

Effectiveness of Motivational Educational Videos on Knowledge, Body Mass Index, Self-Care, and Empowerment among Older Women with Hypertension

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<p>Kata Kunci: Lansia Perempuan, Motivasi Perawatan Hipertensi, Video Edukasi</p>	<p>Hipertensi sebagai penyakit tidak menular yang memiliki resiko kematian tinggi di seluruh dunia. Dilansir dari RIKPD Kota Salatiga Tahun 2023, prevalensi hipertensi tahun 2021 (0,72%) dibandingkan pada tahun 2020 (0,60%). Hambatan karena rendahnya kesadaran masyarakat akan penyakit hipertensi sehingga terjadi penurunan minat melakukan <i>self care management</i> hipertensi. Penelitian ini bertujuan untuk mendeskripsikan pengaruh video edukasi motivasi terhadap pengetahuan, Indeks Massa Tubuh, perawatan diri, dan pemberdayaan lansia hipertensi Kota Salatiga. Desain penelitian adalah quasi eksperimen dengan <i>two group pre-post test design</i>, melibatkan 20 lansia kelompok eksperimen dan 15 lansia kelompok kontrol berusia 60–79 tahun, menggunakan teknik purposive sampling. Instrumen penelitian adalah kuesioner tentang pengetahuan, perawatan diri, dan pemberdayaan layanan kesehatan yang telah dilakukan uji validitas dan uji reabilitas. Data dianalisis menggunakan uji manova. Pada hasil uji manova menunjukkan peningkatan kelompok kontrol jauh lebih kecil dibandingkan dengan kelompok eksperimen. Hasil menunjukkan bahwa terdapat perbedaan yang signifikan pada uji manova antara kelompok eksperimen dan kelompok kontrol pada variabel tekanan darah sistolik, pengetahuan tentang hipertensi, profil perawatan diri, dan pemberdayaan layanan kesehatan. Intervensi menggunakan media edukasi audio visual kontekstual yang diberikan kepada kelompok eksperimen efektif dalam meningkatkan aspek kognitif dan perilaku yang berkaitan dengan pengelolaan hipertensi.</p>
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<p>Date received: 11 February 2026</p>	<p>Hypertension is a non-communicable disease with a high risk of mortality worldwide. According to the 2023 RIKPD Report of Salatiga City, the prevalence of hypertension increased from 0.60% in 2020 to 0.72% in 2021. This rise is partly attributed to the low public awareness of hypertension, resulting in decreased interest in practicing self-care management for the condition. This study aims to describe the effect of motivational educational videos on knowledge, body mass index, self-care, and health care empowerment among elderly individuals with hypertension in Salatiga City. The research employed a quasi-experimental design with a two-group pre-post-test approach, involving 20 elderly participants in the experimental group and 15 in the control group, aged 60–79 years, using a purposive sampling technique. Research instruments included validated and reliable questionnaires assessing knowledge, self-care, and healthcare empowerment. Data were analyzed using MANOVA. The results showed that improvements in the control group were considerably less than those in the experimental group. The MANOVA test revealed significant differences between the experimental and control groups in systolic blood pressure, knowledge about hypertension, self-care profile, and health care empowerment. The contextual audiovisual educational intervention provided to the experimental group was effective in enhancing cognitive and behavioral aspects related to hypertension management.</p>
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Introduction

Elderly individuals often suffer from hypertension, particularly women. WHO data from 2019 show that Africa has the highest global prevalence of hypertension (40%), while the highest number of older women with hypertension is found in the United Kingdom (30%). In Indonesia, the proportion of older adults with hypertension is 55.2% (InfoDatin, 2022). Central Java has the highest rate of hypertension among the elderly, at 32.5% (Gati *et al.*, 2023), with a higher prevalence among women (40.17%) compared to men (34.83%) (Central Java Health Office, 2021). Hypertension is the most common non-communicable disease in Salatiga, with a prevalence rate of 33.7% (Central Java Health Office, 2021). In Salatiga, the majority of hypertensive elderly individuals are women, accounting for 70% of the population of 100 people (Rebokh *et al.*, 2023).

The aging process and personal behaviors of the elderly contribute to the development of hypertension, also known as an increase in blood pressure. As people age, arterial blood vessels tend to harden and lose elasticity, causing the heart to work harder and blood pressure to rise (Rebokh *et al.*, 2023). In addition to aging factors, hypertension is also caused by unhealthy lifestyles influenced by the individual behaviors of the elderly themselves (Prabasari, 2021), such as not routinely checking blood pressure, lacking motivation to change lifestyle habits, not taking medication regularly, and having difficulty managing stress (Augusto *et al.*, 2022). A lack of information can also affect the level of understanding about hypertension, preventing the elderly from adopting healthier lifestyle behaviors (Khasanah *et al.*, 2019). This condition is triggered by limited knowledge and low awareness among older people regarding self-care (Putri & Supartayana, 2020). The situation worsens when they fail to utilize available health services. According to data from the Central Java Statistics Agency in 2019, the rate of elderly individuals not undergoing outpatient treatment was recorded as low, at 1.24% (Feninlambir *et al.*, 2021).

