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Research Article

DETERMINANTS ANALYSIS OF HEALTHY BEHAVIOR IN POST STROKE PATIENTS IN BANDA ACEH CITY

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ABSTRACT

Stroke sufferers have a high risk of experiencing recurrent strokes, but many stroke sufferers do not change their lifestyle behavior to be healthier, such as consuming foods high in fat and salt, lack of physical activity, not avoiding cigarette smoke, not getting enough sleep and not controlling stress. This quantitative research with a cross-sectional study design aims to determine the factors related to the healthy behavior of post-stroke sufferers in Banda Aceh City. Sampling was carried out by incidental sampling of 95 post-stroke sufferers who sought outpatient treatment at the Neurology Polyclinic and Medical Rehabilitation Polyclinic at Meuraxa General Hospital, Banda Aceh City. Data collection was obtained through interviews conducted from February 16 to March 10 2023. Data analysis used the logistic regression test. The research results show that as many as 60% of post-stroke sufferers have unhealthy behavior. This unhealthy behavior of post-stroke sufferers is associated with middle smoking status (OR=84.70; 95%CI=2.19-3282.15; p=0.017), low education (OR=7646.98; 95%CI=39, 32-1487138.0; p=0.001), secondary education (OR=248.91; 95%CI= 2.67-23225.21; p=0.017). Low education level is the most dominant factor related to unhealthy behavior, so it is hoped that health workers will provide education about unhealthy behavior and its consequences for poststroke sufferers and carry out regular monitoring and motivate patients to achieve their goals for recovery.

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KEYWORDS

Healthy behavior, post-stroke patients.

INTRODUCTION

Stroke is a non-communicable disease which is a serious health problem throughout the world because it has quite high death and disability rates [1]. Based on data from the Ministry of Health, the prevalence of stroke in Indonesia in 2007 was 8.3 per 1000 population, increased to 12.10 per 1000 population in 2013 and decreased to 10.9 per 1000 population in 2018 [2]. Meanwhile, in the province of Aceh, the prevalence of stroke ranked first in Indonesia in 2007, namely 10.4 per 1000 population, then decreased by 6.6 per 1000 population in 2013 and increased again by 7.8 per 1000 population in 2018 [3]. Even though it tends to fluctuate, stroke is still a disease that is very important to prevent because it is classified as a catastrophic disease, namely a disease that has a broad economic and social impact [4].

Stroke sufferers have a high risk of experiencing recurrent strokes, but many stroke sufferers do not change their lifestyle to be healthier. This is thought to be closely related to a lack of knowledge about risk factors and stroke prevention [5]. If you have experienced a repeat stroke, the impact will be more severe than the first stroke, and there is a high risk of disability, cognitive impairment and even death due to the more extensive damage to brain tissue experienced [6].

Traditions and culture in Aceh, such as consuming foods that contain excessive fat which are often served at events usually held in the community, are one of the factors for the high incidence of stroke in Aceh [7]. Apart from that, the lack of awareness of healthy behavior such as smoking habits and not avoiding cigarette smoke as well as the lack of knowledge about early detection of stroke symptoms make Aceh province a contributor to the high incidence of stroke in Indonesia [8]. It is hoped that Banda Aceh, as the capital of Aceh Province, can become a role model for other cities and districts to behave healthily so that they can avoid strokes or recurrent strokes.

METHOD

This research is quantitative research that is descriptive analytical in nature and was carried out using a cross sectional method. This research was conducted at Meuraxa Regional Hospital, Banda Aceh City, which is a referral hospital for the people of Banda Aceh City. The research was conducted from February 16 2023 to March 10 2023.

The population in this study were patients seeking outpatient treatment at the Neurology Polyclinic and Medical Rehabilitation Polyclinic at the time the research took place with a diagnosis of stroke, either ischemic or haemorrhagic stroke at the time the research took place. The sample in this study was taken by incidental sampling. The number of samples in this study was 95 people. Sampling took into account the inclusion criteria, namely stroke patients undergoing outpatient treatment at the Neurology Polyclinic and Medical Rehabilitation Polyclinic who were willing to become respondents. Data collection was carried out through interviews using research instruments in the form of questionnaires. Data analysis in this research is a logistic regression test which is used to test the research hypothesis using the STATA statistical program application.

