VIVA MEDIKA
Jurnal Kesehatan, Kebidanan, dan Keperawatan
Homepage: http://ejournal.uhb.ac.id/index.php/vm
P-ISSN: 1979-2026 E-ISSN: 2656-1034
DOI: 10.35960/vm.v16i4.1216

The Influence of Audio-Visual Media on the Elderly's Knowledge Regarding Hypertension Crisis Prevention

Fiman Prastiwi [1*],Amin Aji Budiman [2], Noor Fitriyani [3] ,Muhamad Nur Rahmad [4]
[1,2,3,4] Departemen Keperawatan Universitas Kusuma Husada
Jalan Jaya Wijaya, No. 11 Banjarsari, Surakarta 57136
[1]firman.prastiwi@gmail.com*; [2]ajibudimann@gmail.com; [3]pipit.nizam@ukh.ac.id; [4]rahmatmuh77@gmail.com

ABSTRACT

Many of the physical and psychological changes that occur with age can have an impact on the prevalence of hypertension. Hypertension continues to increase with increasing age, with an incidence of only 27% under 60 years of age increasing to 74% in those aged 80 years and over. The more common causes of hypertensive crisis are related to the knowledge of the elderly themselves, such as non-adherence to medication, ignorance related to lifestyle, and ignorance related to the concept of disease. An effective and easy way to increase the knowledge of the elderly is to use audio-visuals. The purpose of this study was to determine the effect of audio-visual media on the knowledge of the elderly about hypertension crisis prevention at the Sabar Hati Banyuanyar Nursing Home. This research is a quasi-experimental approach with a total sample of 50 elderly people divided into two groups in july 2023. The research tool utilizes audio-visual media, research characteristic instruments, and knowledge instruments. For analysis, the Wilcoxon and Mann-Whitney tests were chosen because the data distribution was not normal. The results showed the effect of audio-visual media on the knowledge of the elderly in the intervention group (p value 0.011), with a median pre-intervention value of 6 to 7. The results of the Man Whitney test showed that there was no difference between pre (intervention-control) and post (control), with p values of 0.342 and 0.181, respectively. The conclusion of the study was that audio-visual media could lead to an increase in the knowledge of the elderly regarding the prevention of hypertensive crisis.

Keywords : Elderly, Hypertensive Crisis, Audio-Visual

1. INTRODUCTION

Hypertension in the elderly is associated with adverse cardiovascular effects. Hypertension continues to increase with advancing age, with the prevalence rising from only 27% in individuals under 60 years old to 74% in those aged 80 years and older (Oliveros et al., 2020). In the United States, the increasing prevalence of hypertension in the elderly will lead to an increase in hypertension crises (Desta et al., 2020). The prevalence of hypertension crises in Sub-Saharan African countries varies depending on the studied population, with reports ranging from approximately 2.5% to 13.2% (Mohamud, 2023). The prevalence of hypertension crises in African countries varies and has been reported to be approximately 2.5% to 13.2% (Mohamud, 2023). In Indonesia, the incidence of hypertension among individuals aged 55-64 years is 55.2%, among those aged 65-74 years is 63.2%, and among those over 75 years old is 69.5%. These statistics undoubtedly contribute to the occurrence of hypertension crises (Ministry of Health of the Republic of Indonesia, 2018). The elderly are at risk of

***Firman Prastiwi.**
Email: firman.prastiwi@gmail.com

experiencing hypertension crises, with 55% meeting the criteria for hypertensive urgency and 45% for hypertensive emergency (Yoewono & Saputri, 2020).

Various triggering events can lead to hypertension. Common causes are related to the elderly's own knowledge, such as non-compliance with medication, lack of awareness regarding lifestyle, and a poor understanding of the disease concept, resulting in worsening hypertension. This is a concern for healthcare professionals, who must provide health education to prevent hypertension from developing into a hypertension crisis (Paini et al., 2018; Radhi et al., 2023).