The behavior of neglecting self-care leads to a lack of awareness among the elderly about hypertension, resulting in a decreased interest in practicing hypertension self-care management (Falah & Ariani, 2022). Activities within self-care management include the use of antihypertensive medications, regular blood pressure monitoring, dietary regulation, and exercise (Sihotang *et al.*, 2020). According to the Health Belief Model theory, health behavior

is influenced not only by knowledge but also by an individual's perception of illness and the actions they are willing to take (Lestari *et al.*, 2025). Elderly individuals with hypertension need confidence in their ability to carry out self-management, according to research by Bar. (2022) indicates that hypertension self-management tends to be better when confidence is high and family support is present. If the elderly fail to manage their self-care properly, it may lead to hypertension-related complications or even death (Salami, 2021). Such complications include heart disease, kidney disorders, and stroke (Ministry of Health of the Republic of Indonesia, 2021).

The characteristics of an elderly individual can influence their attitudes and behaviors regarding the management of hypertension. The traits of an elderly Javanese woman are closely related to her beliefs and attitudes toward behavioral change. Javanese women are known to be open-minded, sensitive, emotionally self-controlled, and to hold important roles within their families (Safitri *et al.*, 2022). Elderly Javanese individuals are believed to possess qualities such as willingness, acceptance, patience, virtue, and a strong spiritual connection with God. Furthermore, physiologically, women who have entered menopause experience a decrease in estrogen levels, which can trigger hypertension, as this hormone helps prevent arteriosclerosis (Pae *et al.*, 2023). The personality traits of elderly Javanese women with hypertension should therefore be taken into consideration as part of a nursing education approach to help motivate them in maintaining healthy blood pressure levels.

One way to motivate the elderly to engage in self-care management for hypertension is through education. Audio-visual educational media have been shown to improve hypertension self-management among the elderly (Aisah *et al.*, 2021). Audio-visual education can stimulate the audience's thoughts, emotions, attention, and motivation, making the learning process more effective and efficient (Siregar *et al.*, 2019). Several studies have explored educational interventions for elderly individuals with hypertension, such as a 13-minute video for pre-elderly individuals explaining the definition of hypertension (Luthfiani *et al.*, 2021); the use of traditional Rabab Pasisia-based music to educate about hypertension (Surya *et al.*, 2024); a 10-minute short film about CERDIK available on YouTube (Azhari & Setiawan, 2021); and a 30-minute educational video on self-care management knowledge delivered as a single intervention session (Chloranyta *et al.*, 2023). However, no studies have yet discussed interventions aimed

at improving hypertension knowledge, self-care behavior, motivation, self-efficacy, and the empowerment of health services as an effort to address hypertension among elderly Javanese women. The proposed intervention involves an educational video featuring elderly Javanese women successfully managing self-care in their daily lives. The intervention video was reviewed by experts with an understanding of Javanese culture among older adults, and its content was based on older adults' everyday experiences, making it easy to follow. The video also used simple language and visual illustrations to facilitate understanding. Therefore, the objective of this study is to describe the effect of motivational educational videos on knowledge, self-care, and empowerment among elderly individuals with hypertension in Salatiga City. It is expected that through the intervention of providing videos about hypertension self-care management, older adults will gain the knowledge necessary to enhance their interest in self-care and the utilization of health services in their daily lives, thereby helping to control blood pressure.

Method

This study employed a quasi-experimental design using a two-group pretest–posttest approach involving an experimental group and a control group (Erika & Rosalina, 2021). The experimental group underwent a pretest prior to the intervention and a posttest after a single session of educational video delivery. The study was conducted in Salatiga City, specifically in Noborejo Subdistrict 8 (experimental group with 20 respondents) and Karangalit Housing Area, Salatiga (control group with 15 respondents). In experimental research, sample size is often limited to ensure that the study groups have homogeneous characteristics, allowing observed effects to be directly attributed to the intervention. Group homogeneity is essential for minimizing the influence of extraneous variables and maintaining internal validity, particularly in nursing interventions (Adiputra *et al.*, 2021). Data collection took place from April to May 2025, with one intervention session lasting 30 minutes. This study used purposive sampling with inclusion criteria as follows: respondents residing in Salatiga, elderly women aged 60–79 years, diagnosed with hypertension, having blood pressure >140/90 mmHg, and willing to participate in the study. The exclusion criteria were respondents without a history of hypertension, those unwilling to participate, and those who did not complete the intervention. Although the sample

