

Identification Of Clinical Pathway Models To Prevent Complications And Improve The Quality Of Life Of Stroke Patients

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Abstract

Stroke is a disease with high cost, high volume, and high risk. The burden of these costs will increase if you experience complications that often occur in sufferers. This study aimed to identify a clinical pathway model to prevent complications and improve the quality of life of stroke patients. This study is a quantitative descriptive study with cross-sectional, with 95 samples of stroke patients who have been treated for at least 1 day, can communicate 2 ways at Hospital dr. Chasbullah Abdulmadjid Bekasi City, and who have studied ethical feasibility. Participants must fill out informed consent. Data were collected using questionnaires and analyzed using univariate analysis. The results showed that the most participants were aged between 45 – 59 years (43.2%), male (61.1%). Hypertension, disease before stroke (71.9%), and 2 attacks (10.5%). (51.6%) were unaware of stroke with symptoms of muscle weakness (87.4%), (45.3%) difficulty speaking, and (17.2%) blurred vision. (46.9%) complications of paralysis. Activity daily living eating and drinking (55.8%), (58.95) personal hygiene, (62.1%) elimination, (68.4%) ambulation, (65.3%) mobilization, and (54.7%) rest/sleep should be assisted. Treatment was carried out by taking medication (89.5%) and control to health facilities (75.8%), but (75.8%) did not carry out rehabilitation and exercise (54.7%). There are still many participants who do not know about stroke well, which affects their independence in carrying out activities. Therefore, a clinical pathway model is needed that is used as a reference in providing information and education to stroke patients, to prevent complications and improve the quality of stroke patients.

Keywords: Clinical pathway, knowledge of stroke, complications, quality of life.

INTRODUCTION

The issue of stroke being the second cause of death and the third cause of disability in the world after heart disease (World Health Organization, 2019), is a very scary trend. Stroke is one of the non-communicable diseases that reduces the quality of life of sufferers drastically with a high mortality rate. In 2019, there were 5 million deaths from stroke worldwide (Bochen Cao, Gretchen A. Stevens, 2020). is a very scary trend. Stroke is one of the non-communicable diseases that reduces the quality of life of sufferers drastically with a high mortality rate. In 2019, there were 5 million deaths from stroke worldwide (Badan Penelitian dan Pengembangan Kesehatan, 2018).

Stroke is one of the causes of neurological disability in adults due to blockage or rupture of blood vessels in the brain so that blood flow and oxygen are blocked (Kemenkes RI, 2019). Stroke patients experience limitations in performing their functions such as in daily activities.

Stroke patients experience a decrease in carrying out daily activities independently compared to someone of the same age who did not have a stroke (Owolabi et al., 2021). The decrease will affect the quality of life owned, especially if complications occur. Complications that are often common in stroke patients are thoracic infection, constipation, aspiration pneumonia, UTIs, urinary retention, and recurrent strokes (Ladhani et al., 2018). Stroke is a disease that is high cost, high volume, and high risk so if there are complications then financing will increase (Mazidah, Yasin, & Kristina, 2019).

The Indonesian government has made efforts to prevent stroke and complications due to stroke. A clinical pathway is used. A clinical pathway is an integrated service planning concept that summarizes every step given to patients and can be used in cost rationalization without reducing quality and as an effort to prevent a disease (Asmirajanti et al., 2017). Clinical pathways are commonly used by caregiving professionals in healthcare facilities, but individuals in the community can benefit from the underlying principles of clinical pathways. These principles include knowledge of disease, ways, and decision-making in health care, as well as asking health professionals to prevent and improve the quality of life of patients (Snooks et al., 2017). Prevention efforts must involve patients and families (Yudiati, 2017) so that awareness about the importance of early prevention of stroke increases.

Recent research shows that 71.4% of respondents understand and 68.6% know about stroke and 54.3% of preventive behavior at Helvetia Medan Health Center are still lacking (Amila et al., 2019). The majority of respondents 77.46% had stroke-related awareness, low (Setyopranoto et al., 2021). The results of a preliminary study conducted on 15 participants with stroke patients at RST Jakarta about knowledge, care, and recovery efforts from stroke, they said that they did not know about stroke, what foods are allowed and not allowed, and efforts must be made so that speech is not relaxed and runs normally. Based on the above, researchers are interested in identifying clinical pathway models to prevent complications and improve the quality of life of stroke patients.

METHODS

This research is a quantitative, cross-sectional descriptive study. The research sample was the total population of stroke sufferers with or without complications, who had been treated for at least 1 day, were able to communicate in 2 directions, and were willing to become participants. This number is limited by the research time, namely 1 month. The number of participants who

took part in this research was 95 people. The research was carried out from 20 July – 20 August 2023, in the Inpatient Room of Hospital dr. Chasbullah Abdulmadjid Bekasi City and has received an ethical review with number: 029/KEPK/RSCAM/IX/2023.

