Nursing Journal
Volume 10, Issue 1, Page 92 – 99
e-ISSN: 2354-6050

https://ejurnal.poltekkesjakarta3.ac.id/index.php/JKep/
DOI: https://doi.org/10.32668/jkep.v10i1.1998

THE INFLUENCE OF EDUCATIONAL VIDEOS ON EARLY PREVENTION OF STROKE AGAINST STROKE RISK IN THE ELDERLY

1st Nelly Yardes
2nd Pramita Iriana
3rd Eska Riyanti
4rd Tri Endah Pangastuti
5rd Yeti Resnayanti
6th Nadhia Elsa Silviani

[1] Poltekkes Kemenkes Jakarta III, Bekasi, Jatiwarna, West Java

*email: *riyantieska@gmail.com*

Keywords:
Educational video
Elderly
Stroke prevention

Abstract

Every year, 15 million people worldwide have a stroke. Education using video that are thought to be simple for the elderly to grasp can alter knowledge, attitudes, and behavior among the elderly who are at risk of stroke. This study were conducted to assess the impact of early stroke preventive education videos on stroke risk in the elderly. The method was a quasi-experimental using a non-randomized pretest-posttest control group design. This study was carried out by delivering an educational video intervention for early stroke prevention for three months and comparing the results to those of the control group or without the intervention. The population of this study was the elderly, with a sampling approach of purposive sampling and a sample size of 60 people at Posbindu in the Cipayung district. The data analysis test employed was univariate and bivariate, utilizing independent t-test to assess the effect of the instructional video intervention on early stroke prevention. The difference in the average score of knowledge (1.333; pvalue = 0.011), attitude (1.533; pvalue = 0.011), and behavior (0.466; pvalue = 0.028) in the intervention group before and after the intervention was greater than the difference in the average score of knowledge (0.233; pvalue = 0.165), attitude (0.166; pvalue = 0.484), and behavior (0.000; pvalue = 1.000) in the control group. Furthermore, the independent T-test revealed that the instructional video intervention was helpful in improving knowledge (p-value = 0.064) and attitude (p-value = 0.008). Early stroke prevention education movies improve the elderly's knowledge and attitudes.

Received: March 2025
Accepted: April 2025
Published: May 2025

INTRODUCTION

The occurrence of stroke is a significant global health issue, with a continuing prevalence increase along with the rise in the aging population. According to World Health Organization (WHO) figures, stroke is a prominent cause of mortality, ranking second only to heart disease, with over 12 million new cases reported each year 1. Worldwide, ischemic stroke dominates other types of stroke, contributing approximately 87% of total stroke events. 2. Hypertension, diabetes, dyslipidemia, and lifestyle factors such as smoking and physical inactivity are all major risk factors for stroke 3. In Indonesia, stroke is also a serious health problem. According to data from the Ministry of Health of the Republic of Indonesia, stroke is the biggest cause of mortality in the country, with multiple deaths accounting for 8.4% of total deaths 4. The prevalence of stroke in Indonesia is estimated to reach 1.2% of the total population, with the number increasing with rising age 4. Research shows that ischemic stroke is also the most common type in Indonesia, with similar proportions to global trends 5. Risk factors in Indonesia are similar to those found in other countries, with hypertension being a major risk factor. Data shows that around 63% of stroke patients in Indonesia have a history of hypertension. 6. Additionally, unhealthy eating patterns and a lack of physical activity also contribute to the risk

of stroke among the Indonesian population7. Research in several areas shows that public awareness about the factors that increase the risk of stroke is still low, which indicates the need for educational programs to increase knowledge and prevention of stroke 8. Conditions were exacerbated by the lack of access to quality health services, especially in the rural areas, where facilities were inadequate to handle stroke cases in general, effectively 9. Therefore, efforts to prevent strokes through education in the community, management of risk, and increasing access to healthcare services become very important to reduce the stroke burden in Indonesia. In general, both globally and in Indonesia, stroke remains a serious challenge to the health community in need of attention. Collaborative effort between the government, provider services, and society is required to reduce stroke incidents and increase the quality of life of affected individuals.