size was relatively small, it was considered adequate given the strict inclusion criteria and the specific target population. The use of a pre–post quasi-experimental design enhanced statistical sensitivity, allowing each participant to serve as their own control. Moreover, the homogeneity of the sample reduced variability and strengthened the detection of intervention effects. The educational video intervention was intentionally designed to accommodate the specific needs of older adults through a participatory and age-friendly approach. Older women with hypertension were actively involved in the development of the videos by serving as role models who shared their real-life experiences in managing blood pressure, thereby enhancing relevance, relatability, and motivational engagement. To ensure accessibility, the videos were displayed on a laptop screen during the intervention sessions to facilitate clear visual and auditory perception. In addition, video links were provided to participants who owned mobile phones, allowing repeated viewing of the educational content at their own pace. The research instruments consisted of a digital sphygmomanometer and questionnaires covering hypertension knowledge, self-care, self-care profile, and healthcare empowerment. The Hypertension Self-Care Profile (HBP-SCP-60) questionnaire was adopted from Zhao *et al.* (2023), while The Health Care Empowerment Questionnaire (HCEQ-10) was adopted from Gagnon *et al.*, (2006). Two indicators motivation and perception were measured using a total of 10 statements reflecting experiences over the past six months in utilizing available health services, namely Degree of Control (three statements), Participation in Decision-Making (three statements), and Participation in Interaction (four statements). These questionnaires demonstrated good validity and strong reliability with Cronbach's alpha = 0.94 (Knight *et al.*, 2021). The collected data were analyzed using SPSS software. Then, a MANOVA test was used to examine the differences in mean scores between the two groups in the pre- and post-tests, followed by an Effect Size test to assess the magnitude of the intervention's impact (Figure 1). The researcher compared the experimental and control groups with significance set at $p < 0.05$. The hypothesis stated that H1 indicates no effect, whereas H0 indicates that the use of audiovisual media influences reducing blood pressure and BMI, as well as improving knowledge, self-care practices, self-care profile, and health empowerment. Lastly, several ethical procedures were implemented: each respondent participated voluntarily and was required to sign an informed

consent form; respondents were allowed to withdraw from the study at any time; and agreements were made regarding scheduling and willingness to complete the questionnaire.

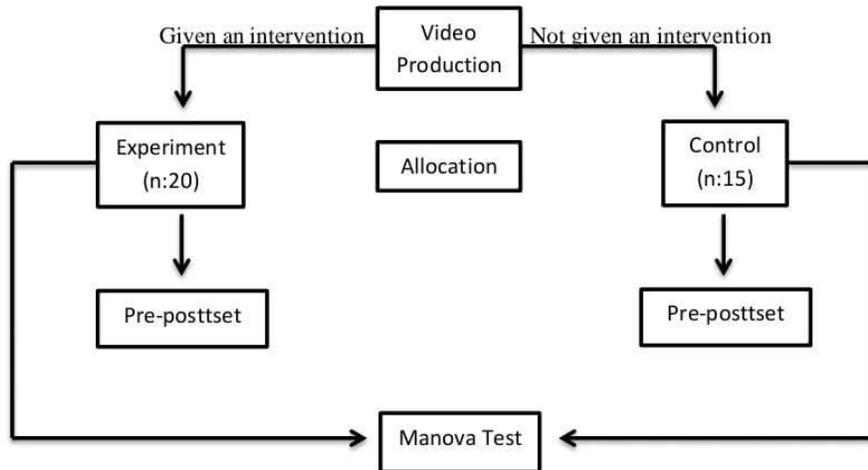


Figure 1. The Consort Diagram

Research Results

Table 1. Respondent Profile

Characteristics		Experimental Group (n:20)	Control Group (n:15)
Age	Elderly (60-79)	20 (100%)	15 (100%)
Education Level	Not Attending School	10 (50%)	1 (7%)
	Primary School	10 (50%)	
	Junior High School		1 (7%)
	High School		4 (27%)
	Higher School		9 (60%)
Marital Status	Get Married	12 (60%)	10 (67%)
	Widow	8 (40%)	5 (33%)
Occupation	Unemployed	3 (15%)	1 (7%)
	Housewife	2 (10%)	5 (33%)
	Farmer	9 (45%)	
	Pensioner		8 (53%)
	Entrepreneur	6 (30%)	1 (7%)
Income	< Rp. 500.000	9 (45%)	6 (40%)
	Rp. 500.001- Rp. 1.000.000	10 (50%)	
	Rp. 1.000.001- Rp.1.500.000	1 (5%)	
	> Rp. 2.000.000		9 (60%)
Health Insurance	Yes	20 (100%)	15 (100%)

