7'TH INTERNATIONAL CONFERENCE
ON HEALTH PRACTISE AND RESEARCH
"Transforming Healtcare with Technology for Better Quality of Life""
Journal homepage: https://ojs.universitastelogorejo.ac.id/index.php/ichpr

Effects of Audio Visual Prevents Hypertension Emergency on Knowledge of Hypertension Patients

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ARTICLE INFO

Article history:
Received 09 December 2025
Accepted 12 December 2025

Keywords:
Audio Visual; Knowledge, Hypertension Emergency

ABSTRACT

A hypertensive emergency is a condition where there is a sudden increase in blood pressure (systole 180 mmHg and diastole ≥ 120 mmHg). Lack of knowledge about hypertension can also influence the occurrence of complications if preventive measures are not taken immediately. Audiovisual media is one of the media that can be used to provide knowledge about hypertension. This study aims to determine the effect of Audio Visual Prevent Hypertension Emergency on the knowledge of hypertension patients. This research uses a quasy experimental design method using a pretest-posttest control group type of research. This study's population comprised all hypertensive patients who underwent examinations at the Kerobokan Community Health Center. The number of samples in the study was 68 respondents, who were divided into two groups, namely 34 for the intervention group and 34 for the control group, with a sampling technique using a non-probability sampling method using purposive sampling. The Wilcoxon test results for knowledge before and after being given the intervention obtained a p-value of 0.000 (<0.05), while the control group obtained a p-value of 0.001 (<0.05). It can be concluded that there is an influence of Audio Visual Prevent Hypertension Emergency on the knowledge of hypertensive patients.

INTRODUCTION

Hypertension, or high blood pressure, is a chronic condition when blood pressure on the walls of the arteries (clean blood vessels) increases. This condition is known as a "silent killer" because it rarely has noticeable symptoms. Measuring blood pressure is the only way to know whether someone has hypertension (Anies, 2018). Heart and blood vessel disease, including hypertension, has become a disease that has killed many people in developed and developing countries over the last eight decades. Hypertension is a circulatory system disorder that causes an increase in blood pressure above average, which exceeds 140/90 mmHg (Triyanto, 2014).

In 2018, around 1.13 billion people worldwide suffered from hypertension, meaning that 1 in 3 people worldwide were diagnosed with hypertension, but only 36.8 took medication. The number of people suffering from hypertension continues to increase yearly; it is estimated that by 2025, there will be 1.5 billion people affected by hypertension. Every year, it is estimated that 9.4 million people die from hypertension and its complications (WHO, 2018). The prevalence of hypertension based on measurement results in residents aged ≥ 18 years in Central Java province was 37.57%. This figure was obtained from a doctor's diagnosis measurement of 12.90% of patients taking medication and as much as 8.61% of drug diagnosis measurements. The average hypertension sufferer in Central Java is 35–44 years old (Central Java Health Office, 2018). Based on health data for Semarang in 2021, hypertension was ranked first in the top ten cases in the Semarang City Health Center (Semarang City Health Office, 2021).

Approximately 1–2% of chronic hypertension sufferers experience hypertensive emergencies. Hypertensive emergency is a condition with a sudden increase in blood pressure (systole 180 mmHg and diastole ≥ 120 mmHg) in people with hypertension. An emergency requires immediate treatment. If very high blood pressure occurs, it can cause abnormalities or damage to target organs, such as damage to the brain, retina of the eye, heart, kidneys, and blood vessels, which can cause various disease complications (Nita et al., 2020).

Hypertensive emergencies can occur in various clinical settings but generally occur in patients with chronic hypertension (who often do not take anti-hypertensive medication or have uncontrolled hypertension), with blood pressure usually above 180/120 mmHg. In hypertensive emergencies, there is an inability of the endothelium to control vascular tone, resulting in breakthrough hyperperfusion in target organs, arteriolar fibrinoid necrosis, and increased endothelium permeability accompanied by perivascular oedema (Purnomo, 2022).

Cases of hypertension in emergency patients are estimated at 1-2 cases per 100,000 patients. Someone who usually experiences a hypertensive emergency does so because they lack knowledge and are not compliant with treatment. The annual death rate from hypertensive emergencies exceeds 79% of all cases. Lack of knowledge about hypertension can also influence the occurrence of complications if preventive measures are not taken immediately. These risk factors require promotional efforts to prevent hypertension by providing information to increase knowledge among hypertension sufferers (Nita et al., 2020).