The risk of stroke in the elderly is a significant issue in health, considering the aging population and increasing prevalence of factors associated with risks. Stroke, which can be divided into two types, namely ischemic and hemorrhagic, has various risks that are different, which often contradict each other, interact. Among these risk factors, hypertension, diabetes, and atrial fibrillation (AF) are the most commonly identified in the elderly population. Hypertension is a major risk factor for stroke, especially in individuals over 60 years of age. Studies have shown that uncontrolled hypertension can significantly increase the risk of ischemic stroke 10, 11. In addition, visit-to-visit blood pressure variability has also been associated with stroke risk, suggesting that fluctuations in blood pressure may contribute to underlying vascular damage 12. In this context, monitoring and managing hypertension become very important for stroke prevention in the elderly. Diabetes mellitus also plays an important role in increasing the risk of stroke.

A study showed that the risk of stroke increases by 3% each year with the duration of diabetes 13. The combination of diabetes with hypertension and other risk factors, such as obesity and smoking, can worsen the risk of stroke 14. Therefore, good diabetes management is essential to reduce the risk of stroke in the elderly population. In addition to these factors, other risk factors need to be considered, such as dyslipidemia, previous history of stroke, and mental health conditions. Studies have shown that mental health conditions, such as depression, can affect post-stroke outcomes and increase the risk of long-term disability 15. Therefore, a holistic approach that includes physical and mental management is needed to reduce the risk of stroke and improve the quality of life of the elderly. Overall, the risk of stroke in the elderly is influenced by a complex combination of risk factors. Effective management of hypertension, diabetes, and AF, as well as attention to other risk factors, is essential to reduce the incidence of stroke in this aging population.

Early stroke prevention education in the elderly has a significant impact on reducing the risk of stroke. Better knowledge of stroke risk factors and how to prevent them can help the elderly adopt healthy lifestyle behaviors that can reduce the likelihood of stroke. Research shows that effective health education can increase knowledge and awareness of stroke prevention, especially among individuals with hypertension, which is a major risk factor 16. One relevant study showed that a health education program aimed at detecting stroke risk and providing information on stroke prevention can identify individuals at high and low risk 16 . In the program, participants who received education showed increased knowledge of stroke risk factors and preventive measures that can be taken. This is in line with other studies showing that multimedia education can change individual behavior in managing hypertension, which in turn can reduce the risk of stroke 18. In addition, research by Suprayitna and Fatmawati emphasized the importance of socialization about stroke prevention, especially for hypertensive patients. They found that increased knowledge about stroke prevention could contribute to better management of hypertension, which is a major risk factor for stroke 17.

Thus, ongoing and focused education on stroke prevention can help older adults become more aware of the risks they face and the steps they can take to protect themselves. Other studies have also shown that knowledge of stroke risk factors among older adults is associated with education level and life experience. Although there is variation in knowledge levels based on demographics, appropriate education can help increase awareness and understanding of stroke risk across all age groups 18. By increasing this knowledge, older adults can be more motivated to adopt healthy lifestyles, such as a balanced diet, regular exercise, and stress management, all of which contribute

to stroke risk reduction 19. Overall, early stroke prevention education for older adults not only increases knowledge about stroke risk and prevention but also encourages positive behavioral changes. Thus, well-designed educational programs can be an effective tool in reducing stroke incidence among the older population.

METHODS

This research used a quasi-experimental design with an intervention group and a control group. Respondents in the intervention group were given education using a video about the early prevention of stroke, while respondents in the control group were not given special treatment and received stroke counseling. The study included 60 respondents, with 30 in each group. The sample selection technique in this study employed both purposive sampling and cluster random sampling to select representative respondents from each region, specifically Rukun Tetangga (RT). RTs were chosen randomly using a lottery. There were 2 RTs selected. Elderly people in the chosen RTs were sampled according to the inclusion criteria.

In this study, the inclusion criteria were elderly people with a history of hypertension, respondents who can communicate in Bahasa Indonesia, have a mobile phone and internet connection, and are willing to voluntarily participate in a series of research activities by signing an informed consent. The exclusion criteria were elderly people with other degenerative diseases, who do not have a mobile phone or internet connection, and are not willing to be respondents.

Pondok Melati was the site of this study, which took place between May and June 2024. The standardized tools that have been assessed for validity and reliability include questionnaire A to measure knowledge (r_n greater than r_{table} 0.181 and 0.537, Cronbach alpha = 0.758) and questionnaire B to measure stroke risk (all items are valid, p: 0.218, Cronbach alpha = 0.759). A pre-test was administered at the start of the educational session to measure participants' knowledge and perceptions about stroke prevention. Following the pre-test, respondents in the education group were given a 15-minute educational film to watch three times per week for six weeks. The post-test was administered six weeks after the intervention.

