Jurnal Ilmu dan Teknologi Kesehatan, Vol. 16 No. 1 Januari 2025 Hal 1-5
ISSN 2086-8510 (Print), ISSN 2655-5875 (Online)
https://doi.org/10.33666/jitk.v15i1.637 https://journal.uwhs.ac.id/index.php/jitk/article/view/637

THE EFFECT OF APPLICATION-BASED DISCHARGE PLANNING ON THE LEVEL OF KNOWLEDGE OF STROKE PATIENTS

Desi Ramadhani, *Dwi Retnaningsih

Widya Husada University Semarang

Email Korespondensi: dwi.retnaningsih@uwhs.ac.id

Submitted: Mar 23rd 2024 Revised: May 28th 2024 Accepted: Jul 17th 2024 Published online: Sep 13rd 2024

ABSTRACT

Stroke is a condition that can cause numerous physical and psychological issues that interfere with her quality of life. The importance of the role of the nurse, the family and the patient's closest people must have an impact on the continuation of post-hospital care. Because they're going to carry out long-term care to stroke patients at home, so discharge planning or planning home is vital in the care of stroke patient during hospitalization. Nonetheless, stories of discharge planning being implemented suboptimally continue to surface. The reason is the application of improper techniques. The aim of the study is to determine the impact of application use on stroke patients' level of knowledge. The research method used is quantitative descriptive research with one group pretest and posttest design. A total of 21 respondents with purposive sampling techniques. The study provides an outcome understanding of the stroke patient's general understanding of stroke such as the definition, signs of symptoms, risk factors, immediate treatment of attacks, permitted or restricted diets and adaptation of the patient to residual stroke symptoms such as paralysis, swallowing disorders, communication impairments, visual impairment, and other disorder. Increased patient understanding of the use of discharge planning applications.
Keywords: Discharge planning, knowledge level, stroke

INTRODUCTION

Stroke is the leading cause of disability worldwide and the number two cause of death (WHO, 2022). A stroke occurs when the blood vessels of the brain are blocked or broken. As a result, some parts of the brain do not get the blood supply that carries the necessary oxygen, resulting in the death of cells and networks (Kementrian Kesehatan RI, 2019). According to (Kemenkes RI, 2018), the prevalence of stroke in the population ≥15 years of age in Indonesia in 2018 was 10.9%, and the province of Central Java ranked 10th with a prevalence as high as 11.8%. For stroke patients, discharge planning is an important component in order to minimize further complications and improve their quality of life. Although the patient has received good care in the hospital, nursing care associated with advanced care should be continued until home care so that the recovery of the stroke victim can be accelerated (Indrawati et al., 2021). Effective discharge planning for stroke in hospitalized patients can reduce the risk of re-hospitalization or re-inpatient treatment (Ravn & Andersen, 2020).

Currently, however, there are still a lot of stories about discharge planning for stroke patients not being implemented as well as it should be. The primary causes of insufficient discharge planning execution are inappropriate procedures and the inactivity of professional responsibilities (Palareti et al., 2016). Inadequate discharge planning can increase a patient's reliance on therapy and interfere with the continuity of care when the patient is at home (Fitri et al., 2020). Discharge planning's influence on the rise in hospital admissions is still subpar, and eventually patients will be responsible for covering hospital expenses (Retnaningsih et al., 2023). Rehospitalization, or the patient's condition returning, is extremely harmful to both the hospital and the patient's family (Simbolon et al., 2019). The application-based discharge planning program aims to provide an efficient solution to the use of discharge planning in the modern era by leveraging information technology that can be easily accessed by patients anytime and anywhere. With this app-based discharge planning, patients can improve their quality of life as well as their knowledge.

RESEARCH METHOD

The research method used is quantitative descriptive research with one group pretest and posttest design. The sample population in this study is the entire stroke patient who underwent hospitalization at the KRMT Wongsonegoro hospital Semarang, central java, Indonesia, with a total of 21 respondents with purposive sampling techniques. The research was conducted between September and October 2023. The research used instruments in the form of questionnaires and discharge planning applications. Ethics tests are conducted in hospitals with ethics number 009/Kom.EtikRSWN/IX/2023. Additional inclusion criteria include: stroke patients admitted to a stroke unit, stroke

patients who do not experience loss of consciousness, stroke patients who can communicate, stroke patients who can read and write.