History of Hypertension	Yes	11 (55%)	7 (47%)
	No	9 (45%)	8 (53%)
Duration of Having Hypertension	1-3 years	9 (45%)	10 (67%)
	4-6 years	7 (35%)	2 (13%)
	7-9 years	4 (20%)	2 (13%)
	10 years		1 (7%)
Use of Hypertension Medication in the Past Month	Amlodipine	1 (5%)	5 (33%)
	Losartan		1 (7%)
	Exorge		1 (7%)
	Losartan + Kandersatan		1 (7%)
	Amlodipine + Kandesartan		1 (7%)
	Herbal (ginger)	2 (10%)	
	Boiled celery water	1 (5%)	
	Forgot	7 (35%)	5 (33%)
	None	9 (45%)	1 (7%)
Disease History in the Past Year	Hypertension	15 (75%)	10 (67%)
	Hypertension + Diabetes	2 (10%)	1 (7%)
	Hypertension + Stroke	1 (5%)	
	Hypertension + Nerve disorder	1 (5%)	
	Hypertension + Paresthesia	1 (5%)	
	Hypertension + Hyperuricemia		2 (13%)
	Hypertension + Gastric acid		1 (7%)
	Hypertension + Cholesterol		1 (7%)
Blood Pressure	<159/<99 (Hypertension Stage 1)	9 (45%)	8 (53%)
	160-179/100-109 (Hypertension Stage 2)	10 (50%)	6 (40%)
	>180 />110 (Hypertension Stage 3)	1 (5%)	1 (7%)
Body Mass Index (BMI)	<18.50 (Underweight)	2 (10%)	1 (7%)
	18.50–24.99 (Normal)	15 (75%)	6 (40%)
	25.00–29.99 (Overweight)	2 (10%)	5 (33%)
	≥30.00 (Obesity)	1 (5%)	3 (20%)

Table 1 shows that most respondents in this study were older women aged 60–79 years (100%) in both groups. Most participants in the control group had the highest educational level, being university graduates (60%), while the experimental group was predominantly composed of farmers (45%). Most respondents in the experimental group had an income between Rp. 500,000 and Rp. 1,000,000 (50%), whereas the majority in the control group earned more than Rp. 2,000,000 (60%). All respondents were covered by health insurance (100%). The most

common duration of hypertension was 1–3 years, particularly in the control group (67%). Stage 1 hypertension was the most frequently observed blood pressure category in both groups, especially in the control group (80%). A normal body mass index (BMI) was most found in the experimental group (75%).

Table 2. Categories of Knowledge, Self-Care, and Health Service Empowerment

Variable	Experimental Group (n:20)		Control Group (n:15)	
	<i>Pre f (%)</i>	<i>Post f (%)</i>	<i>Pre f (%)</i>	<i>Post f (%)</i>
Knowledge				
Low	20 (100%)	6 (30%)	7 (46,67%)	9 (60%)
High		14 (70%)	8 (53,33%)	6 (40%)
Self Care				
Medication Adherence				
Adherent	14 (70%)	12 (60%)	15 (100%)	15 (100%)
Non-Adherent	6 (30%)	8 (40%)		
Low-Salt Diet				
Adherent	14 (70%)	14 (70%)	13 (86.67%)	12 (100%)
Non-Adherent	6 (30%)	6 (30%)	2 (13.33%)	3 (100%)
Physical Activity				
Adherent	20 (100%)	20 (100%)	15 (100%)	15 (100%)
Smoking				
Non-Smoking	20 (100%)	20 (100%)	15 (100%)	15 (100%)
Weight Management				
Good Weight Management	9 (45%)	8 (40%)	10 (66.67%)	10 (100%)
Poor Weight Management	11 (55%)	12 (60%)	5 (33.33%)	5 (100%)
Alcohol Consumption				
No Alcohol Consumption	20 (100%)	20 (100%)	15 (100%)	15 (100%)
Self-Care Profile				
Behavior				
Low	14 (70%)		3 (20%)	3 (20%)
High	5 (25%)	20 (100%)	12 (80%)	12 (80%)
Motivation				
Low	12 (60%)			
High	6 (40%)	20 (100%)	20 (100%)	20 (100%)
Efficacy				

Low	13 (65%)			
High	7 (35%)	20 (100%)	20 (100%)	20 (100%)
Healthcare Service Empowerment				
Motivation				
Low	10 (50%)			
High	10 (50%)	20 (100%)	20 (100%)	20 (100%)
Perception				
Low	8 (40%)	5 (25%)		
High	12 (60%)	15 (75%)	20 (100%)	20 (100%)