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RESULTS

Univariate Analysis

Table 1 Frequency Distribution of Poststroke Patient Factors, Socioeconomic Factors, Health Service Factors in Poststroke Patients at Meuraxa Regional Hospital, Banda Aceh City (n=95)

Variable	Frequency (f)	Percentage (%)	Mean And elementary school	Min-Max
Behavior				
Healthy	38	40.00		
Not healthy	57	60.00		
Age			59.83 (7.66)	40-84
Gender				
Man	56	58.95		
Woman	39	41.05		
Patient's condition				
Healed	10	10.53		
There is a change towards healing	65	68.42		
Not cured yet	20	21.05		
Smoker Status			5.83 (6.86)	0-20
Not a smoker	43	45.26		
Light Smoker	30	31.58		
Intermediate Smoker	22	23.16		
Work				
Formal	17	17.89		
Non-formal	47	49.47		

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Variable	Frequency (f)	Percentage (%)	Mean And elementary school	Min-Max
Doesn't work	31	32.63		
Level of education				
Tall	16	16.84		
Intermediate	41	43.16		
Low	38	40.00		
Undergoing therapy				
Medical Rehabilitation Therapy	45	47.37		
Mixed Therapy	50	52.63		
Medicines consumed				
Medical Drugs	53	55.79		
Mixtures (medical and herbal)	42	44.21		

Table 1 illustrates that post-stroke sufferers who behave unhealthy are more than unhealthy by 60%. The average age is 60 years with more gender being male (58.95%). The condition of sufferers was more likely to change towards recovery by 68.42%. There were more respondents who smoked than non-smokers at 45.26%. Respondents' work was mostly in non-formal work at 49.47%. The education level of respondents was mostly secondary education at 43.16%. The therapy undertaken to restore the body's condition after experiencing stroke symptoms was more in mixed therapy (medical and herbal) at 52.63%. The number of drugs consumed in an effort to recover is greater than the consumption of medical drugs by 55.79%.

Bivariate Analysis

Table 2 Factors Associated with Healthy Behavior in Poststroke Patients at Meuraxa Regional Hospital, Banda Aceh City (n=95).

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Variable	Healthy behavior				OR	95%CI	p-value
	Healthy		Not healthy				
	N	%	n	%			
Patient's condition							
Healed	9	90.00	1	10.00			
There is a change towards healing	26	40.00	39	60.00	13.50	1.61-113.01	0.016
Not Healed	3	15.00	17	85.00	51.00	4.61-563.91	0.001
Smoker Status					1.09	1.02-1.18	0.011
Not a smoker	22	52.38	20	47.62			
Light Smoker	11	36.67	19	63.33	1.99	0.76-5.16	0.159
Intermediate Smoker	5	21.74	18	78.26	5.17	1.50-17.84	0.009
Work							
Formal	12	70.59	5	29.41			
Non-formal	15	31.91	32	68.09	5.12	1.53-17.17	0.008
Doesn't work	11	35.48	20	64.52	4.36	1.22-15.64	0.024
Level of education							
Tall	14	87.50	2	12.50			
Intermediate	21	51.22	20	48.78	6.67	1.34-33.12	0.020
Low	3	7.89	35	92.11	81.67	12.94-542.48	0.001
Undergoing therapy							
Medical Rehabilitation Therapy	28	62.22	17	37.78			
Mixed Therapy	10	20.00	40	80.00	6.59	2.63-16.50	0.001
Medicines consumed							
Medical Drugs	30	50.60	23	43.40			
Mixtures (medical and herbal)	8	19.05	34	80.95	5.54	2.16-14.22	0.001

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Table 2 explains that there is a relationship between the condition of respondents who have changed towards recovery (p=0.016: OR=13.5), the condition of respondents who have not recovered (p=0.001: OR=51), middle smokers tend to have unhealthy behavior as much as 5 times (p=0.009: OR=5.17), non-formal work (p=0.008: OR=5.12), not working (p=0.024: OR=4.36), secondary education (p=0.020: OR=6.67), low education (p=0.001: OR=81.67), undergoing therapy (p=0.001: OR=6.59), consuming drugs in an effort to recover, namely consuming mixed drugs (p =0.001: OR=5.54) with healthy behavior in post-stroke patients.