RESULT

According to the repot's result, based on age, the majority is 8 patients between 50 and 60 years of age (38.1%) and 8 patients over 60 years of age, or 38.1% of the population. The majority of stroke sufferers are males, 52.4%, or 11 people. Most unemployed patients are 6, or 28.6%. The educational level is high school patients, with 10 people, or 47.6% of the total. According to the history of the disease, there are 11 patients with a history of hypertension, or 52.4 percent. Most patients have a stroke that lasts less than 1 month, which is 19 people with a percentage of 90.5%. There are 18 people, or 85.7%, who have had their first stroke (table 1).

Table 1
Characteristics of respondents

	Characteristics	Frequency	Percentage (%)
Age	30-40 year	1	4.8
	40-50 year	4	19.0
	50-60 year	8	38.1
	>60 year	8	38.1
Gender	Male	11	52.4
	Female	10	47.6
Job	Not in work	6	28.6
	PNS/TNI/POLRI	3	14.3
	Employee	2	9.5
	Trader	3	14.3
	Farmer	3	14.3
	Retirement	3	14.3
	Driver	1	4.8
Education	Not in school	1	4.8
	Graduated from elementary school	3	14.3
	Graduated from junior high school	2	9.5
	Graduated from senior high school	10	47.6
	Undergraduate	5	23.8
History of illness	Diabetes mellitus	3	14.3
	Hypertension	11	52.4
	Diabetes mellitus& hypertension	7	33.3
How long stroke	<1 month	19	90.5
	6 month-1 year	2	9.5
	>1 month	-	
How many stroke	First	18	85.7
	Second	3	14.3
Total		**21**	**100%**

Based on the table 2, it can be explained that:

a. Negative ranks for pre test and post test is 0 on the value of N. This value is indicates a decrease from the pre test score to the post test score.
b. Positive ranks for pre test and post test is 17 on the value of N which means that 17 respondents experienced an increase mark knowledge from pre test score to post test score.
c. There are no comparable values between the pretest and posttest in this case, as indicated by the Ties value of 0. Ties measures the similarity between pretest and posttest results.

Based on the table 2, Wilcoxon test result, it's known that Asymp.Sig (2-tailed) is worth (0.000). because the *p-value* 0.000<0.005, it can be concluded that there is effectiveness of application-based discharge planning on the level of knowledge of stroke patients.

Jurnal Ilmu dan Teknologi Kesehatan, Vol. 16 No. 1 Januari 2025 Hal 1-5
ISSN 2086-8510 (Print), ISSN 2655-5875 (Online)
https://doi.org/10.33666/jitk.v15i1.637 https://journal.uwhs.ac.id/index.php/jitk/article/view/637

Table 2. Wilcoxon test rank

		N	Mean Rank	Sum of Ranks	Z	*p* value
Post - Pre	Negative Ranks	0[a]	.00	.00	-3.824[a]	.000
	Positive Ranks	17[b]	9.00	153.00		
	Ties	4[c]				

Based on the results of the study (tables 3), the values before and after the test have changed significantly, and this can be seen in percentages.

Table 3. Level of Knowledge Pre and Post Test

Level of Knowledge	Pre		Post	
	N	%	n	%
Very good	9	43	20	95,2
Good	8	38	1	4,8
Average	2	9,5	0	0
Deficient	2	9,5	0	0

DISCUSSION

Characteristic of respondents

Age is an unchangeable risk factor for stroke. Older people experience strokes more often due to aging and cause clinical symptoms after strokes. A study conducted (Geneva, 2023) found that both men and women are at higher risk of stroke as they age (Guido et al., 2022). Stroke attacks are more common in the older age group of 55–64 years. Other studies also explained that, according to the distribution of non-hemorrhagic strokes by age, the incidence was lower in the age group under 45 years compared to those over 45. This may be associated with a decrease in the hormone estrogen in older women over 50 (Hardika et al., 2020).

