The Effect of Acceptance and Commitment Therapy on the Quality of Life of Post Stroke Patients in Aloei Saboe Hospital

Fatmawati Mohamad[1], Wenny Ino Ischak[1], Heni Panai[1], Hafni Van Gobel[1], Yusrin Aswad[1], Rini Fahriani Zees[1], Dewi Kartika[2]

[1]Researcher, Nursing Study Program, Poltekkes Kemenkes Gorontalo,
[2]Researcher, Faculty of Public Health, Universitas Gorontalo

Abstract

Quality of life is a global concept that emphasizes dimensions of health status including finance, housing, and work. The quality of life of post-stroke sufferers can experience disturbances or obstacles due to physical disabilities, cognition, psychological and social disorders. The purpose of this study was to determine the effect of ACT interventions on changes in the quality of life of post-stroke patients at Aloe Saboe Hospital. The method used in this research is quasi-experimental research method pre-posttest with the control group. The sampling technique used was the purposive sampling technique. The number of samples studied was 60 respondents divided into the experimental group (ACT Therapy and health education) and the control group (health education). The variables used are independent variables namely ACT therapy and the dependent variable is the quality of life of patients after stroke. Based on the results of the analysis, there is an effect of ACT intervention on improving quality of life in post-stroke patients as evidenced by the results of t count = -9.015, then the Significant value is 0,000. This shows that the value of p <0.05 then Ho is rejected, so the research hypothesis is proven that there is an effect of ACT therapy on the quality of life of post-stroke patients at Aloei Saboe Hospital, Gorontalo City.

Keywords: *ACT; post-stroke; quality of life; therapy; acceptance; commitment*

Introduction

Stroke is a disease in the brain in the form of impaired local or global nerve function that appears suddenly, progressive, and fast. Impaired nerve function in stroke is caused by nontraumatic brain blood circulation disorders. Symptoms that cause paralysis of the face and limbs, speech is not smooth and impaired vision. Stroke can be interpreted as any damage to the brain of the central nervous system caused by abnormalities/ abnormalities of blood vessels. The term stroke is always used when the symptoms occur acutely, while the term cerebrovascular disease is used more generally and is not related to the time of brain damage. The World Health Organization (WHO) states that stroke is a functional impairment of vocal and global brain affecting the quality of life of sufferers.(1)

The incidence of stroke in Indonesia has been declining over time but the prevalence of rates has increased. This shows that the number of old stroke cases increases each year, thus meaning more people with disabilities due to stroke so that the rehabilitation function is more important. Stroke recovery rates are still low, as many as 15-30% sufferers will experience paralysis or permanent disability, loss of voice or memory and various other consequences. About 25% of stroke patients die within the first year after a stroke and 14-15% experienced a second stroke in the same year after a first stroke.(2)

According to the 2013 Basic Health Research (Riskesdas) data, the prevalence of stroke in Indonesia is 12.1 per 1,000 population. That number is up compared to Riskesdas 2007 which amounted to 8.3 percent. Judging from its characteristics, many strokes are experienced by

Corresponding Author:
Fatmawati Mohamad
e-mail: fatmawatimohamad@poltekkesgorontalo.ac.id
Address: Campus Poltekkes Kemenkes Gorontalo, Gorontalo-Indonesia

the elderly, have low education, and live in cities. Based on data from Aloe Saboe Hospital, Gorontalo City, it was found that there were 1560 stroke sufferers in nerve poly consisting of 739 Hemorrhagic stroke sufferers and 821 Non-Hemorrhagic Stroke sufferers.

Acceptance and commitment therapy (ACT and Commitment Therapy / ACT), is one of the most popular therapies today and is considered more flexible and more effective in handling various cases. This therapy teaches patients to accept thoughts that are distracting and considered unpleasant by placing themselves following their values so that patients will accept existing conditions.[3]

Acceptance and commitment have a huge impact on the development of patients with anxiety to be better. Commitment means an agreement (attachment) to do something. ACT is very effective in creating acceptance, attention and being more open in developing the capabilities of depression, anxiety, drug abuse, chronic pain, schizophrenia patients and is very effective as a model of self-training. Therefore ACT is expected to improve the quality of life in patients with post-stroke.