The computerized application was used for data analysis, both univariate and bivariate. Univariate analysis is used to determine respondents' attributes, whereas bivariate analysis is used to compare two variables. The bivariate test used is the independent test.

RESULTS AND DISCUSSION

The number of respondents who became the sample was 60 people. Based on the results of the analysis, it was concluded that the elderly respondents in this study were mostly under 65 years old, or around 53%, female, with an elementary school education background, and a current employment status of unemployed or retired. The analysis results in Table 1 showed differences in age, gender, education, and employment status between the intervention and control groups. Table 1 shows that the proportion of the elderly who have a risk of stroke comes from the age group under 65 years, which is 60%, and the rest comes from the age group of 65 years and over, which is 40%. Age 60 years is the beginning of the elderly period, at this time, the elderly must face changes -such as wrinkled skin, blurred eyes, reduced body balance, and degenerative diseases begin to attack many. Such conditions are stressors that must be adapted to by the elderly. Degenerative diseases that are often found include cardiovascular disorders, such as hypertension, and the risk of stroke. The risk of stroke increases with age, with the incidence doubling every decade after age 45.

More than 70% of strokes occur in people over the age of 65. Blood vessels experience decreased elasticity, especially the endothelium, which will experience thickening in the intima, so that the lumen of the blood vessels becomes narrower, and this will have an impact

on decreased blood flow to the brain 20. In this study, it was found that the proportion of elderly individuals who have a risk of stroke and are female is greater, namely 80%, while the proportion of respondents who are male is around 20%. Stroke attacks can occur in both men and women. Risk factors for stroke are multifactorial; in men, the risk factors of smoking and alcohol are more dominant than in women. Meanwhile, postmenopausal women have a higher risk of stroke due to decreased production of the hormone estrogen in these women 21. The elderly who have a risk of stroke and have an elementary school background have the largest proportion, namely 63.3%. Education is effective in increasing knowledge about stroke and can reduce the delay in going to the hospital when stroke symptoms occur 22. The results of the study showed different results, but the provision of educational videos that can be done repeatedly allows for increased knowledge.

Table 1 Homogeneity and Characteristics of Respondents

Variables	Frequency		Amount		p-value
	Control	Intervention	Frequency	%	
Age					**0.403**
< 65 years	14	18	32	53	
>65 years	16	12	28	47	
Gender					**0.542**
Man	8	6	14	13	
Woman	22	24	46	87	
Education					**0.686**
Elementary	18	19	37	62	
Junior high school	4	-	4	6	
Senior high school	8	10	18	31.8	
Colleague	-	1	1	0.2	
Employment Status					**1,000**
Work	5	6	11	16	
Not working	25	24	49	84	

Table 2 results show that there is a difference in the elderly knowledge score before and after intervention early stroke prevention education video (p value = 0.011), and the difference in increase in knowledge scores = 0.133 in the intervention group, but there was no significant difference before and after the intervention in the control group (p value = 0.165) and the difference in decreasing the score = -0.233. When viewed, the increase in knowledge scores in the intervention group was higher than in the control group. The analysis reveals that there are significant differences in attitude score in early stroke prevention before and after intervention of early stroke prevention education video (p value = 0.011), with the difference in attitude score increase = 3.104 in the intervention group, but there was no significant difference before and after the intervention in the control group (p value = 0.484), and the difference in decreasing the score = -0.166. When compared to the control group, the intervention group showed a greater rise in attitude score toward early stroke prevention.

The results analysis on elderlies behavior shows there are differences meaningful behavioral scores in early stroke prevention before and after intervention early stroke prevention education video (p value = 0.028), and The difference in growing behavioral scores = 0.466 in the intervention group, whereas in the control group, there was no significant difference before and after the intervention (p value = 1.000) and the difference in dropping scores = 0. When viewed, the increase in behavioral scores in early stroke prevention in the intervention group was higher than in the control group.