With increasing knowledge in this digital era, audiovisual media can be an effective information medium. Audiovisual media is one of the media that can be used to provide knowledge about hypertension. Audiovisual media is a type of media that contains sound elements and image elements that can be seen, for example, video recordings, films, slides, and sound. This medium is considered more exciting and effective because it involves two senses, namely the senses of sight and hearing, which can maximize the reception of information (Nurmayunita, 2019).

Based on the background description above, researchers are interested in researching "Effects of Audio Visual Prevent Hypertension Emergency on the Attitudes and Knowledge of Hypertension Patients". This study is following the Study Program's research roadmap for

2023, with the theme Efforts to Prevent Emergency Conditions in All Areas of the Nursing Science Field." This research aims to determine the effect of Audio Visual Prevent Hypertension Emergency on knowledge of hypertension patients.

METHODS

This study used quasy experimental design research method using a pretest-posttest control group design; namely, the research was conducted by giving a pretest (initial observation) prior to being given an intervention, and after being given an intervention, a posttest (final observation) was carried out in the treatment group and control group. This study's population comprised all hypertensive patients who underwent examinations at the Kerobokan Community Health Center. The number of samples in the study was 68 respondents, who were divided into two groups, namely 34 for the intervention group and 34 for the control group, with a sampling technique using a non-probability sampling method employing purposive sampling. This research was conducted in June–August 2023 at the Krobokan Health Center, Semarang City. The flow of this research is that the respondent is explained the research and consents to become a respondent. After signing the agreement, the respondent is given an attitude and knowledge questionnaire (pre-data). Then, the intervention group was given Audio Visual Prevents Hypertension Emergencies via HP media, and the control group was only given leaflets. After one month, respondents' attitudes and behaviours were repeated (post-data).

RESULT AND DISCUSSION

Result

The result of this research include:

Table 1. Respondent Characteristics

Variable	Intervention group		Control group	
	∑	%	∑	%
Age				
40-45 years old	2	5.9	4	11.8
46-50 years old	7	20.6	8	23.5
51-55 years old	10	29.4	12	35.3
56-60 years old	9	26.5	7	20.6
>61 years old	6	17.6	3	8.8
Total	34	100	34	100
Sex				
Male	13	38.2	13	38.2
Female	21	61.8	21	61.8
Total	34	100	34	100
Education				
no school	5	14.7	6	17.6
elementary school	10	29.4	16	47.1
Junior high school	7	20.6	7	20.6
Senior High School	10	29.4	2	5.9
undergraduate, etc.	2	5.9	3	8.8
Total	34	100	34	100
Work				
unemployed	4	11.8	3	8.8
farmers, laborers, traders	10	29.4	12	35.3
self-employed	8	23.5	7	20.6
government employees	6	17.6	9	26.5
other	6	17.6	3	8.8
Total	34	100	34	100

Based on Table 1, data on the characteristics of respondents in age categories shows that most respondents were in the 51–55 years age range, with ten people (29.4%) in the intervention group and 12 people (35.3%) in the control group. In the gender category, most respondents were female, 21 (61.8%) from both the intervention and control groups.

Based on the education category, in the intervention group, the majority of respondents had an elementary and high school educational background, numbering 10 (29.4%), while in the control group, the majority of respondents had an elementary school education, numbering 14 (47.1). In the occupational category, most respondents worked as farmers, labourers, and traders: 10

(29.4%) in the intervention group and 12 (35.3%) in the intervention group.

Table 2. Blood Pressure Data

	Mean	Median	Std. Deviation	Min	Max
Intervention group					
Systole (pre)	150.00	150.00	13.257	130	180
Diastole (pre)	94.12	90.00	10.185	80	120
Systole (post)	144.85	145.00	9.002	130	160
Diastole (post)	87.35	90.00	5.672	80	100
Control group					
Systole (pre)	151.62	152.50	12.292	130	175
Diastole (pre)	91.76	90.00	9.683	80	110
Systole (post)	147.21	150.00	9.707	130	165
Diastole (post)	85.29	90.00	5.066	80	90

Based on Table 2, the average pre and post-systole in the intervention group decreased from 150 to 144.85 and the diastolic from 94.12 to 87.35. while in the control group, systole was from 151.62 to 147.21 in the intervention group and diastolic from 91.76 to 85.29.

Table 3. Data on Respondents' Knowledge Before and After

Knowledge	Pre		Post	
	∑	%	∑	%
Intervention group				
Good	11	32.4	30	88.2
Poor	23	67.6	4	11.8
Total	34	100	34	100
Control group				
Good	12	35.3	23	67.6
Poor	22	64.7	11	32.4
Total	34	100	34	100

Based on data from Table 3, there is a difference in knowledge before and after the intervention; before the intervention, the good category was only 11 (32.4%), and after the intervention, the good category was 30 (88.2%). Meanwhile, in the control group, the good category was 12 (35.3%) to 23 (67.6%) before being given the intervention.