The research instrument uses a questionnaire that includes participant characteristics, sufferer knowledge about stroke and the complications that occur, and activities and care carried out by sufferers to prevent complications and improve quality of life. The results of the validity test, all questionnaires have a value greater than r table, 0.312, and reliability with a value greater than r-Alpha, namely 0.557. Participants must fill out informed consent and then fill out a questionnaire. The collected data is then coded, entered into a computer, and analyzed. Data analysis uses univariate analysis to determine frequency and percentage values. From the results of the data analysis, conclusions were drawn and a clinical pathway model was created.

RESULTS

This study involved 95 participants who had strokes and had been hospitalized for at least one day. Participants can carry out two-way communication and are expected to be able to fill out the questionnaire independently. Participants who were unable to fill out the questionnaire independently were assisted by their families with direction from the participant.

Table 1. Characteristics of research participants (n=95)

Variables	Statistics	
	N	%
age		
< 35 Years	6	6.3
36 – 44 Years	4	4,2
45 – 59 Years	41	43.2
60 – 69 Years	30	31,6
>70 Years	14	14.7
Gender		
Male	58	61,1
Female	37	38.9
Education		
No School	2	2.1
Elementary School	15	15.8
Junior High School	17	17,9
Highschool	49	51.6
Undergraduates	3	3,2
Graduates	9	9,5
Work		
Private employees	14	14.7
Self-employed	38	40.0

Government employees	4	4,2
Retired	15	15,8
Doesn't work	24	25,3
Past medical history		
Hypertension	68	71,6
Diabetes mellitus	7	7,4
Heart disease	4	4,2
Other diseases	16	16,8
Time of the first stroke		
< 1 month	61	64,2
1 – 6 months	13	13,7
7 – 12 months	2	2,1
> 12 months	19	20,0
Stroke incident		
1 time	65	68,4
2 times	20	21,1
> 2 times	10	10,5

Table 1 shows that the participants' ages are categorized as follows: 6 (6.3%) < 35 years, 4 (4.2%) aged 36 – 44 years, 41 (43.2%) aged 45 – 59 years, 30 (31.6%) aged 60-69 years, and 14 (14.7%) >70 years. Participants 58 (61.1%) were male and 37 (38.9%) were female. 49 (51.6%) have a high school education, and 38 (40.0%) work as entrepreneurs. 68 (71.6%) suffered from hypertension before having a stroke 61 (64.2%) generally had the first attack in < 1 month, and 10 (10.5%) had experienced attacks more than 2 times.

Table 2. Knowledge, complications, daily living activities, and treatment carried out by participants (n=95)

Variable	Statistics			
	Yes	%	No	%
Stroke Knowledge				
Know about strokes	46	48,4	49	51,6
muscle weakness	83	87,4	12	12,6
Difficulty speaking	43	45,3	52	54,7
Blurred vision	17	17,9	78	82,1
Treatment at health facilities	95	100	0	0
Stroke Complications				
Paralysis	79	83,2	16	16,8
Speech disorders	50	52,6	45	47,4
Elimination disorders	16	16,8	79	83,2
Daily Living Activities				
Helped with eating and drinking	53	55,8	42	44,2
Personal Hygiene assisted	56	58,9	39	41,1
Assisted elimination	59	62,1	36	37,9
Assisted ambulation	65	68,4	30	31,6
Mobilization assisted	62	65,3	33	34,7
Assisted rest/sleep	52	54,7	43	45,3

Handling				
Be diligent in taking medication	85	89.5	10	10.5
Control of Health Facilities	72	75.8	23	24.2
Medical Rehabilitation	23	24.2	72	75.8
Sports	43	45,3	52	54,7

Table 2. Participants' knowledge shows that 49 (51.6%) did not know about stroke. Symptoms felt by patients when they had a stroke were muscle weakness 83 (87.4%), 43 (45.3%) difficulty speaking, and 17 (17.2%) blurred vision. These symptoms can occur with one of the symptoms mentioned above or simultaneously. Participants may experience one of the complications such as paralysis 30 (46.9%), speech disorders 17 (26.6%), and 13 (20.2%) elimination disorders or simultaneously.

The results of the activity daily living (ADL) research in Table 2 also show that participants carried out eating and drinking activities 53 (55.8%), personal hygiene 56 (58.9%), elimination 59 (62.1%), then ambulation 65 (68.4%), mobilization 62 (65.3%), and rest/sleep 52 (54.7%). The treatment that participants carried out was that 85 (89.5%) took medication, 72 (75.8%) went to a health facility, 72 (75.8%) did not undergo medical rehab, and 52 (54.7%) never did exercise. body.