The results of Bays[4] in the United States showed a decrease in the quality of life of post-stroke patients including daily activities, communication patterns, social activities, work, rest and recreation. Declining quality of life can affect the lives of sufferers and caregivers. Therefore the family also plays a role in improving the quality of life of sufferers. According to Nurrohma[5], quality of life as a center for health promotion, quality of life is based on three areas of human life that are important dimensions in human experience, namely: Being, Belonging and Becoming. These three things occur due to interactions between a person and his environment.

Based on the description that has been explained, the researcher is interested in researching with the title the effect of acceptance and commitment therapy on the quality of life of patients after stroke in Aloei Saboe Hospital, Gorontalo City.

Method

This research was conducted at the Regional General Hospital (RSUD) Aloie Saboe Gorontalo City. This type of research is a quasi-experimental research pre-post test with a control group. This research was a type of research that tests an intervention in a group of subjects with a comparison group. The intervention that was tested was the provision of ACT, which in the implementation stage was modified by researchers using a spiritual approach. The study population was patients who visited the Aloei Saboe Hospital in Gorontalo City, amounting to 60 patients who were determined by the purposive side technique. The sample used was by the inclusion criteria set by the researchers, namely a) outpatients diagnosed after stroke; b) experiencing changes in quality of life; c) the level of consciousness of compos mentis; d) cooperative and willing to be respondents given ACT therapy. Data were collected using a demographic data questionnaire, namely the WHOQOL-BREF quality of life questionnaire, which contained aspects of quality of life that included physical dimensions, psychological dimensions, social relations dimensions, and environmental dimensions. Besides, an examination of risk factors, namely blood pressure, and cholesterol to see the effect on the quality of life. Data were analyzed by paired sample t-test to prove the research hypothesis by looking at differences in quality of life in the intervention and control groups before and after the intervention. To determine the homogeneity of variables between the intervention group and the control group, the equality test was conducted. The independent sample t-test was used to determine the differences between the two groups. A multivariate analysis process was carried out to prove the relationship between the characteristics of post-stroke patients with the quality of life.

Findings

The results of the study are presented in the table 1. Based on the table 1, it shows that the characteristics of respondents consisted of gender, age, last education, and last occupation.

Table 1. Characteristics of respondents

Characteristics of respondents	Total			
	Experiment		Control	
	n	%	n	%
Gender				
· Male	16	53.3	13	43.3
· Female	14	46.7	17	56.7
Age (years)				
· Adult (16-45)	5	16.7	8	26.7
· Elderly (46->65)	25	83.3	22	73.3
Last Education				
· High	10	33.3	17	56.7
· Low	20	66.7	13	43.3
Last Occupation				
· Employee	19	63.3	21	70
· Unemployed	11	36.7	9	30

Based on table 2, there is an influence of cholesterol risk factors on quality of life before and after health care and ACT therapy in the treatment group with each value p-value = 0.000 (<0.05). and on hypertension risk factors there is no influence on the quality of life before the intervention with a p-value of 0.961, and after the intervention, there is an influence of hypertension risk factors on quality of life with a p-value = 0.000.

Table 2. Effect of risk factors on quality of life before and after health education and ACT therapy in the treatment group

Risk factor	Quality of life		p-value
	Good	Poor	
Cholesterol			
Before			
□ Normal	1	17	0.000
□ Abnormal	0	12	
After			
□ Normal	18	2	0.000
□ Abnormal	8	2	
Hypertension			
Before			
□ Normal	9	8	0.961
□ Abnormal	7	6	
After			
□ Normal	27	0	0.000
□ Abnormal	0	3	

Based on the table 3 there was no influence of cholesterol risk factors on quality of life before the provision of health education in the control group with a p-value = 0.0196 (>0.05) as well as after the intervention did not affect with a p-value = 0.0196 (>0.05). For risk factors for hypertension also did not have a good effect before the intervention with p-value = 0.0196 (>0.05) and after the intervention with p-value = 0.0196 (>0.05).