Table 2 Analysis of Knowledge, Attitude, and Behavior Scores of the Elderly Before and After Early Stroke Prevention Educational Video Intervention

Variables	Group	Evaluation	Mean	SD	95% CI	T	p value
Knowledge	Intervention			0.571	-0.346 – 0.080	2.127	**0.011***
		Before	13,866				
		After	14,000				
		Difference	0.133				
	Control			0.163	-0.101 – 0.568	1,424	**0. 165***
		Before	14,000				
		After	13,766				
		Difference	-0.233				
Attitude	Intervention			3.104	-2.692 - 0.374	2,705	0.011*
		Before	13,466				
		After	15,000				
		Difference	1,533				
	Control			1.288	-0.134 – 0.647	0.708	0.484*
		Before	14,800				
		After	14,633				
		Difference	-0.166				
Behavior	Intervention			1.105	- 0.879 - 0.053	2,711	0.028*
		Before	13,533				
		After	14,000				
		Difference	0.466				
	Control			1.144	-0.427 - 0.427	0.000	1,000
		Before	13,766				
		After	13,766				
		Difference	0.000				

Table 3 Comparison of Knowledge, Attitude, and Behavior Scores in Early Stroke Prevention Between Groups

Variables	Group	N	Mean	SD	95% CI	F	P-value
Knowledge	Intervention	30	0.133	0.897	-0.755 – 0.022	1.199	0.064*
	Control	30	-0.233	0.571			
Attitude	Intervention	30	1,533	3.104	-2.928 - -0.471	10,810	0.008*
	Control	30	-0.166	1.228			
Behavior	Intervention	30	0.466	1.105	-1.048 – 0.115	1,726	0.114*
	Control	30	0.000	1.144			

The results showed a significant change in knowledge scores before the intervention in the form of education through videos, with after the intervention by a score difference of 0.133 (P-value = 0.011) in the intervention group. Health promotion media is one of the means or efforts that can be used to display health messages or information that you want to convey to the public so as to increase knowledge, which is ultimately expected to change their behavior in a positive direction or support health. However, the effectiveness of the media is not seen from how sophisticated the media is in its use. To avoid this wrong perception, audio-visual media were formed as a learning medium, which in its development uses concrete experiences as a learning model 23. One way to expand a person's knowledge is to provide health education. Health education can expand knowledge, raise awareness, and modify behavior, allowing individuals or communities to take an active role in improving health. According to Safwan et al (2024), educational videos are effective in increasing awareness about stroke elderly 22. Learning through video media can result in effective, engaging, and non-boring learning, which speeds up the process of providing material to pupils. The benefits of video media include the ease with which teachers can provide knowledge, its appeal, and its participatory nature. Video media can be utilized repeatedly.

The results showed that there was a significant change in attitude scores before the intervention in the form of education via video, compared to after the intervention, with a score difference of 1.533 (P-value = 0.011) in the

intervention group. The previous study shows that educational videos made the elderly more aware of stroke prevention and the emergencies that may happen 22,24. Apart from that, through the video education, the elderly can identify some audio and visual. So it was of significant utility to the elderly. In general, building positive habits and mindsets about stroke prevention is the main focus of goal of stroke prevention education 22,23,24,25. The intervention group showed that the attitude increased more than the control group. For this reason, health promotion about stroke prevention educational videos is one way to change respondents' attitudes. Previous studies also show that educational videos can change elderly attitudes about hypertension, stroke, and gout 26,27. Audio-visual media can improve learning results by stimulating imagination and increasing learning motivation. The use of media in learning is strongly advised to increase the quality of learning. This study shows that the intervention group's behavior score increased more, while the control group did not show any differences. The increase of behavior can be significantly influenced by the increase of knowledge and attitude 28. Audiovisual media not only provide an effective method of learning in a shorter period, but what is received through audiovisual media lasts longer and is better preserved in memory. Audio-visual media make it easier for people to transmit and receive lessons or information, and they helps prevent misunderstandings. So, this media can be useful for health promotion in the community setting.

CONCLUSION

The intervention group had a considerably higher average gain in older knowledge and behavior about stroke prevention. Furthermore, the average attitude of the elderly toward stroke prevention before and after intervention was significantly higher in the intervention group compared to the control group. As a result, it is determined that educational movies have a considerable impact on the elderly's knowledge and attitudes about stroke prevention.