Complications arising from hypertension can cause organ damage and may progress to a hypertension crisis. This disease is significantly linked to mortality if left untreated. Hypertension complications are indicative of uncontrolled hypertension, and nurses should focus on providing educational efforts to prevent the disease from becoming fatal (Alley & Schick, 2022; Kaplan et al., 2015; Talle et al., 2022).

Preventive measures that can be taken to avoid hypertension crisis involve enhancing the knowledge of the elderly through health education. This can be achieved by making lifestyle modifications, such as losing weight in case of obesity, adopting a diet rich in fruits, vegetables, and low-fat dairy products, reducing salt intake, and engaging in physical activity. Additionally, patients must take antihypertensive medications if diagnosed with hypertension previously (Price & Wilson, 2013). There are various methods to enhance public knowledge, but for the elderly, innovative approaches are necessary as they may have experienced declines in both physical and psychological functions, and one effective approach is through audio-visual media (Oliveros et al., 2020).

In health education, audio-visual media are tools that can be seen and heard, supporting the smooth and successful learning process. Audio-visual media in the classroom is intended to contain content that conveys messages in both audio and visual formats, stimulating the minds, emotions, attention, and willingness of individuals. In efforts to encourage the public to participate in activities aimed at maintaining and improving public health, audio-visual media prove to be a highly practical medium that can overcome limitations, allowing direct interaction between educators and those receiving health education (Jeon et al., 2023)

The study conducted by Widhowati et al. (2022) found that health education through audio-visual media is associated with an increase in elderly individuals' knowledge about hypertension (p-value 0.01). Research Mustika et at (2021) also discovered that audio-visual aids make it easier for the elderly to absorb information, which can be applied to prevent hypertension. Research Wahyuni et al (2019), found that audio-visual media has an impact on increasing the knowledge of the elderly in preventing hypertension. Based on these observed phenomena, a study was conducted to investigate the influence of audio-visual media on the knowledge of the elderly regarding hypertension crisis prevention at the Sabar Hati Elderly Care Facility in Banyuanyar.

Based on a preliminary study conducted in April 2023, it was found that the Sabar Hati Banyuanyar Elderly Integrated Health Post (Posyandu) has 9 volunteers and 115 elderly individuals, with only 84 of the elderly actively participating in Posyandu activities. Among them, 52 elderly individuals (61.9%) were found to have hypertension, ranging from mild to severe.

The study aims to determine the impact of audio-visual media on the knowledge of the elderly regarding hypertension crisis prevention at the Sabar Hati Elderly Care Facility in Banyuanyar.

2. RESEARCH METHODS

This study utilizes a quasi-experimental design with two groups (non-equivalent control group). The treatment group is exposed to audio-visual material, while the control group receives leaflets.

The research was conducted in July 2023, involving a population of 115 individuals at the Sabar Hati Elderly Integrated Health Post (Posyandu) in Banyuanyar. Total sampling was

used by selecting all elderly individuals who were registered and actively participating in the Posyandu Lansia activities, totaling 50 elderly individuals, divided into 25 in the intervention group and 25 in the control group.

Inclusion criteria consisted of elderly individuals aged >50 years, those with adequate hearing and vision, and active participants in the elderly Posyandu activities. Exclusion criteria included patients in emergency conditions and those who withdrew from the research process.

The independent variable includes audio-visual materials related to hypertension crisis prevention, while the dependent variable is the knowledge of the elderly, measured using a hypertension crisis knowledge questionnaire.

The intervention used in this study is an audio-visual medium concerning hypertension crisis prevention in the elderly. The first instrument was employed to gather demographic characteristics, including age, gender, and family history, which the researcher obtained from client health records and by direct inquiries to the respondents and their families. Subsequently, the researcher used a hypertension crisis knowledge questionnaire consisting of 10 questions on a scale from 0 to 1. Favorable questions include 5, 6, 7, 8, and 9, where answering "True" earns a score of 1, while unfavorable questions, comprising 1, 2, 3, 4, and 10, grant a score of 0 for a "True" response. The questionnaire's score range is from 0 to 10, with higher scores indicating better knowledge.