As to the study's findings, 47.6% of the participants had completed high school, making up the majority of the sample. Respondents' health knowledge is influenced by their educational attainment. Respondents with higher education levels have more knowledge and information about health than respondents with lower education levels. According to Green's statement in Rini & Maya (2021), individuals with a higher level of knowledge tend to demonstrate positive health-related behavior. Instead, individuals with the lowest level of knowledge can only remember, describe, define, and state information without proving understanding, application, analysis, and evaluation of existing abilities (Li et al., 2023).

According to the results of the study, many patients have a history of hypertension, which is as many as 11 people with a percentage of 52.4%, while the rest have diabetes mellitus as well as complications of high blood pressure and diabetes. The main cause of stroke, both hemorrhagic and ischemic, is hypertension. Peripheral blood pressure rises due to hypertension, which disrupts the hemodynamic system and causes blood vessel thickening and hypertrophy of the heart muscle. Smoking habits and eating foods high in fat and salt that patients with atherosclerosis plaque have can make this worse. This is in line with a study conducted (Puspitasari, 2020). Many factors that can affect stroke include age, gender, race, hypertension, excessive cholesterol (Xiong et al., 2024), diabetes mellitus, smoking, atherosclerosis, heart disease, obesity, alcohol consumption, stress, supportive socio-economic situations, unhealthy diets, a lack of movement or physical activity, and the use of anti-pregnancy drugs. However, hypertension is the only factor that significantly affects the risk of stroke. Based on the results of the research, the researchers concluded that hypertension is a major factor in individual strokes(Azeez et al., 2023).

According to Adila & Handayani (2020), the analysis of ten articles revealed that, of the post-stroke patients' families whose last attack occurred within a year, the majority of six articles had low knowledge, with ranges ranging from 63,8% to 100%, and four articles had high knowledge, with ranges ranging from 58% to 74%. A family's understanding of stroke is influenced by age, education level, and the availability of schooling. The study states that the influence of discharge planning is very good, as well as family support will have an impact in improving the quality of life of stroke patients that can improve the activity, prevention of disease complications and compliance of patients in the consumption of medication and routine conduct of disease control(Sitompul et al., 2020). Lack of education causes respondents to act negatively because they are less able to receive the health-related knowledge necessary to take appropriate action. Education is also necessary to learn about issues that affect health and can enhance quality of life. The provision of health education influences knowledge in the implementation of stroke(Taher et al., 2022).

CONCLUSION AND SUGGESTION

The findings reveal the influence of application-based discharge planning on the level of knowledge of stroke patients in the KRMT Wongsonegoro hospital in Semarang, central Java, Indonesia. Based on observation data, patients benefit greatly from the discharge planning application, particularly in knowing how to adjust to life following hospital discharge. This research is expected to be a reference point for hospitals in implementing discharge planning for stroke patients, and for patients, this research is intended to educate the public about the preparedness of the stroke patient for continued treatment and care.

REFERENCES

Adila, S. T. A., & Handayani, F. (2020). Gambaran Tingkat Pengetahuan Mengenai Stroke pada Keluarga Pasien Pasca Stroke dengan Serangan Terakhir Kurang dari Satu Tahun: Literature Review. *Holistic Nursing and Health Science*, *3*(2), 38–49. https://doi.org/10.14710/hnhs.3.2.2020.38-49

Azeez, T. A., Durotoluwa, I. M., & Makanjuola, A. I. (2023). Diabetes Mellitus as a risk factor for stroke among Nigerians: A systematic review and meta-analysis. *International Journal of Cardiology: Cardiovascular Risk and Prevention*, *18*(February), 200189. https://doi.org/10.1016/j.ijcrp.2023.200189

Fitri, E. Y., Herliawati, H., & Wahyuni, D. (2020). Model Five Home Planning Development. *Jurnal Kesehatan Saelmakers PERDANA*, *3*(2), 186–197. https://doi.org/https://doi.org/10.32524

Geneva, R. (2023). Gambaran Karakteristik Individu Dengan Kejadian Stroke Pada Pasien. *Jurnal Kedokteran STM(Sains Dan Teknologi Medik)*, *VI*(Ii), 159–167. https://doi.org/https://doi.org/10.30743/stm.v6i2.466

Guido, G., Crivellaro, E., De Fortunato, G., & Melloni, L. (2022). Sex and age dimorphism of the gut-brain axis in ischemic stroke: A systematic review of preliminary studies. *Brain Research*, *1784*(March), 147888. https://doi.org/10.1016/j.brainres.2022.147888