Multivariate Analysis

Table 3 Multivariate Logistic Regression Analysis of Factors Associated with Healthy Behavior in Poststroke Patients at Meuraxa Regional Hospital, Banda Aceh City (n=95).

Variable	Model 1	
	AOR (95%CI)	p-value
Patient's condition		
Healed		
There is a change towards healing	13.77 (0.75-253.46)	0.078
Not Healed	4.24 (0.20-91.22)	0.356
Smoker Status		
Not a smoker		
Light Smoker	9.30 (0.89-97.50)	0.063
Intermediate Smoker	84.70 (2.19-3282.15)	0.017
Work		
Formal		
Non-formal	0.65 (0.05-9.15)	0.751
Doesn't work	1.44 (0.06-35.60)	0.825
Level of education		
Tall		
Intermediate	248.91 (2.67-23225.21)	0.017
Low	7646.98 (39.32-1487138.0)	0.001

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Variable	Model 1	
	AOR (95%CI)	p-value
Undergoing therapy		
Medical Rehabilitation Therapy		
Mixed Therapies (medical and alternative)	29.80 (2.46-361.06)	0.008
Medicines consumed		
Medical drugs		
Mixtures (medical and herbal)	2.66 (0.34-20.82)	0.353
Pseudo R2	0.6260	

Based on the results of the analysis in Table 3, respondents with low and secondary education are most dominantly related to healthy behavior. Respondents with moderate smoking status were 85 times more likely to behave unhealthy than non-smoker respondents when other variables were constant. The statistical test results show that the pseudo R2 value is 0.6260, meaning that it simultaneously (together) is related to healthy behavior by 62.60%.

DISCUSSION

The Relationship between the Patient's Condition and Healthy Behavior

The results of this study are in line withPark et al. (2023), shows that there is a relationship between health conditions and the behavior of post-stroke patients with a value of p=0.012. Patients who have recovered from stroke and undergone positive changes towards recovery may tend to have better health behaviors. They are more motivated to adopt a healthy lifestyle, including a balanced diet, regular physical activity, stress management, and maintaining a good sleep routine [9].

People who have recovered from certain health conditions have a better level of physical health compared to individuals who have not recovered. Better energy levels and physical abilities can motivate individuals to adopt healthy behaviors such as physical activity, healthy eating, and adequate sleep [10]. However, people who have not fully recovered or are in the process of recovery experience difficulties and challenges that can influence their behavior. The recovery process that takes time and struggle can cause high levels of stress and frustration in them. This can influence their attitudes and behavior, including the tendency to vent negative emotions or take unhealthy actions [11].

Unrecovered people face ongoing health challenges and may experience symptoms or limitations that impact their ability to adopt healthy behaviors. They experience fatigue, pain, and physical limitations that make it difficult to live a healthy lifestyle. In addition, emotional changes and stress related to ongoing

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health conditions can also influence their motivation and ability to adopt healthy behaviors [12].

The researcher's assumption is that the sufferer's condition is related to healthy behavior, sufferers who have not recovered have a greater tendency to behave unhealthy because people who have not recovered will face higher levels of stress and anxiety because their health condition is still unstable. Stress and anxiety can affect thought patterns and emotions, and in some cases, individuals may tend to use unhealthy behaviors as stress coping mechanisms, such as overeating, smoking, or excessive alcohol consumption. So it is necessary to be able to provide clear and comprehensive education and information to individuals who have not recovered about the importance of healthy behavior in their recovery. Communicating the specific benefits of healthy behaviors and explaining how these behaviors can speed up the recovery process and can help increase their understanding and motivate them to adopt healthy behaviors.

Relationship between smoking status and health behavior

The results of this study are in line with Park et al. 2023, shows that there is a relationship between smoking status and post-stroke patient behavior with a value of p = 0.03. Smoking behavior influences primarily physical activity and stress management in the study population preparing to quit smoking [13].