From the results of the Pearson product-moment correlation validity test conducted with 20 participants, the validity was confirmed with a calculated r-value greater than the table r-value, which is 0.444. The reliability test for the hypertension crisis questionnaire yielded a Cronbach's alpha value of 0.786, indicating that the research questionnaire is considered reliable, as the Cronbach's alpha value is greater than 0.60 (Taber, 2018). This demonstrates that the questionnaire has good consistency for measuring knowledge.

Data collection techniques were implemented after obtaining ethical approval from Kusuma Husada University. The researcher selected study participants based on specific criteria, and then, to ensure their willingness, explained the benefits and objectives of the research. Individuals who agreed to participate then signed an informed consent form, which served as an agreement document. The researcher provided questionnaires to gather patient information and observed the knowledge of the elderly participants before the intervention (pre-intervention) using a questionnaire on hypertension crisis knowledge. Subsequently, the researcher delivered health education using audio-visual media and observed the knowledge of the elderly after the intervention (post-intervention) with the knowledge questionnaire. Finally, the collected data was processed and analyzed.

Univariate analysis was conducted to identify the distribution of characteristics of the research variables, including the frequency distribution of gender, age, family history, education, and hypertension status. Bivariate analysis was performed to assess the impact of audio-visual materials on the knowledge of the elderly. The Wilcoxon test was used because the data did not follow a normal distribution. In the case of group comparisons, the Mann-Whitney test was chosen due to the non-normal data scale.

This study received ethical clearance from the Research Ethics Committee of Kusuma Husada University, Surakarta, with the reference number 064/UKH.L.02/EC/IX/2022.

3. RESULT AND DISCUSSION

Results

Univariate Analysis

Univariate analysis was based on gender, age, family history of hypertension, education, and hypertension status (Table 1).

Tabel 1. Respondent Characteristics

Respondent	Control		Intervention		Total	
	f	%	F	%	f	%
Gender						
Male	7	28	8	32	15	30
Female	18	72	17	68	35	70
Age						
Pre Eldery	8	32	12	48	20	40
Eldery	11	44	9	36	20	40
Old eldery	6	24	4	16	10	20
Family History						
Yes	11	44	14	56	25	50
No	14	56	11	44	25	50
Education						
No School	3	12	7	28	10	20
Elementary School	9	36	6	24	15	30
Junior High School	6	24	2	8	8	16
Senior High School	5	20	7	28	12	24
College	2	8	3	12	5	10
Hypertension Status						
Yes	15	60	13	52	28	56
No	10	40	12	48	22	44
Total	**25**	**100**	**25**	**100**	**50**	**100**

The distribution of respondents overall is predominantly female, with a total of 35 (70%). Pre-elderly and elderly individuals are equally distributed, with 20 individuals in each category (40%). Those with and without a family history also have an equal distribution, with 25 individuals in each category (50%). There are 15 individuals (30%) with an elementary school education, and 28 individuals (56%) have hypertension.

In the intervention group, the distribution is dominated by females, with 17 individuals (68%). There are 14 pre-elderly individuals (68%), 14 individuals with a family history (56%), and 7 individuals (28%) with no education or a high school education. In this group, 13 individuals (52%) have hypertension.

In the control group, the distribution is also dominated by females, with 18 individuals (72%). There are 11 elderly individuals (44%), 14 individuals with no family history (56%), 9 individuals (36%) with an elementary school education, and 15 individuals (60%) have hypertension.

Bivariate Analysis

Bivariate analysis of elderly knowledge before and after the audio-visual intervention is related to the control group without audio-visual treatment and the intervention group before and after the audio-visual intervention (Table 2).