Table 4. Before and After Knowledge Analysis

	Intervention group	Control group
Z	-4.359[b]	-3.317[b]
Asymp. Sig. (2-tailed)	.000	.001

Based on data from Table 6, the results of the Wilcoxon test for knowledge before and after the intervention was given resulted in a p-value of 0.000 (<0.05), so it can be concluded that there is an influence of Audio Visual Prevent Hypertension Emergency on the knowledge of hypertension patients. Likewise, the control group obtained a p-value of 0.001 (<0.05), so it can be concluded that there is an influence of education using leaflet media on the knowledge of hypertension patients.

Discussion

The statistical analysis results show that most respondents are still within the productive age limit, which is the potential to receive knowledge and new information quickly and is also superior in terms of stamina, physicality, level of intelligence, and creativity. Most respondents' education is in elementary school; some theories say that the higher a person's education, the more influence it will have on changes in behaviour. One thing that influences behaviour change is knowledge, in Bloom's theory. This result means that productive age is superior in influencing the increase in worker behaviour in preventing hypertension because the average knowledge, attitudes, and practices have increased between before and after. Greater values occur in the practice variable where the correlation value is the highest, so using audio-visual media effectively changes the attitudes and knowledge of

hypertensive patients.

In research by Sri Mastuti et al. (2023), providing audio-visual education was proven effective in changing behaviour to prevent hypertension. This research has succeeded in proving the effectiveness of audio-visual media for workers. Choosing a medium for its use is an essential requirement. According to Jatmika et al. (2019), the five senses that transmit much knowledge to the brain are the eye senses, approximately 75%, and the other five senses, 25%. The choice of audio-visual media as a health education medium can be well received by workers because it presents counselling in a new, fun, and not dull way, accompanied by images, movement, and sound. Audio-visual media that can convey health messages effectively Mechanical and electronic systems with dynamic visual elements must be designed and appropriately prepared according to psychological, behavioural, and cognitive principles (Tamsuri, 2020).

Shamsideen and Saula's (2016) research shows a significant impact of audio-visuals in the teaching process. In various literacy centres in the state, this also motivates students to attend lectures because they are very curious to see or hear what the facilitator will show them in class. The more senses are used, the easier it is for the message to be conveyed, which impacts improving behaviour. In line with research by Kapti et al., audio-visual as a health education medium shows that the average value of knowledge increases by 38%. Research from Wahyuningsih found that when teachers use audio-visual aids, topics become more apparent, more effective, and easier to understand, so they last a long time in students' minds (Wahyuningsih, 2011).

The results of research by Liu et al. (2019) reported that children prefer using audio-visual devices for health education about dental care. A new idea must be channelled and developed through technology, making information different. The diffusion of innovation theory from Rogers in 1983 states that media with new ideas can spread messages that can increase a person's motivation and attitudes and the steps that must be taken. What goes before attitudes is the formation of knowledge. Based on the results of the intervention carried out on these workers, there is a process that is in line between changing behaviour and increasing knowledge.

Visual media has several benefits, including being easy for someone to remember, causing perceptions and thoughts to be interrelated, and making a positive contribution, where thoughts significantly contribute to someone's knowledge. Secondly, media uses illustrations in pictures, graphs, diagrams, or stories, which causes someone to concentrate more on remembering them. This stimulates the sight and the sense of hearing, and what is essential is that it is not dull because an image can trigger a person's stimulation; besides that, it can also add something important (Dewi, 2012). Counselling is a process that must be prepared in advance to influence other people in maintaining and improving their health. In the process of changing positive behaviour into a good habit, this process only occurs after knowledge is available; behaviour change takes quite a long time. Many factors influence the change process within the individual or the surrounding environment (Notoatmodjo, 2015). Health education to prevent hypertension using videos is more effective because audio-visual videos are acceptable, explain the process, can overcome time, space, and place limitations, are easy to play back many times, and are

discontinued as needed so that health behaviour can be improved.

CONCLUSION

The results of the study showed that there was an influence of Audio Visual Prevent Hypertension Emergency on knowledge of hypertensive patients. This result means that audiovisual media are effectively used in health education and preventing hypertension emergencies. In connection with this, community health centre officers need monitoring and evaluation at all times, which can be synergized with other health programs.

ACKNOWLEDGEMENT (if any)

Acknowledgments are conveyed to the Krobokan Health Center in Semarang City, which has given permission as a research location, and thanks also to Universitas Telogorejo Semarang, which has contributed to this research.

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