Smoking can have negative effects on the body's respiratory and circulatory systems. According to the American Lung Association, smoking can damage lung tissue and cause narrowing of the respiratory tract, reducing a person's lung capacity to absorb oxygen and expel carbon dioxide [14]. In addition, smoking can affect heart function by increasing heart rate and blood pressure, thereby affecting the body's ability to perform physical activity. The Centers for Disease Control and Prevention (CDC) explains that smoking can increase the risk of heart disease [15].

According to researchers' assumptions, smoking status is related to healthy behavior, because sufferers who smoke have different perceptions about health compared to those who do not smoke. They have lower beliefs about the health risks associated with smoking and less motivation to engage in other healthy behaviors. So a smoking cessation program is needed to help individuals overcome nicotine dependence and stop smoking. These programs may involve a combination of approaches such as behavioral therapy, nicotine replacement, group support, or prescription medications. Medical support and proper guidance in the smoking cessation process can increase the chances of success.

Relationship between Education Level and Healthy Behavior

The results of this study are in line with Schram et al. 2021, shows that there is a relationship between the level of education and patient behavior. Low-educated people reported 1.17 times (95% CI 1.09–1.25) higher rates of unhealthy behavior than those with higher education [16].

Based on theory Wawan 2010, shows that education will influence a person's behavior regarding lifestyle. The results of this research are supported by research by Hastuti et al. (2019), stated that the majority of respondents had secondary education (SMA). Respondents with high school education will influence family behavior in implementing the community movement for healthy living behavior because they have sufficient insight [17].

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The level of education greatly influences how a person acts and looks for causes and solutions in his life. People who are highly educated will usually act more rationally. Therefore, educated people will more easily accept new ideas [18].

Education greatly influences a person's ability to understand information. The higher a person's level of education (years of schooling), the easier it is to live a healthy life independently, creatively and sustainably. Therefore, the level of education has an exponential relationship with healthy behavior. The higher the education, the higher the awareness of healthy behavior so that it does not cause recurring illnesses. The level of education will influence a person to make a decision regarding an action, a highly educated person will be open to the entry of new information so that it will increase the level of good knowledge which will influence positive behavior towards healthy behavior [19].

The assumption of educational researchers is that it relates to healthy behavior, the lower a person's level of education, the more likely they are to behave unhealthy. Because, people with higher education tend to have better knowledge about health and a deeper understanding of important health practices. They have greater access to health information, literature, and educational resources that assist them in making informed decisions about health. So it is necessary to carry out health education programs that aim to increase health literacy in individuals with low or medium education. This program can provide easy-to-understand information about important health practices and help increase their knowledge about health.

The Relationship between Therapy and Healthy Behavior

These results are in line with Karuniawati's research, showing that there is a relationship between therapy and the behavior of post-stroke patients which results in recurrent stroke recurrence [20]. One of the goals of stroke therapy is to prevent recurrent strokes by using secondary prevention in the form of administering antiplatelets/anticoagulants, antihypertension, antidyslipidemia, and antihyperglycemia, including reducing nerve damage, reducing mortality and long-term disability, preventing secondary complications in immobility and nerve dysfunction, and preventing stroke. which is repetitive. One focus of acute stroke management is hypertension management [21]. Regarding treatment used to prevent recurrent strokes, the American Heart Association recommends antiplatelet / anticoagulant, antihypertensive, antidyslipidemia, and antihyperglycemia therapy [22].

There are usually several types of traditional therapy that are the choice for participants to carry out therapy, namely traditional massage using oil, herbal concoctions and fumigation. There are several types of traditional medicine that are commonly used, namely: Masseurs or massage therapists because they are believed to have the ability to heal someone by massaging or massaging; Medicine man, namely someone who has skills in making traditional potions; and TBAs who have the same skills as midwives in assisting childbirth and caring for pregnancies. Therefore, some people strongly believe that traditional medicine is very efficient and effective in curing the illnesses they suffer from. In general, the expertise of traditional healers has been acquired from generation to generation, but there are also those who gain their expertise through learning [23].

Stroke therapy outside of medical therapy is not scientifically based, so it is very possible to cause side effects or undesirable results, which in turn can affect

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the patient's behavior. Traditional therapy is also often related to certain cultural beliefs or beliefs. If untrue or unproven beliefs or myths involve unhealthy behaviors, patients will persist in those behaviors despite doubts about their effectiveness [24].