Tabel 2. Bivariate Test of the Influence of Audio-Visual on Elderly Knowledge

Group	Variable	Median	Min-max	P Value
Intervention	Pre-Knowledge	6,00	2-10	0,011
	Post-knowledge	7,00	2-10	
Control	Pre-Knowledge	4	2-10	0,739
	Post-knowledge	4	2-10	

Based on the table above, there is an influence of audio-visual media on the knowledge of the elderly (p-value 0.011) with a pre-intervention mean of 5.6, which increased to 6.24 post-intervention in the treatment group. The median value also shows an increase, where the pre-intervention median of 6 becomes 7 post-intervention. In the control group, there is no significant difference between the pre-intervention and post-intervention values (p-value 0.739), with the mean decreasing from 5 to 4.96 in the post-intervention, and the median remains at 4. Based on these findings, it is concluded that the null hypothesis (Ho) is rejected, and there is an influence of audio-visual media on the knowledge of the elderly at the Sabar Hati Banyuanyar Elderly Integrated Health Post.

Difference Test

The differences in pre and post scores for the intervention and control groups are presented in Table 3.

Tabel.3 Difference Test

	Variable	Median	Min-max	P Value
Pre	Intervention Knowledge	6	2-10	0,342
	Control Knowledge	7	2-10	
Post	Intervention Knowledge	4	2-10	0,181
	Control Knowledge	4	2-10	

Based on the table above, there is no significant difference in both the pre (intervention-control) and post (intervention-control) scores, with p-values of 0.342 and 0.181, respectively. Consequently, it is concluded that the null hypothesis (Ho) is not rejected, meaning there is no difference in pre and post scores between the control and intervention groups at the Sabar Hati Banyuanyar Elderly Integrated Health Post.

Discussion

Univariate Analysis

The research results showed that the distribution of respondents overall is dominated by females, with a total of 35 (70%). The intervention group is predominantly female, with 17 individuals (68%), while the control group is also dominated by females, with 18 individuals (72%). Studies by Everett & Zajacova (2015) and Mahdi & Al-Humairi (2022) found that women tend to have a very low awareness of hypertension (32%-51.2%). It was concluded that men have better knowledge compared to women. The research by Santosa et al. (2021) found that only 38% of women in China with hypertension received treatment and achieved treatment goals. This is associated with women's low awareness of hypertension management and prevention, which could be influenced by factors such as work demands, old age, low physical activity, and knowledge about hypertension prevention.

The research results show that, overall, the age distribution is dominated by pre-elderly and elderly individuals, with an equal distribution of 20 individuals in each category (40%). The intervention group is predominantly composed of pre-elderly individuals, with 14 individuals (68%), while the control group is mainly composed of elderly individuals, with 11 individuals (44%). A study by Mahdi & Al-Humairi (2022) found that the average age of hypertensive patients is 54.89 ± 10.42, with 36.0% having good knowledge about hypertension, 42.9% having average knowledge, and 21.1% having poor knowledge about hypertension. Aging is an inevitable and progressive process in humans that affects physiological function, including the brain's ability to remember. The elderly are also at risk of dementia due to age-related decline in brain function, which can impact their knowledge (Buford, 2016; Oliveros et al., 2020).

The research results show that, overall, there is an equal distribution between those with no family history and those with a family history, with 25 individuals in each category (50%). In the intervention group, there is a predominant presence of individuals with a family history of hypertension, with 14 individuals (56%), while in the control group, the majority have no family history, with 14 individuals (56%). The study by Mahdi & Al-Humairi (2022) found that 67.4% of patients with good knowledge have a positive family history of hypertension. This is because individuals with a family history of hypertension are more likely to have knowledge about the management and prevention of the condition to care for their family members at home.