Hardika, B. D., Yuwono, M., & Zulkarnain, H. (2020). Risk factors that affect the occurrence of non-hemorrhagic stroke in patients at RK Hospital Charitas and Myria Hospital Palembang. *Jurnal Akademika Baiturrahim Jambi*, *9*(2), 268. https://doi.org/10.36565/jab.v9i2.234

Indrawati, L., Fitryasari, R., & Ahsan. (2021). Effectiveness of Nursing Discharge Planning Interventions for Stroke Patient : A Systematic Review. *STRADA Jurnal Ilmiah Kesehatan*, *10*(1), 1066–1072. https://doi.org/10.30994/sjik.v10i1.762

Kemenkes RI. (2018). Laporan Riskesdas 2018 Kementrian Kesehatan Republik Indonesia. In *Laporan Nasional Riskesdas 2018* (Vol. 53, Issue 9, pp. 154–165).

Kementrian Kesehatan RI. (2019). *Yuk, Mengenal Apa itu Stroke*.

Li, D., Wang, J., Zhao, L., Yan, J., Zou, Y., Guo, S., & Wang, Y. (2023). The effect of educational level on the recurrence rate and number of episodes of stroke in stroke survivors. *Journal of Stroke and Cerebrovascular Diseases*, *32*(12), 107442. https://doi.org/10.1016/j.jstrokecerebrovasdis.2023.107442

Palareti, G., Legnani, C., Cosmi, B., Antonucci, E., Erba, N., Poli, D., Testa, S., & Tosetto, A. (2016). Comparison between different D-Dimer cutoff values to assess the individual risk of recurrent venous thromboembolism: Analysis of results obtained in the DULCIS study. *International Journal of Laboratory Hematology*, *38*(1), 42–49. https://doi.org/10.1111/ijlh.12426

Puspitasari, P. N. (2020). Hypertension Relationship to Stroke Incidence. *Jurnal Ilmiah Kesehatan Sandi Husada*, *12*(2), 922–926. https://doi.org/10.35816/jiskh.v12i2.435

Ravn, S. L., & Andersen, T. E. (2020). Neuropsychiatric of COVID-19 Resilience and Being Thankful. *Psychiatric Times*, *37*(11), 1–60.

Retnaningsih, D., Suara, E., & Isnaini Nugraha, R. (2023). Aplikasi Discharge Planning Pasien Stroke. *Jurnal*

Keperawatan, *16*(1), 71–78. https://doi.org/https://doi.org/10.32583/keperawatan.v16i1.1459

Rini, S., & Maya, F. (2021). *The level of knowledge of nurses about the application of the Six Principles accurately in the administration of medicines in nursing facilities*. Wawasan Ilmu.

Simbolon, S., Hamid, A. Y. S., Mustikasari, & Besral. (2019). The effectiveness of discharge planning stroke patient due to hypertension to improve patient satisfaction and independence. *Enfermeria Clinica*, *29*(Insc 2018), 703–708. https://doi.org/10.1016/j.enfcli.2019.06.011

Sitompul, O. H., Faridah, I., & Afiyanti, Y. (2020). Literatur Review Pengaruh Discharge Planning dengan Kualitas Hidup Pasien Stroke. *Jurnal Ilmu Kesehatan Indonesia (JIKSI)*, *1*(2), 1–6. https://doi.org/10.57084/jiksi.v1i2.413

Taher, R., Ali, S., & Bugis, H. (2022). PPengaruh Health Education Dengan Media Audio Visual Terhadap Tindakan Masyarakat Dalam Melakukan Pertolongan Pertama Pada Pasien Stroke. *Jikkhc*, *06*(01), 1–10.

WHO. (2022). *Global Stroke*.

Xiong, C., Gao, F., Zhang, J., Ruan, Y., Gao, T., & Cai, J. (2024). Investigating the impact of remnant cholesterol on new-onset stroke across diverse inflammation levels : Insights from the China Health and Retirement Longitudinal Study (CHARLS). *International Journal of Cardiology*, *March*, 131946. https://doi.org/10.1016/j.ijcard.2024.131946