The researcher's assumption is that the therapy being undertaken is related to healthy behavior. Mixed therapy is less likely to behave healthily than medical therapy. Because, mixed therapy can involve psychological factors, such as individual beliefs or expectations regarding the effectiveness of therapy. If someone has a strong belief in non-medical therapies, they will be more likely to ignore or set aside necessary medical care or healthy behaviors that are supported by scientific evidence. So it is necessary to provide accurate education and information about mixed therapy and the difference between medical therapy that has been proven to be effective and non-medical therapy that has not been scientifically tested. This can help individuals understand the importance of an evidence-based approach to treatment and maintaining healthy behaviors that are supported by scientific evidence.

The Relationship between Drugs Consumed and Healthy Behavior

These results are in line with the study of Putra et al. 2016, shows that drug consumption is related to healthy behavior which has an impact on patient relapse. Drug consumption is a behavior carried out with awareness by the patient to comply with and carry out the drug therapy plan [25].

Dangers from drug use often arise from drug abuse. Lack of knowledge about drugs and the disease suffered causes inappropriate use of drugs. Several cases of drug abuse are a problem that must be resolved, because the chemical content in drugs can harm the body if not consumed properly [26].

Concomitant administration of multiple medications may result in unexpected drug interactions and resulting drug side effects. The use of mixed medications, especially in excessive or uncontrolled doses, can cause adverse effects on a person's body and behavior. For example, the abuse of mixed medications containing substances such as narcotics, stimulants, or depressants can lead to behavioral changes, decreased self-control, and unhealthy decisions [27].

Researchers assume that drug consumption is related to healthy behavior. Consuming mixed drugs tends to behave unhealthy compared to consuming medical drugs. Because, mixed drugs or alternative treatments that have not been scientifically tested or do not have a strong scientific basis can create uncertainty regarding their effectiveness and safety. If a person relies on compounded medications without adequate scientific evidence, this can lead to unhealthy behavior as it will not provide the expected benefits or even potentially harm health. Therefore, it is necessary to provide accurate information and education about the effectiveness and safety of prescribed medical drugs, as well as the risks associated with consuming mixed drugs that have not been scientifically tested.

CONCLUSION

Unhealthy behavior of post-stroke sufferers is still high in Banda Aceh City. This incident is related to several factors originating from the sufferer himself, socio-economic, and health services which include: conditions that have changed towards healing, conditions that have not healed, moderate smokers tend to have unhealthy behavior 5 times, non-formal work and not working , middle and low education,

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undergoing therapy, consuming mixed medicines as an effort to speed up healing. Low education level is the most dominant factor associated with unhealthy behavior in post-stroke sufferers (OR=7646.98; 95%CI=39.32-1487138.0; p=0.001).