The research results show that, overall, there is a predominance of individuals with an elementary school education, with 15 individuals (30%). In the intervention group, there is a dominance of individuals with no formal education and those with a high school education, with an equal distribution of 7 individuals (28%). In the control group, individuals with an elementary school education dominate, with 9 individuals (36%). A study by Sun et al (2022) found that respondents with only elementary school education have lower knowledge, and uncontrolled hypertension occurs in 35.63% of

them, which is the highest among those with middle and higher education levels. This is linked to individuals with higher education levels being more health-conscious and therefore having better knowledge to prevent and manage chronic diseases (Nesbitt & Palomarez, 2016).

The research results show that, overall, there is a predominance of individuals with hypertension, with 28 individuals (56%). In the intervention group, there is a dominance of individuals with hypertension, with 13 individuals (52%), and in the control group, individuals with hypertension dominate, with 15 individuals (60%). A study by Zaenurrohmah & Rachmayant (2017) found that the hypertension status of the elderly is related to their level of knowledge about hypertension prevention, where those with sufficient knowledge have better control of hypertension compared to those with poor knowledge. This is because individuals with hypertension will seek information on how to control it, thereby increasing their knowledge about hypertension.

Bivariate Analysis

The bivariate analysis results from the Wilcoxon test indicate an influence of audio-visual media on the knowledge of the elderly (p-value 0.011). The median value shows an increase, where the pre-intervention median of 6 becomes 7 post-intervention. In the control group, there is no significant difference between the pre-intervention and post-intervention values (p-value 0.739), with the median remaining at 4.

This is consistent with the research by Widhowati et al (2022) which found an influence of audio-visual media on the knowledge of the elderly about hypertension (p-value 0.001). The median knowledge score of respondents before health education was 6, with a range of 0-26, while after receiving health education, a median score of 22 was obtained, with a range of 6-24. There is a difference between the pretest and posttest scores. A study by Mustika et at (2021) also found that audio-visual media can facilitate the absorption of information by the elderly, thus preventing hypertension. A study by Wahyuni et al (2019), found that audio-visual media significantly influences the improvement of knowledge to prevent hypertension, with an increase in the median score for the elderly pretest-posttest (9.50-14.0).

In general, there are many ways to enhance public knowledge, but when it comes to the elderly, innovative approaches are necessary because they may experience a decline in both physical and psychological functions. Therefore, the use of audio-visual media is recommended (Wahyuni et al., 2019). Manurung et al (2022) explained that one of the developments in health education media, aligned with digital technological advancements and the prevention of chronic diseases, is the use of multimedia, such as audio-visual content. Abed et al (2014) in their systematic review, found that many studies show significant differences, with seven of them demonstrating significant changes in attitude and knowledge due to the use of audio-visual methods.

Wahyuni et al (2019) elaborated that audio-visual content enhances the knowledge of the elderly by providing a novel sensory experience through video explanations that rely on visual and auditory senses. This, in turn, facilitates the digestion and processing of information. Information content can be retained in memory more effectively through the use of moving images and sound effects, making it easier to improve the knowledge of the elderly. Only 20% of information is retained through visual means, and 30% through auditory means. However, this retention increases to 50% when both visual and auditory senses are engaged simultaneously, and further rises to 80% if these methods are combined.

Audio-visual materials can guide individuals to focus and concentrate by using engaging media, making it easier to achieve goals related to understanding and remembering information presented through moving images and sound. Education through audio-visual means can stimulate participants, which, in turn, impacts their comprehension of hypertension crisis prevention.

Difference Testing

Based on the research results, there is no significant difference between pre (intervention-control) and post (intervention-control) with p-values of 0.342 and 0.181, respectivelyThis is consistent with the study by Wahyuni et al (2019) where there was no difference between post-knowledge of the elderly in the audio-visual media group and the hypertension slide group in relation to hypertension prevention (p-value 0.072). In contrast, the study by Widayanti et al. (2014) found differences in post-knowledge between the control group (no intervention given) and the intervention group (p-value <0.05).