REFERENCE

1. World Health Organization. 2022. https://www.who.int/srilanka/news/detail/29-10-2022-world-stroke-day-2022
2. Kleindorfer DO, Towfighi A, Chaturvedi S, Cockroft KM, Gutierrez J, Lombardi-Hill D, et al. 2021 Guideline for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack: A Guideline From the American Heart Association/American Stroke Association. Stroke [Internet]. 2021 Jul 1 [cited 2025 Mar 18];52(7):E364–467. Available from: https://www.ahajournals.org/doi/10.1161/STR.0000000000000375
3. Rahayu TG. Analisis Faktor Risiko Terjadinya Stroke Serta Tipe Stroke. Faletehan Heal J [Internet]. 2023 Mar 31 [cited 2025 Mar 18];10(01):48–53. Available from: https://journal.lppm-stikesfa.ac.id/index.php/FHJ/article/view/410
4. Kementerian Kesehatan RI. Riset Kesehatan Dasar Tahun 2018. 2018.
5. Budianto A, Sari R, Setya Pratama R, Kesehatan F, Muhammadiyah U, Lampung P. Dukungan Keluarga Terhadap Depresi Pada Pasien Lansia Pasca Stroke Hemoragik. J Ilm Kesehat [Internet]. 2022 Jan 3 [cited 2025 Mar 17];11(1):44–50. Available from: https://ejournal.umpri.ac.id/index.php/JIK/article/view/1619
6. Rahayu EO. Perbedaan Risiko Stroke Berdasarkan Faktor Risiko Biologi Dan Perilaku Merokok Pada Usia Produktif. 2015 [cited 2025 Mar 17]; Available from: http://lib.unair.ac.id
7. Nyomba MA, Wahiduddin W, Rismayanti R. Faktor Yang Berhubungan Dengan Kejadian Ispa Pada Balita Di Sekitar Wilayah Tpa Sampah: Factors Associated with the Incidence of ARI in Toddlers

Around Waste Disposal. Hasanuddin J Public Heal [Internet]. 2022 Dec 23 [cited 2025 Mar 17];3(1):8–19. Available from: https://journal.unhas.ac.id/index.php/hjph/article/view/19796

8. Yulianti EP, Aminah S. Pengaruh Aktivitas Fisik Terhadap Stabilitas Tekanan Darah Penderita Hipertensi pada Lansia di UPT Puskesmas Bahagia Tahun 2022. J Pendidik dan Konseling [Internet]. 2022 Jul 2 [cited 2025 Mar 17];4(4):103–13. Available from: https://journal.universitaspahlawan.ac.id/index.php/jpdk/article/view/5172
9. Abbasian M, Rashidi Birgani H, Khabiri R, Namvar L, Jahangiry L. Exploring Education Interventions for Stroke Prevention Among Adults and Older Individuals: A Scoping Review. Heal Sci Reports [Internet]. 2024 Nov 1 [cited 2025 Mar 17];7(11):e70167. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC11540802/
10. Muthmainnah M, Maulani F. The Relationship of education Lever To Nurses' Confidence in Performing CPR In The Emergency Room RSD X. J Nurs Invent [Internet]. 2023 Dec 31 [cited 2025 Mar 17];4(2):162–6. Available from: https://ejurnal.unism.ac.id/index.php/JNI/article/view/474
11. Lip GYH, Clementy N, Pericart L, Banerjee A, Fauchier L. Stroke and major bleeding risk in elderly patients aged ≥75 years with atrial fibrillation: the Loire Valley atrial fibrillation project. Stroke [Internet]. 2015 Jan 3 [cited 2025 Mar 17];46(1):143–50. Available from: https://pubmed.ncbi.nlm.nih.gov/25424474/
12. Heshmatollah A, Ma Y, Fani L, Koudstaal PJ, Arfan Ikram M, Kamran Ikram M. Visit-to-visit blood pressure variability and the risk of stroke in the Netherlands: A population-based cohort study. PLoS Med [Internet]. 2022 Mar 1 [cited 2025 Mar 17];19(3). Available from: https://pubmed.ncbi.nlm.nih.gov/35298463/
13. Yang Y, Shi YZ, Zhang N, Wang S, Ungvari GS, Ng CH, et al. The Disability Rate of 5-Year Post-Stroke and Its Correlation Factors: A National Survey in China. PLoS One [Internet]. 2016 Nov 1 [cited 2025 Mar 18];11(11). Available from: https://pubmed.ncbi.nlm.nih.gov/27824877/
14. Firmawati E, Rochmawati E, Setyopranoto I. Deteksi Risiko Stroke Dan Edukasi Sebagai Upaya Pencegahan Primer Terjadinya Stroke. J SOLMA [Internet]. 2023 Aug 11 [cited 2025 Mar 17];12(2):705–12. Available from: https://journal.uhamka.ac.id/index.php/solma/article/view/11834
15. Suratun S, Krisanty P, Lusiani D, Sahat CS. The Effect of Counseling Using Video and Booklet Media on The Level of Knowledge on Stroke Prevention in Hypertension Patients. J Keperawatan [Internet]. 2024 Jun 1 [cited 2025 Mar 18];9(1):142–58. Available from: https://ejurnal.poltekkesjakarta3.ac.id/index.php/JKep/article/view/1413
16. Suprayitna M, Ruli Fatmawati Program Studi Keperawatan Jenjang BD, YARSI Mataram S. Pengaruh Pendidikan Kesehatan Terhadap Tingkat Pengetahuan Pencegahan Stroke Pada Penderita Hipertensi. J Persat Perawat Nas Indones [Internet]. 2021 Sep 24 [cited 2025 Mar 18];6(2):54–63. Available from: https://www.jurnal-ppni.org/ojs/index.php/jppni/article/view/271
17. Mo'awad E, Ebied ES, Abdeldaiem NA. Cerebrovascular Stroke Risk Factors and Level of Knowledge among Community-dwelling Hypertensive Elderly. Egypt J Heal Care [Internet]. 2018 Sep 1 [cited 2025 Mar 17];9(3):573–86. https://ejhc.journals.ekb.eg/article_207942.html
18. Boehme AK, Esenwa C, Elkind MSV. Stroke Risk Factors, Genetics, and Prevention. Circ Res [Internet]. 2017 Feb 3 [cited 2025 Mar 17];120(3):472–95. Available from: https://pubmed.ncbi.nlm.nih.gov/28154098/