Table 2 shows that the experimental group experienced a significant increase in several variables after the intervention. The proportion of respondents with a high level of knowledge rose from 0% to 70%, while those demonstrating strong self-care behavior increased from 25% to 100%. Additionally, the motivation and self-efficacy of this group reached 100% in the post-test measurement. Medication adherence remained high, although it decreased slightly from 70% to 60%. Physical activity levels and non-smoking status remained consistently high at 100%. The control group already exhibited high scores in several variables from the outset, including medication adherence and physical activity, which both remained at 100% throughout the study. High knowledge levels were recorded at 46.67% in the pre-test but decreased slightly to 40% in the post-test. High self-care behavior remained stable at 80%, while motivation and self-efficacy consistently reached 100%. Adherence to a low-salt diet increased from 86.67% to 100%, and proper weight management also reached 100% in the post-test. Overall, the experimental group demonstrated notable improvements in knowledge and components of the self-care profile, including self-care behavior, motivation, and self-efficacy, following the intervention. In contrast, the control group remained relatively stable, maintaining high values throughout the study.

Table 3. Mean Score of Hypertension, BMI, Knowledge, Self-Care, and Health Service Empowerment

Variable	Experimental Group (n:20)			Control Group (n:15)		
	<i>Pre</i>	<i>Post</i>	Difference	<i>Pre</i>	<i>Post</i>	Difference
	<i>Mean ± SD</i>	<i>Mean ± SD</i>		<i>Mean ± SD</i>	<i>Mean ± SD</i>	
Age	64.7±3.9	64.7±3.9	0	70 ± 6.8	70 ± 6.8	0

Income	1.60 ± 0.60	1.60 ± 0.60	0	3.40 ± 2.03	3.40 ± 2.03	0
Blood Pressure: Systolic	162.20 ± 14.30	156.05 ± 16.34	-6.15	158.20 ± 11.38	148.47 ± 15.90	-9.73
Blood Pressure: Diastolic	98.60 ± 11.69	92.35 ± 12.00	-1.25	92.80 ± 10.30	84.93 ± 9.85	-7.87
Body Mass Index (BMI)	21.9 ± 3.63	21.9 ± 3.63	0	3.27 ± 2.76	3.27 ± 2.76	0
Hypertension Knowledge	1.67 ± 0.47	1.88 ± 0.33	0.21	1.81 ± 0.40	1.83 ± 0.37	0.02
Self-Care Profile	1.46 ± 1.50	1.46 ± 0.50	0	1.59 ± 0.49	1.58 ± 0.50	-0.01
Healthcare Service Empowerment	2.50 ± 1.04	3.34 ± 0.77	0.84	3.07 ± 0.82	3.09 ± 0.83	0.02
	2.56 ± 0.67	3.23 ± 0.78	0.67	3.29 ± 0.54	3.33 ± 0.56	0.04

The data in Table 3 show that the average age between the control and experimental groups did not differ significantly. The control group had a higher average income compared to the experimental group. The most notable improvement was observed in the knowledge variable, which showed a substantial increase in the experimental group compared to the control group. Following the intervention, the experimental group demonstrated a statistically significant reduction in systolic blood pressure, while changes in diastolic blood pressure were not statistically significant. The control group showed only minimal changes in both systolic and diastolic blood pressure. The self-care profile of the experimental group also demonstrated the most significant improvement, while the control group exhibited smaller gains. Similarly, health service empowerment increased significantly in the experimental group, whereas the control group showed only a slight improvement. These findings reinforce that meaningful changes in self-care and health service empowerment were primarily experienced by the group that received direct intervention.

Table 4. Results of the Difference Test Between the Experimental and Control Groups

Variable	Experimental Group (n:20) and Control Group (n:15)	
	f	p value
Blood Pressure: Systolic	20.167	0.00
Blood Pressure: Diastolic	0.186	0.669
Body Mass Index (BMI)	0.00	1.00
Hypertension Knowledge	24.545	0.00
Self-Care	0.255	0.617
Self-Care Profile	249.053	0.00
Healthcare Service Empowerment	136.264	0.00

The results presented in Table 4 show significant differences between the experimental and control groups across several variables. The intervention proved effective in reducing systolic blood pressure ($F = 20.167$; $p = 0.000$) and in increasing hypertension knowledge ($F = 24.545$; $p = 0.000$), self-care profile ($F = 249.053$; $p = 0.000$), and health service empowerment ($F = 136.264$; $p = 0.000$). Conversely, no significant differences were found in diastolic blood pressure, body mass index (BMI), or overall self-care behavior. These findings indicate that the intervention had a greater impact on cognitive and behavioral aspects than on physical outcomes.

The results demonstrated that the experimental group experienced more pronounced improvements in outcomes directly targeted by the intervention. A statistically significant reduction in systolic blood pressure was observed in the experimental group compared to the control group ($F = 20.167$; $p < 0.001$), whereas no significant differences were found in diastolic blood pressure or body mass index (BMI). In addition, the experimental group showed significantly greater improvements in hypertension knowledge ($F = 24.545$; $p < 0.001$), self-care profile ($F = 249.053$; $p < 0.001$), and health service empowerment ($F = 136.264$; $p < 0.001$) compared to the control group. Conversely, overall self-care behavior did not differ significantly between groups. These findings indicate that the educational video intervention had a stronger impact on cognitive and behavioral outcomes than on short-term physiological indicators.