The results of the identification above show that there are still many participants who do not know about stroke and the impacts it causes properly. The results of the analysis of the identification results showed that a clinical pathway model was needed that could be used as a reference in providing information and education for stroke sufferers, their families, and the community. The clinical pathway model is presented in Figure 1.

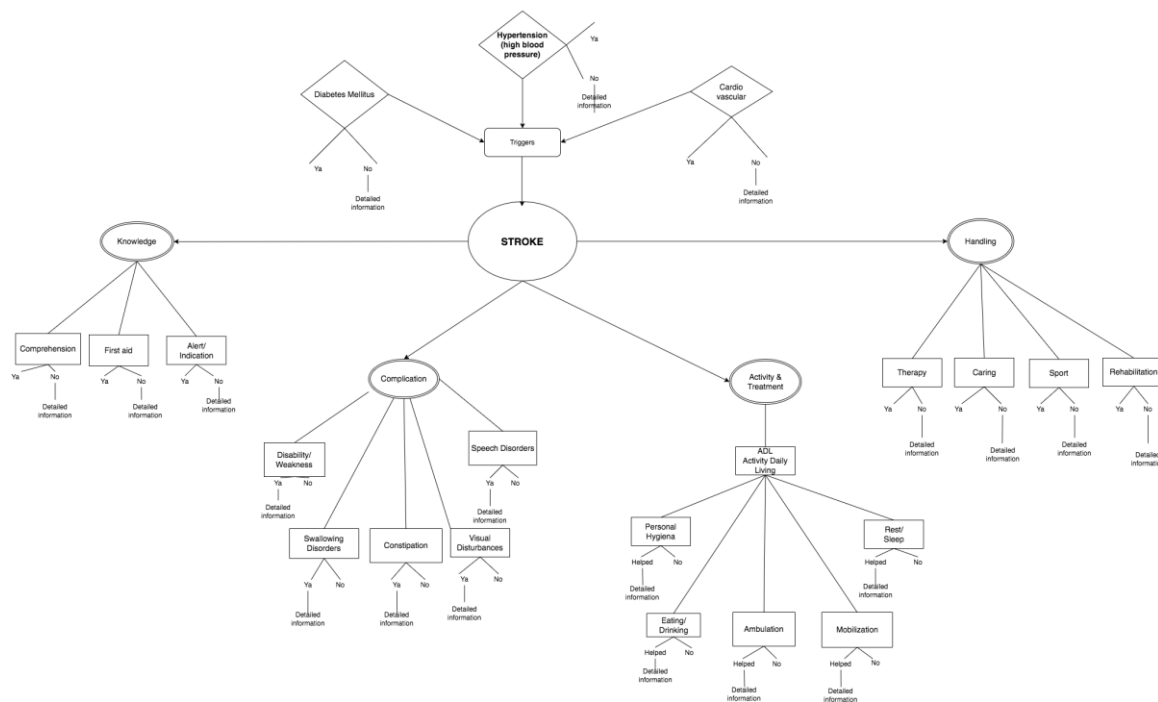


Figure 1. Clinical Pathway Model

Figure 1. shows the model by utilizing the principles underlying clinical pathways which is used as a reference in providing information and education to stroke sufferers, families, and the community regarding knowledge, complications, activities of daily living (ADL), and treatment to prevent complications and improve quality of life.

DISCUSSION

Participants in this study were in middle adulthood which is a productive age, male sex. Most of them work as entrepreneurs and have high school education. The results of other studies state that age can be considered a determinant of stroke risk exposure. The age group of 15-64 years, namely young adults and middle adults, is called the productive or working age. They are an age group that is vulnerable to strokes due to generally unfavorable lifestyles. Lifestyle is also influenced by education level and gender. The higher the level of education, the healthier the lifestyle will be, because working conditions are safer and access to health services is better (Jackson et al., 2018), although our research shows that men have more strokes (Huttami & Hidajah, 2020). Lifestyle is dominantly responsible for increasing the risk of stroke. Ten risk factors for stroke that are related to lifestyle, which can be modified are diabetes, lack of physical activity, abnormal body fat, unhealthy eating patterns, abdominal obesity, psychological factors, smoking habits, heart disease, alcohol consumption, and hypertension (Chiangkhong et al., 2023).

