12.	<i>Dizziness is a symptom of hypertension</i>	0,126
13.	<i>Hypertension can lead to stroke, kidney failure, and heart failure.</i>	0,0159

RESULTS

Table 2. Sample Characteristics (n=19)

Variables	Frequency/ Median (Range)
Gender	
Men	3 (15.8%)
Women	16 (84.2%)
Age	
Elderly (60-74 years)	10 (52.6%)
Old (75-89 years)	6 (31.6%)
Very Old (> 90 years)	3 (15.8%)
Level of Education	
No school	17 (89.5%)
Did not pass elementary school	1 (5.3%)
Elementary school	1 (5.3%)
Blood pressure	
Sistolic	140 (120-200)
Diastolic	90 (80-100)

The characteristics of the sample in this study are illustrated by table 2. The research respondents were 19 people consisting of 3 men (15.8%) and 16 women (84.2%). The majority of respondents are in the elderly age category (60-74 years) and have no school history. The median systolic blood pressure of respondents was 140 mmHg with a range of 120-200 mmHg, while the median diastolic blood pressure was 90 mmHg with a range of 80-100 mmHg.

Table 3. The knowledge of respondents before being given health education (n=19)

Variables	Knowledge Scores Median (range)
Gender	
Men	18 (0-26)
Women	5 (0-24)
Age	
Elderly	11 (0-26)
Old	2 (0-24)
Very Old	10 (2-12)
Pre test	6 (0-26)

Table 3 shows that the median of respondents' knowledge before being given health education was 6 with a range of 0-26. Table 3 also shows that the knowledge of men tends to be higher than that of women, while in terms of age, the elderly category has the lowest level of knowledge compared to the elderly and very old categories.

Table 4. The knowledge of respondents after being given health education (n=19)

Variables	Knowledge Scores Median (range)
Gender	
Men	22 (0)
Women	19 (6-24)
Age	
Elderly	22 (6-24)
Young Old	16 (10-24)
Old	24 (20-24)
Post test	22 (6-24)

Table 4 shows the median of respondents' knowledge after being given health education was 22 with a range of 6-24. Table 4 also shows that the knowledge of respondents after being given health education seemed to increase in all the elderly, both in terms of gender and age.

Table 5. The effect of health education with audio-visual media on the knowledge of older adults (n=19)

Variables	Median (Range)	p-value
Pre test	6 (0-26)	0.01
Post test	22 (6-24)	

Table 5 shows a significant difference between the pretest and posttest scores.

Table 6. Comparison of Pretest-Posttest Scores of Each Questionnaire Item (n=19)

Item	Percentage of correct answers (%)		p-value
	Pre test	Post test	
1	6 (31.6%)	12 (63.2 %)	0.058
2	4 (21.1 %)	9 (47.4 %)	0.059
3	9 (47.4 %)	18 (94.7 %)	0,007
4	7 (36.8 %)	15 (78.9 %)	0.011
5	9 (47.4 %)	15 (78.9%)	0.058
6	6 (31.6%)	9 (47.4 %)	0.366
7	6 (31.6 %)	10 (52.6%)	0.206
8	5 (26.3 %)	13 (68.4 %)	0.005
9	8 (42.1 %)	14 (73.7 %)	0.034
10	11 (57.9 %)	17 (89.5 %)	0.034
11	2 (10.5 %)	16 (84.2 %)	0.000
12	6 (31.6 %)	17 (89.5 %)	0.002
13	5 (26.3 %)	16 (84.2 %)	0.001

In table 6, it can be seen that health education with audio-visual media significantly increased the knowledge of the older adults on questionnaire items number 3, 4, 8, 9, 10, 11, 12, and 13. However, all questionnaire items showed an increase percentage of correct answers. Thus, it can be concluded that health education using audio-visual media can significantly increase the knowledge of the older adults about hypertension.

DISCUSSION

This study aimed to determine the effect of health education using audio-visual media in increasing the knowledge of the older adults about hypertension. In this study, respondents had a low level of knowledge about hypertension before being given health education. The results of the pretest showed that based on gender, males tend to have a higher level of knowledge than women. The level of knowledge of the older adults can also be influenced whether or not they are often at home, if the older adult is often at home and rarely meet other people, it will cause low absorption of information about hypertension. Another study states that there is a relationship between occupation and the ability to manage hypertension. A person's occupation is related to the information received, so that someone who works outside the home has better health information than at home (Dewi, 2016). Based on age, the elderly category has a lower level of knowledge compared to the elderly and very old categories. Elderly category may have access to better information media, while older adults who reach very old age may have a more natural lifestyle in accordance with generational culture so that they have a healthier lifestyle.

The results of this study indicate that the knowledge of the older adults after being given health education with audio-visual media has increased significantly. Previous research by Luthfiani et al (2021) states that there is effectiveness of health education using video to improve the knowledge about hypertension among pre-elderly. The results of the present study are in line with Nurmayunita's research (2019) which states that there is a significant effect of health education with audio-visual media on knowledge of controlling hypertension in the older adults population. In health education, audio-visual media can maximize the provision of information because it has more effect. This media involves two senses, the sense of sight and the sense of hearing, which can provide information related to health education for people with hypertension.

To realize good knowledge, someone is stimulated with health education. Dian (2019) stated that audio-visual media is one of the good learning media, because it is able to optimize the stimulation of the five senses to the brain. Approximately 75-85% of human knowledge is obtained and channeled through the eyes and ears, while the other 13-25% is obtained through the other five senses (Dian, 2019). Another study by Firdaus (2016) showed that audio-visual media can increase knowledge because it involves

imagination and increases learning motivation. Thus, audio-visual media can be categorized as the appropriate health education media for older adults.

CONCLUSION

The knowledge of the older adults about hypertension was still low before being given health education. Health education using audio-visual media can significantly increase the knowledge of the older adults about hypertension in all age and gender categories.

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