Table 5. Comparison of pre- and post-test means between the experimental and control groups

Variable	Experimental Group (n:20) and Control Group (n:15)
	η^2
Blood Pressure: Systolic	0.38
Blood Pressure: Diastolic	0.01
Body Mass Index (BMI)	0.00
Hypertension Knowledge	0.43
Self-Care	0.01
Self-Care Profile	0.88
Healthcare Service Empowerment	0.80

The results in Table 5 indicate the effect size analysis using partial eta squared (η^2) indicated that the intervention produced varying effects between the experimental group (n = 20) and the control group (n = 15). Large to very large effects were observed for systolic blood pressure ($\eta^2 = 0.38$), hypertension knowledge ($\eta^2 = 0.43$), self-care profile ($\eta^2 = 0.88$), and healthcare service empowerment ($\eta^2 = 0.80$), suggesting that a substantial proportion of the variance in these variables can be attributed to the intervention. In contrast, the intervention effects were small to negligible for diastolic blood pressure ($\eta^2 = 0.01$), self-care ($\eta^2 = 0.01$), and body mass index ($\eta^2 = 0.00$), indicating that changes in these aspects were relatively minimal and may have been influenced by other factors or may require a longer intervention duration. Overall, these findings underscore that the intervention was more effective in improving cognitive and empowerment-related aspects than in producing physiological changes and long-term behavioral outcomes.

Discussion

The characteristics of elderly groups can influence their level of understanding, attitudes, and behaviors in controlling blood pressure. Factors that may differentiate these characteristics include education, occupation, and income. Low education levels often result in limited knowledge and reduced awareness of adopting healthy lifestyles, as individuals with higher education tend to have better access to health information and services (Baringbing, 2023). This is consistent with study showing that education level influences the type of occupation held by

older adults, which ultimately affects their ability to carry out hypertension self-care (Riansyah *et al.*, 2024). Moreover, the amount of income earned plays a role in meeting self-care needs, such as consuming nutritious foods, which remains relatively low among older people. Therefore, to improve knowledge, attitudes, and the development of healthy behaviors, educational interventions are necessary.

The findings suggest that the motivational educational video intervention was particularly effective in enhancing cognitive and behavioral aspects of hypertension management among older women. Significant improvements were observed in hypertension knowledge, self-care profile, and health service empowerment, all of which align with the intervention's educational focus. In contrast, changes in physical outcomes such as BMI and diastolic blood pressure were limited, likely reflecting the short duration of the intervention and the influence of external factors beyond educational exposure. The significant reduction in systolic blood pressure, alongside improvements in self-care-related domains, indicates that educational video-based interventions may support early behavioral changes that contribute to improved hypertension management. However, sustained physiological effects may require longer-term or multi-component interventions. Long-term follow-up measurements with repeated assessments are essential in nursing intervention studies to determine whether improvements in patient knowledge, attitudes, and health behaviors are maintained over time, as sustained changes are critical for effective chronic disease management, such as hypertension (Ito *et al.*, 2024).

Hypertension management education is expected to help control blood pressure in the elderly. However, human blood pressure tends to fluctuate over time as it is closely related to the circulatory system. Changes in blood pressure result from complex interactions among various factors, including environmental conditions (such as season, altitude, and stress), physical factors (such as body position or blood volume), emotional factors that trigger blood pressure variations, and cardiovascular regulatory mechanisms that aim to maintain blood pressure homeostasis (Parati *et al.*, 2018). Furthermore, differences in socioeconomic status among older adults significantly affect their ability to access, understand, and apply health education for hypertension management, with individuals with higher levels of education and income generally having better knowledge and adherence to blood pressure management

(Schutt-Cerdan *et al.*, 2025). Health education serves as a collaborative effort undertaken by individuals and communities to improve overall health conditions, thereby reducing the risk of disease. The implementation of health education often involves the use of media, which serves as a tool or aid to facilitate the delivery of information and messages during the educational process (Putra *et al.*, 2024). One effective form of educational media is video.

Video-based education allows individuals to both see and hear moving images, making it easier to absorb information and creating a more engaging learning experience (Theodoridis *et al.*, 2023). Providing video education to elderly individuals with hypertension aims to enhance their understanding of hypertension knowledge, thereby fostering positive attitudes and interest in adopting healthy behaviors that can be directly applied in daily life. Education for hypertension management includes practicing a healthy lifestyle, such as consuming nutritious foods and engaging in regular physical activity, monitoring blood pressure through routine check-ups at healthcare facilities, and adhering to prescribed treatments (Amalia *et al.*, 2021).