19. Nadhifah TA, Sjarqiah U. Gambaran Pasien Stroke Pada Lansia di Rumah Sakit Islam Jakarta Sukapura Tahun 2019. Muhammadiyah J Geriatr [Internet]. 2022 Aug 2 [cited 2024 Dec 9];3(1):23–30.https://jurnal.umj.ac.id/index.php/MuJG/article/view/8889
20. Jessyca F, Sasmita PK, Kedokteran F, Kesehatan I. Hubungan Tingkat Pendidikan Dan Pengalaman Terkait Stroke Dengan Pengetahuan Stroke Relationship Between Education Level And Stroke-Related Experience With Knowledge Of Stroke. Vol. 20, Damianus Journal of Medicine. 2021.
21. Aeni N, Yuhandini S, Politeknikkesehatantasikmalaya). Pengaruh Pendidikan Kesehatan Dengan Media Video Dan Metode Demonstrasi Terhadap Pengetahuan SADARI. Vol. 6, Journal Care. 2018.
22. Safwan J, Iskandar K, Chadia H, Sacre H, Pascale S, Yousef S, Tatiana AkL, Yasmina Sfeir, Hassan Hosseini, Fouad Sakr and Michele Cherfane. Assessing the efficacy of an educational Video on Stroke Knowledge in Lebanon : A Single-arm Interventional Study. BMC Public Health. https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-20552-3
24. Asmaria M, Yessi H, Hidayati H. Edukasi Deteksi Dini Stroke dengan Media Berbasis Audio Visual Pada Komunitas Diabetes dan Hipertensi Pada Masa Pandemi Covid-19. Abdi J Pengabdi dan Pemberdaya Masy. 2022 Nov;4(2):410–9.
25. Juniartati, E., Zaini, S., Keperawatan Singkawang, J. Pengaruh Pendidikan Kesehatan Melalui Media Audio Visual Tentang Pencegahan Stroke Pada Penderita Diabetes Mellitus. Kemenkes Pontianak. (2025).http://journal.universitaspahlawan.ac.id/index.php/ners
26. Suratun, Manurung S, Ekarini NLP, Camalia, Yardes N. The Effect of Stroke Edcuation with Video on Stroke Prevention Behavior in Hypertention Elderly in Cipayung Health Center Area East Jakarta. 2023. https://doi.org/10.53730/ijhs.v7nS1.14368
27. Mbadhi JM, Limbu R, Ndoen E.M. Educational Video Media to Increase Knowledge and Attitude of Elderly about Gout. Journal of Health and Behavioral Science. 2022. 4(1). https://doi.org/10.35508/jhbs.v4i1.5173
28. Muslihati I, Lisandi YG, Kasahan R, Winarko HA. Effect of Education Media Video on Improve Stroke Prevention Behavior In Continued Age In Wiyurejo Pujo Malang. Journal of Nursing Practice. 2018. 1(2).https://thejnp.org/index.php/jnp/article/view/28/23