Table 3. Effects of risk factors on quality of life before and after health education and ACT therapy in the control group

Risk factor	Quality of life		p-value
	Good	Poor	
Cholesterol			
Before · Normal · Abnormal After · Normal · Abnormal	 9 7 15 8	 11 3 4 3	 0.196 0.698
Hypertension			
Before · Normal · Abnormal After · Normal · Abnormal	 10 6 12 11	 6 8 3 4	 0.282 0.666

Based on the table 4, there was an effect of providing health education and ACT therapy in the experimental group with a p-value of 0.000 (<0.05). In the control group that was only given a health education intervention p-value = 0.139 (>0.05) then there was no effect of the intervention on quality of life.

Table 4. Influence of intervention on group experiments and control

Group	Quality of Life		
	Good	Poor	P-value
Experiment (Health Education and ACT)			
Before After	1 26	29 4	0.000
Control (Health Education)			
Before After	16 23	14 7	0.139

Discussion

According to Wijaya & Putri[6], the incidence of stroke increases with age. Data reported by the American Heart Association in the Heart Disease and Stroke Statistics-2011 Update that young stroke sufferers between 20-45 years have increased dramatically in recent years. In 2009 the age range of ischemic stroke patients was between 20-60 years, with an average age of 58.8 years. Meanwhile, in 2010 the age range of ischemic stroke patients was between 24-90 years with an average age of 48 years. This shows that both in Indonesia and in the world, stroke has attacked many productive ages and even children.[7]

Based on the results of the study, the gender frequency distribution of stroke clients in this study was more dominated by men. This is in line with the theory that men are more often found to suffer a stroke than women.[8] Bowman also revealed that the incidence of stroke in men was slightly higher than in women, this difference occurred probably related to the increased incidence of hypertension and diabetes in the group. [9] The study is in line with the theory that men are more at risk of stroke than women, with a percentage of 20 percent higher in men than women. But after a woman turns 55, when estrogen levels decrease due to menopause, the risk is actually higher than men.[4]

The results of the analysis of the relationship between work and the incidence of stroke show that most respondents have jobs. Researcher's assumption, there is a significant relationship between work and the incidence of stroke. Work is a risk factor for stroke. This might be caused by the relationship between work and one's stress level. A large workload, the salary that is not as expected, and pressure from superiors can trigger stress and be a risk factor for stroke. Stressful conditions can produce the hormones cortisol and adrenaline which contribute to the process of atherosclerosis. This happens because the two hormones increase the platelet count and the production of cholesterol which can damage cells lining the arteries making it easier for fat tissue to be buried in the artery walls.[5]

The analysis showed that cholesterol risk factors before and after health education and ACT intervention had a significant effect on improving the quality of life of respondents. Meanwhile, the risk of hypertension after being given health education and ACT Interventions has a significant effect on improving the quality of life of respondents. Researcher's assumption that cholesterol and hypertension are risk factors that affect the quality of life of respondents after a stroke due to increased body cholesterol can cause atherosclerosis and the formation of fat embolism so that blood flow slows into the brain, brain perfusion decreases.[6]

Based on the results of the study, it shows that before being given ACT therapy the average quality of life score in the intervention group had a mean value of 67.0 with the bad category. And after the intervention, it becomes 81.0 with a good category. The researcher's assumption, this shows an increase in the quality of life score that shows the increased quality of life experienced by respondents. ACT therapy with a spiritual approach to quality of life can be said to be influential because it gets the result of t count = -9.015, then significant is 0,000. an important role in determining abnormalities. Neurons or nerve cells are the basic units of structure and function in the nervous system. Neurons are communicators that send information between the body and brain.[7]

Emotional problems are common, anxiety and depression reactions are left-brain damage reactions while the damage to the right brain often causes a strange feeling or different from the situation at hand. This is experienced by many stroke patients. They cannot assess precisely the damage done. As a result, depression arises as a symptom that often accompanies this disease. Thus, psychospiritual assistance is very helpful in dealing with depression in dealing with this disease.[8] In implementing ACT therapy, researchers modify the therapy given at each stage with a spiritual approach.