Audiovisual educational interventions are cost-effective as a public health strategy, making them beneficial for policymakers and health service administrators when allocating resources. Hypertension education delivered through audiovisual media has been shown to increase older adults' active participation in Integrated Primary Care activities (Asy'ari *et al.*, 2025). Increased participation in Integrated Primary Care has the potential to reduce the risk of hypertension-related complications that may require more advanced and costly treatment. Therefore, audiovisual education can be regarded as a health promotion strategy that is clinically effective and more cost-efficient, making it relevant for policymakers and health service administrators to consider when planning and allocating resources.

The need for education through blood pressure control videos aligns with the Health Belief Model (HBM) in nursing theory. According to the Health Belief Model, health behavior is influenced not only by knowledge but also by an individual's perception of illness and the actions they are willing to take (Lestari *et al.*, 2025). The use of educational media is crucial for enhancing knowledge, fostering positive attitudes, and promoting behavioral change, particularly among elderly individuals with hypertension. The use of video as an educational medium in research offers more than just moving visuals with engaging audio; it effectively conveys information, explains processes, breaks down complex concepts, and influences

respondents' attitudes. Moreover, videos present material in a concise, clear, and easily understandable manner, thereby improving comprehension and reinforcing memory retention (Anggraini *et al.*, 2020).

This educational video incorporates local wisdom by involving community figures, specifically well-known and trusted local health cadres, so that the delivery of information becomes more engaging and easier to understand. The use of videos that integrate community leaders in conveying health messages is more effective and interactive than conventional health education methods (Hamba *et al.*, 2024). In addition, the video-based approach integrates Javanese traditional values and family roles, positioning women as central figures in decision-making and in the management of daily care. Within Javanese cultural values, the concept of 3M (*macak, masak, manak*) attributed to women in the family not only influences gender relations but also has implications for family health. Women's dominant role in household management makes them key actors in the care and support of older adults, including those with chronic conditions such as hypertension. The contemporary shift in the meaning of the 3M concept enables women to enhance their health-related knowledge and skills, thereby supporting successful care and improving the quality of life of older adults (Fitria *et al.*, 2022). The success of the intervention depends not only on the educational video itself but also on family members' involvement and support, as well as on the role of local health professionals in improving medication adherence among older adults with hypertension following the intervention (Masnah *et al.*, 2024). Context-based education is expected to enhance knowledge, increase motivation, and empower older people to make better use of health services. Knowledge and attitude are essential foundations for building motivation toward healthy behaviors among elderly individuals with hypertension. The use of hypertension control educational videos has been shown to improve knowledge and attitudes among individuals with hypertension significantly; however, it has not demonstrated a significant effect on behavior among adults aged 41–60 years or pre-elderly (Anshari *et al.*, 2023).

Self-care behavior among individuals with hypertension is measured through several indicators, including medication adherence, implementation of a low-sodium diet, engagement in physical activity, weight control, avoidance of alcohol consumption, and smoking behavior (Knight *et al.*, 2021). This study revealed that elderly Javanese women with hypertension in

Salatiga City exhibited risky behaviors, such as non-adherence to antihypertensive medication, failure to maintain a low-sodium diet, and lack of effort in maintaining an ideal body weight. In fact, self-care behavior serves as an indicator of how effectively individuals can maintain their health in daily life. According to (Maryati *et al.*, 2023), elderly individuals with hypertension should ideally undergo regular medical check-ups and treatment at least once a month to prevent hypertension relapse and maintain controlled blood pressure through proper and consistent self-care behavior. This practice represents a concrete form of self-awareness in performing self-care, as it involves regularly seeking medical examinations and treatment at healthcare facilities.

Regular visits to healthcare services not only aid in the early detection of health problems but also enable healthcare professionals to provide education on healthy lifestyles and appropriate treatment. Kurniawan *et al.* (2022) emphasized in their study that primary health care interventions such as health education, home visits, and telemonitoring have proven effective in improving medication adherence among older adults with hypertension. Furthermore, community service findings by Suhartati *et al.* (2023) demonstrated that after receiving education and blood pressure screenings, elderly participants became more aware and enthusiastic about undergoing regular check-ups. This evidence suggests that accessible health services, combined with educational approaches, can help older adults play an active role in maintaining their health. Therefore, routine visits to health care facilities are an integral component of hypertension management among older adults.