In this study, differences in findings from various journals were found, likely due to variations in the number of respondents and their characteristics, particularly related to their education. Educational characteristics in this study were predominantly associated with lower levels of education, which can significantly impact the knowledge acquisition process. Furthermore, education can also influence an individual's ability to absorb new information and apply that knowledge.

CONCLUSSION

There is an influence of audio-visual media on the knowledge of the elderly (p 0.011) in the intervention group, with the median pre-score increasing from 6 to 7 post-intervention. There is no difference between the pre and post values in the intervention and control groups, with p-values of 0.342 and 0.181, respectively.

RECOMMENDATION

In this study, it is recommended to develop research using a true experimental method and include more control groups to understand the differences between each comparative group. Furthermore, researchers should create a calm environment and atmosphere to facilitate the elderly in remembering and concentrating. Additionally, attention should be given to individuals with less than optimal physical conditions, as it can affect the depth of the information exchange process.

REFERENCES

Abed, M. A., Himmel, W., Vormfelde, S., & Koschack, J. (2014). Video-assisted patient education to modify behavior: A systematic review. *Patient Education and Counseling*, *97*.

Alley, W. D., & Schick, M. A. (2022). *Hypertensive Emergency*. StatPearls Publishing LLC. PMID: 29261994.

Buford, T. W. (2016). Hypertension and aging. *Ageing Res Rev*, *26*, 96–111. https://doi.org/10.1016/j.arr.2016.01.007. Hypertension

Desta, D. M., Wondafrash, D. Z., Tsadik, A. G., Kasahun, G. G., Tassew, S., Gebrehiwot, T., & Asgedo, S. W. (2020). Prevalence of hypertensive emergency and associated factors among hospitalized patients with hypertensive crisis: A retrospective cross-sectional study. *Integrated Blood Pressure Control*, *13*, 95–102. https://doi.org/10.2147/IBPC.S265183

Everett, B., & Zajacova, A. (2015). Gender Differences in Hypertension and Hypertension Awareness Among Young Adults. *Biodemography Soc Biol.*, *61*(1), 1–17. https://doi.org/10.1080/19485565.2014.929488.Gender

Jeon, J. Y., Kim, D. H., & Kang, K. (2023). Effect of audiovisual media-based nursing information on environmental stress, anxiety, and uncertainty in patients undergoing open-heart surgery. *Medicine*, *102*(8), E33001. https://doi.org/10.1097/MD.0000000000033001

Kaplan, N., Victor, R., & Flynn, J. (2015). *Hypertensive Emergencies. Kaplan's Clinical Hypertension*. 11th edition.Wolters Kluwer.p.263-274.

Kementerian Kesehatan Republik Indonesia. (2018). *Hasil Utama Riskesdas 2018*. Badan Penelitian Dan Pengembangan Kesehatan Kemenkes RI. https://kesmas.kemkes.go.id

Mahdi, H. A., & Al-humairi, A. K. (2022). Assessment of Knowledge about

Hypertension among Hypertensive Patients in Babylon Province. *Medical Journal of Babylon*, *19*, 31–36. https://doi.org/10.4103/MJBL.MJBL

Manurung, S., Luh, N., Ekarini, P., Maryam, R. S., City, B., & Java, W. (2022). The Effect of Multimedia-Based Education on Knowledge, Attitudes, and Behavior Hypertension Patients in Stroke Prevention. *Jurnal Info Kesehatan*, *20*(2), 166–175. https://doi.org/10.31965/infokes.Vol20Iss2.822

Mohamud, M. F. Y. (2023). Clinico ‐ epidemiological profile and risk factors of hypertensive crisis among patients attended at a tertiary care hospital in Somalia. *Scientific Reports*, *13*(1), 1–9. https://doi.org/10.1038/s41598-023-27683-4

Mustika, I. W., Sudiantara, K., & Lestari, A. S. (2021). Health Education with Audiovisual Media and Relaxation Massage in Lowering Blood Pressure and Improved Sleep Quality for the Elderly. *Open Access Macedonian Journal of Medical Sciences*, *9*, 118–123.