At the ACT therapy stage which is the stage of "practicing accepting selected events and values", the spiritual approach taken is to understand that illness, recovery, and treatment are provisions and decrees from God. Similarly, at the ACT stage "commit and prevent recurrence", it was conveyed that prevention and treatment efforts can be done by surrendering and getting closer to God.

Some neurologists examine the existence of a god spot (God's point) in the human brain. This spiritual center is located between the connections of nerves in the temporal lobe of the cerebrum. Based on observations using emission topographic observations and positrons, the area reacts when the research subjects discuss topics with religion. Worship, regardless of religion, will lead us to focus attention in the mind with the aim of

contemplation. The activity, besides having a spiritual function, also has a health function. In the spiritual function, the prefrontal cortex will work actively. This area is associated with positive emotions and makes the cerebral cortex thicken, due to the growth of glial cells supporting neuron cells and neurons that show positive reactions by forming relationships between neurons or synapses. This synapse plays a role in the delivery of information to and from the brain.[9]

Based on the results of the study, it shows that before being given a health education intervention, the average quality of life score in the control group had a mean value of 77.13 with a bad category. Then after the intervention, it becomes 78.80 with a good category. In this study, health education interventions on quality of life can be said to not affect because the results obtained t count = -1.520, then significant is 0.139. The researchers assume that ACT therapy with a spiritual approach is more effective in improving the quality of life of post-stroke respondents compared to health education in the control group because there is no significant difference between the quality of life scores before and after health education interventions are given. The control group only experienced an increase in the quality of life score of 1.67.

Conclusion

Based on the study it was concluded that the difference in the response to improving the quality of life in post-stroke patients in the intervention group with the control group, where after the intervention of respondents the ACT treatment group the average quality of life score increased to 81.0 while the improvement in the quality of life of the control group of respondents after being given health education became 78.8 this can be interpreted that the improvement in the quality of life of patients after stroke in the intervention group was higher than in the control group.

Conflict of Interest- No

Source of Funding- Authors

Ethical Clearance- Yes

References

1. Ghika-Schmid F, Bogousslavsky J. Affective Disorders following Stroke. European Neurology S. Karger AG; 1997;38(2):75–81.
2. WHO. The World Health Organization Quality of Life (WHOQOL) Bref-1996. Dev WHOQOL. 1994;37:24–56.
3. Hayes S, Jason BL, Frank WB, Akihiko MJL. ACT; Model, Processes amd Outcomes. J Behav Res Ther. 2008;44(1):1–25.
4. Bays CL. Older Adults' Descriptions of Hope After a Stroke. Rehabilitation Nursing. Ovid Technologies (Wolters Kluwer Health). 2001;2;26(1):18–27.
5. Nurrohmah AI, DI. The Combination of Benson's Relaxation Techniques and Sleep Hygiene Educational in Affecting the Sleep Quality of Post-Stroke Patients (Kombinasi Teknik Relaksasi Benson dan Sleep Hygiene Educational dalam Mempengaruhi Kualitas Tidur Pasien Pasca Stroke). Journals of Ners Community. 2019;231-242.
6. Wijaya P. Medical-Surgical Nursing (Keperawatan Medikal Bedah). Yogyakarta: Nuha Medika; 2013.
7. Yueniwati Y. Early Detection of Ischemic Stroke by Vascular Ultrasonography and Genetic Variations (Deteksi Dini Stroke Iskemia dengan Pemeriksaan Ultrasonografi Vaskular dan Variasi Genetika). Malang: UB Press; 2012.
8. Nurarif AH, Kusuma H. Application of Nursing Care Based on Medical Diagnosis and NANDA (North American Nursing Diagnosis Association) NIC-NOC (Aplikasi Asuhan Keperawatan Berdasarkan Diagnosa Medis dan NANDA (North American Nursing Diagnosis Association) NIC-NOC). 2013.
9. Black and Hawks. Gerontologic Nursing. Sixt Edition. 2013.