Several obstacles were encountered during the implementation of this study. First, the intervention was applied only once. In contrast, repeated treatments are necessary to achieve optimal results and to encourage older adults to consistently use the learned behaviors in their daily lives (Iswati, 2022). Second, the questionnaire contained multiple response options, which created the potential for inconsistencies in participants' answers between the pre- and post-tests. Another challenge in providing education to older adults is the decline in memory capacity that naturally occurs with aging. Third, the intervention appeared to produce greater changes in behavioral and motivational aspects rather than in physical outcomes. Fourth, this study faced challenges in implementing video-based educational interventions for older adults, including age-related declines in visual and auditory function. In addition, older adults often have limited ability to use technology. To address these barriers, the educational video was designed from

the outset using easily understandable language, clear visuals, and clear audio delivered at an appropriate pace. Access was also provided through direct screening or facilitation by community health workers, ensuring that the educational video remained effective for older adults. Moreover, the video was reviewed by experts to ensure its content remained contextually appropriate for Javanese older adults. There were differences in the basic characteristics between the two groups, namely education level, occupation, and income. The experimental group had lower education, occupation, and income levels, whereas the control group had significantly higher education, occupation, and income levels. Although socioeconomic factors such as education level and monthly income were not included as measured variables or covariates, their potential influence on knowledge, self-care, and empowerment outcomes should be considered. Differences in these characteristics between groups may have acted as confounding factors. However, their impact was partially mitigated by strict eligibility criteria and a pre–post design. Future studies should incorporate socioeconomic variables into the analytical model to strengthen causal inference.

Highlighting the unique challenges and advantages of targeting specific cultural groups, such as Javanese elderly women, could provide further context and justify the need for this study. This study has several strengths and unique features. Behavior change among older adults is generally difficult to achieve in a short period; however, a culturally based approach enables them to more readily accept new information. A culturally based approach is particularly effective when self-care information for hypertension management is delivered by fellow older adults with hypertension who are well known within the community, and when the recommended self-care practices are drawn from everyday experiences that are easy to follow. These findings are consistent with previous research showing that family support and culturally sensitive approaches are significantly associated with self-management and health behaviours among older adults with hypertension (Nurfitasari *et al.*, 2023). Finally, older women can share these experiences with their daughters within the family to help prevent hypertension. In Javanese society, women play a central role in maintaining health, caring for ill family members, and managing daily household activities, thereby contributing to family-level health prevention and care efforts (Husna *et al.*, 2021).

This study was limited by the absence of follow-up assessments to evaluate the long-term sustainability of the observed effects. The outcomes were measured immediately after the intervention; therefore, the persistence of improvements in knowledge, self-care practices, and health service empowerment over time remains unknown. Future studies are recommended to incorporate longitudinal follow-up measurements to assess the durability of educational video interventions in supporting long-term hypertension self-management among older adults. Recommendations for future educational videos include using Javanese, involving family members or community health workers, and incorporating follow-up as part of long-term research. Such studies should assess changes in both behavioural and physical health outcomes among older adults with hypertension after exposure to culturally based Javanese motivational educational videos. Overall, this article makes a significant contribution to understanding the effectiveness of educational video interventions for managing hypertension among older adults by incorporating local cultural wisdom. Nevertheless, to strengthen the findings and broaden the research implications, further consideration is needed of long-term evaluation, more profound exploration of socioeconomic factors, and efforts to improve access to and utilization of technology.

Conclusion

This study reveals a significant difference between the experimental and control groups in variables such as systolic blood pressure, knowledge about hypertension, self-care profile, and healthcare empowerment. The contextual audiovisual educational intervention provided to the experimental group proved effective in enhancing cognitive and behavioral aspects related to hypertension management. However, no significant differences were found in diastolic blood pressure, body mass index (BMI), and overall self-care. In general, the intervention did not produce a substantial impact on the more stable physical aspects. Therefore, it is necessary to strengthen interventions that focus on physical components, such as controlling diastolic blood pressure, managing weight, and practicing comprehensive self-care.

Furthermore, it is recommended that contextual, community-based intervention programs involving trusted local figures who share personal experiences be implemented sustainably and integrated into elderly health services. This educational video intervention

emphasizes Javanese cultural values, particularly the role of women in the family, as key drivers in implementing sustainable self-care behaviors and hypertension management. Thus, family members, particularly women, should support older adults by watching educational videos together. The video link has been provided and is publicly accessible to family members and health cadres, making it easier for older adults to access and thereby enhancing their understanding and motivation regarding the health messages conveyed. Women can serve as a bridge, conveying self-care experiences to other family members, allowing knowledge and practices for hypertension prevention to be passed down across generations. In addition, community-based intervention programs should be implemented sustainably, involving trusted local figures or fellow older adults, so that personal experiences can serve as a source of motivation and learning for other elderly individuals. Also, community health centers (puskesmas) play educational videos on TVs in waiting rooms so that older adults visiting the puskesmas can watch them, as well as during elderly programs such as Prolanis (Chronic Disease Management Program), which is held monthly at puskesmas in Salatiga City.

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