Nesbitt, S., & Palomarez, R. E. (2016). Review : Increasing A wareness and Education on Health Disparities for Health Care Providers. *Ethn Disk*, *26*(2), 181–190. https://doi.org/10.18865/ed.26.2.181

Oliveros, E., Patel, H., Kyung, S., Fugar, S., Goldberg, A., & Williams, N. M. (2020). Hypertension in older adults: Assessment, management, and challenges. *Clinical Cardiology*, *43*, 99–107. https://doi.org/10.1002/clc.23303

Paini, A., Aggiusti, C., Bertacchini, F., Rosei, C. A., Maruelli, G., Arnoldi, C., Cappellini, S., Muiesan, M. L., & Salvetti, M. (2018). Definitions and Epidemiological Aspects of Hypertensive Urgencies and Emergencies. *High Blood Press Cardiovasc Prev*, *23*(3).

Price, S. A., & Wilson, L. M. (2013). *Patofisiologi Konsep Klinis Proses-Proses Penyakit. Edisi VI*. Jakarta: EGC.

Radhi, M. M., Niazy, S. M., & Abed, S. N. (2023). Individual-related factors associated with treatment adherence among hypertensive patients. *J Public Health Afr*, *14*, 208–213. https://doi.org/10.4081/jphia.2023.2466

Santosa, A., Zhang, Y., Weinehall, L., Zhao, G., Wang, N., Zhao, Q., Wang, W., & Ng, N. (2021). Correction to : Gender differences and determinants of prevalence , awareness , treatment and control of hypertension among adults in China and Sweden. *BMC Public Health*, *20*(1763), 1–5.

Sun, W., Wang, Y., Zhang, H., Sheng, Y., Fan, J., Gu, M., & Tian, Y. (2022). Hypertension: A prospective longitudinal multi-omics essential hypertension cohort. *Imeta*, *1*(2).

Taber, K. S. (2018). The Use of Cronbach ' s Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, *48*, 1273–1296. https://doi.org/10.1007/s11165-016-9602-2

Talle, M. A., Ngarande, E., Doubell, A. F., & Herbst, P. G. (2022). Cardiac Complications of Hypertensive Emergency : Classification , Diagnosis and Management Challenges. *Journal of Cardiovascular Development and Disease*, *9*(8).

Wahyuni, A. S., Amelia, R., Nababan, I. F. F., Pallysater, D., & Lubis, N. K. (2019). The Difference of Educational Effectiveness Using Presentation Slide Method with Video About Prevention of Hypertension on Increasing Knowledge and Attitude in People with the Hypertension Risk in Amplas Health Center. *Open Access Macedonian Journal of Medical Sciences*, *7*(20), 3478–3482.

Widayanti, E. D., Prasetyo, H., & Sumedi, T. (2014). Effect of Media Audio Visual Aid (Video Cassette) Use In Health Promotion on Older People's Level of Knowledge Related to Good Hygiene and Healthy Lifestyle. *Link*, *10*(2), 780–785.

Widhowati, S. S., Ningsih, D. A., & Indriono, A. (2022). The Effect Of Health Education With Audio Visual Media On Older Adults Knowledge About Hypertension. *Indonesian Journal Of Community Health Nursing*, *7*(1), 25–29. https://doi.org/10.20473/ijchn.v7i1.39632

Yoewono, E. P., & Saputri, R. (2020). Efektivitas Terapi Antihipertensi Pada Kasus Krisis Hipertensi Di Instalasi Gawat Darurat Rsud Ulin Banjarmasin. *Journal of Pharmaceutical Care and Science*, *1*(1).

Zaenurrohmah, D. H., & Rachmayanti, R. D. (2017). Relationship Between Knowledge and Hypertension History with Blood Pressure Control in Elderly. *Jurnal Berkala Epidemiologi*, *5*(2).