REFERENCES

1. Hasanov US, Khaitov OR, Djuraev JA ADVANTAGES OF HEARING STATE AND CEREBRAL HEMODYNAMICS IN PATIENTS WITH NOSE SEPTUM DEVIATION //UZBEKSKIY MEDITSINSKIY JOURNAL. - 2021. - T.2. – no. 2.
2. Adie K., Clinical guideline for secondary prevention management in stroke, Royal Cornwall Hospital, 2012.
3. Ariyanti F.T., Husain F. & Luthfi A., Students, Drugs and Health Behavior (Study of Self-Medication Behavior of Semarang State University Students in Taking Drugs), Journal of Community and Educational Studies, 2018;3(1):26.
4. Chriki L.S., Bullain S.S. & Stern T.A., The recognition and management of psychological reactions to stroke: a case discussion, Prim Care Companion J Clin Psychiatry, 2006;8(4):234-40.
5. Dipiro J.T., Talbert R.L., Yee G.C., Matzke G.R., Wells B.G. & Posey L.M., Pharmacotherapy: a pathophysiologic approach, ed, Connecticut: Appleton and Lange, 2014;4:141-142.
6. Ellis C., Barley J. & Grubaugh A., Poststroke knowledge and symptom awareness: a global issue for secondary stroke prevention, Cerebro-vascular Diseases, 2013;35(6):572-581.
7. Farida, Aceh Stroke Alert, https://rsudza.acehprov.go.id/tabloid/2018/04/07/aceh-waspada-stroke/, 2018.
8. Glantz S.A. & Parmley W.W., Passive smoking and heart disease: mechanisms and risk, Jama, 1995;273(13):1047-1053.
9. Hastuti N.P., Susanti Y. & Iqomh M., Overview of the implementation of healthy living community movement (GERMAS) activities, Permas Scientific Journal: STIKES Kendal Scientific Journal, 2019;9(2):141-8.
10. Ishii Y., Smoking and respiratory diseases, Nihon rinsho. Japanese journal of clinical medicine, 2013;71(3):416-420.
11. Karuniawati H., Ikawati Z. & Gofir A., Secondary prevention to reduce the incidence of recurrent stroke in ischemic stroke, Journal of Pharmaceutical Management and Services, 2015;14:14-21.
12. Indonesian Ministry of Health P.P., World Stroke Day 2019: Healthy Brain, Superior Human Resources https://p2ptm.kemkes.go.id/tag/hari-stroke-sedunia-2019-otak-sehat-sdm-unggul2019.
13. Lafau A., Nurmaini & Purba J., 'Description of Traditional Therapy in Post-Stroke Patients in Gunung Sitoli City Nias', Indonesian Nursing Journal, 2021;5(2).
14. Lambert M., AHA/ASA guidelines on prevention of recurrent stroke, Am Fam Physician, 2011;83(8):993-1001.
15. Liow F.M., Kapantow N.H. & Malonda N., The relationship between socio-economic status and anemia in pregnant women in Sapa village, Tenga sub-district, South Minahasa district, Faculty of Public Health. Sam Ratulangi University Manado. Field of Interest in Nutrition, 2012.
16. Park M., Lee J.S. & Kim Y.H., Association of physical activity, smoking, and socioeconomic factors on health checkup participation in community-dwelling stroke survivors aged 50

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OCLC –1242424495

years or older, BMC public health, 2023;23(1):502.

17. Pinquart M. & Duberstein P., Depression and cancer mortality: a meta-analysis, Psychological medicine, 2010;40(11):1797-1810.
18. I.D.G.R.C.'s son, Pinzon R.T. & Pramudita E.A., The Relationship Between the Level of Compliance with Taking the Antiplatelet Medication Aspirin and Recurrent Ischemic Stroke at Bethesda Hospital Yogyakarta, Media Pharmacy, 2016;13(1):49-60.
19. Rahmawati V.K., Sani A.F. & Assegaf M.Y., Hemodynamic Stroke Due to Acute Myocardial Infarction, Aksona Journal, 2019;1(4):89-95.
20. RISKESDAS. RISKESDAS Aceh Province Report 2018, Jakarta: BALITBANGKES Publishing Agency 2019, 2019.
21. Sapang F.A.E.R., Carolina Y., Sampe A. & Ganut F., Effectiveness of SMART and COMPLIANT Behavior to Prevent Recurrent Stroke, Journal of Medical Surgical Nursing, 2021;4(1):1-12.
22. Schram J.L., Oude Groeniger J., Schuring M., Proper K.I., van Oostrom S.H., Robroek S.J. & Burdorf A., Working conditions and health behavior as causes of educational inequalities in self-rated health: an inverse odds weighting approach, Scand J Work Environ Health, 2021;47(2):127-135.
23. Schwarzer R., Luszczynska A., Boehmer S., Taubert S. & Knoll N., Changes in finding benefit after cancer surgery and the prediction of well-being one year later, Social science & medicine, 2006;63(6):1614-1624.
24. Schwarzer R., Sniehotta F.F., Lippke S., Luszczynska A., Scholz U., Schüz B., et al., On the assessment and analysis of variables in the health action process approach conducting an investigation, 2003.
25. Sedjatiningsih W., The effect of administering antihypertensive drugs on reducing blood pressure in acute ischemic stroke patients who are hospitalized at RSUP DR. Sardjito Yogyakarta: Gadjah Mada University; 2013.
26. Tannenbaum C. & Sheehan N.L., Understanding and preventing drug-drug and drug-gene interactions, Expert Rev Clin Pharmacol, 2014;7(4):533-44.
27. Walyani E.S., Midwifery care in pregnancy: Yogyakarta: Pustaka baru press; 2015.