Participants in this study, before experiencing a stroke, were hypertensive sufferers. They experienced attacks for less than one month and some participants had experienced attacks more than twice. The results of other studies state that hypertension causes hypertrophy and a decrease in the diameter of the outer lumen of blood vessels, thus affecting the blood vessels of the brain and increasing the risk of blood clots forming (Chen et al., 2021). Hypertension is a key risk factor because people with hypertension have a 3 times greater chance of having a stroke (Donkor, 2018). Hypertension sufferers also have a risk of recurrent stroke of 5 – 25% in 1 year and 20 – 40% in 5 years (Chiangkhong et al., 2023), so sufferers must know about stroke and carry out activities as well as effective care and management to prevent recurrent strokes and other health complications.

Participant knowledge about stroke from the results of the study showed that many did not know about stroke which causes symptoms of muscle weakness, difficulty speaking, or blurred vision. The results of other studies state that ischemic stroke is caused by disruption of the blood supply to parts of the brain, while hemorrhagic stroke is caused by rupture of a blood vessel in the brain (Mead et al., 2023). Blood supply to parts of the brain or rupture of blood vessels causes brain cells to experience a lack of oxygen and nutrients, resulting in significant damage (Lally et al., 2020). If damage occurs to an area of the brain, nerve signals cannot be sent effectively to the muscles that control parts of the body, resulting in paralysis and/or speech disorders, and several other disorders (Almilaibary et al., 2022).

Participants' activities of daily living (ADL) from the research results show that they need help to fulfill them, such as eating and drinking, personal hygiene, elimination, ambulation, and mobilization, as well as rest/sleep. This research is supported by other research that stroke sufferers often experience problems in carrying out activities of daily living (ADL) because strokes can damage areas of the brain that control various motor and sensory functions (Kim & Jang, 2021). These disorders can vary depending on the location and how severe the brain damage occurs. Stroke sufferers experience emotional disturbances, sleep disturbances, decreased daily activities, and impaired quality of life (Mazidah, Yasin, Kristina, et al., 2019). The results of other studies state that stroke is the main cause of permanent physical disability so they need assistance to meet their life needs and activities. Stroke sufferers experience motor disorders characterized by increased muscle rigidity, abnormal body postures, and loss of movement control, so they must apply a structured exercise program (Datta Gupta et al., 2019).

Problems that occur in stroke sufferers must be addressed immediately, but the treatment carried out by participants from the research results shows that generally they diligently take medication and go to health facilities for control, but the majority of them do not participate in rehabilitation and exercise programs. The results of other studies show that fast and appropriate treatment for stroke sufferers is a key factor in better recovery, preventing complications, and improving the sufferer's quality of life (Fernandes et al., 2021).. Appropriate treatment includes care and rehabilitation. Planning and rehabilitation programs must be carried out immediately so that sufferers can improve motor function of the upper extremities and activities of daily living (ADL), and return to normal life successfully (Zhong et al., 2022). The rehabilitation program includes physiotherapy, and occupational therapy (Pérez-De la Cruz, 2020). Exercise can be done with supervision and timing adjusted to the patient's condition to overcome anxiety and improve sleep quality. Exercise is very important for stroke survivors. Appropriate and therapeutic exercise can have many benefits for sufferers' recovery and quality of life (Hyun et al., 2021). Apart from rehabilitation and exercise, stroke sufferers need appropriate drug therapy, and nutritious food for the brain and body recovery process, as well as help managing other health risk factors (Choi et al., 2019).

The results of the research above show that there are still many participants who do not know about stroke and its impacts properly, and carrying out activities of daily living (ADL) must be assisted. The treatment carried out by stroke sufferers is not optimal. The results of this research indicate that a reference is needed that can be used by individuals, families of stroke sufferers, and the community to help monitor his health. The existence of a model utilizing the principles underlying clinical pathways, it is hoped can be used as a solution to obtain comprehensive information to prevent complications and improve quality of life. Comprehensive information is very important in recovering and improving the quality of life of stroke sufferers because stroke is a serious condition that can affect various aspects of a person's life.

The clinical pathway model is expected to help stroke patients and their families manage their condition. This model is a structured guide that provides an understanding of the patient's condition, appropriate treatment, the importance of rehabilitation and exercise that can be done, and prevention of recurrent strokes. With a good understanding of the condition and treatment, stroke survivors and their families can take appropriate steps for recovery and better manage their condition. This model facilitates stroke and hypertension sufferers to understand a healthy lifestyle, and health care facilities that must be addressed if they experience complaints.

CONCLUSION

The identification data obtained in the research shows that there is still low knowledge of sufferers, sufferers' families, as well as the community about stroke and its treatment. A model is needed that can be used as a reference to obtain adequate information about knowledge, activities and care, exercise, and rehabilitation to speed up the recovery process. Compiled clinical pathway model expected to speed up the process of recovery and patient independence, prevent complications, and improve the quality of stroke patients.

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