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Spiritual Mindfullness Combination Breathing Exercise Toward Anxiety, Depression and Blood Pressure in Ischemic Stroke Survivors

Eppy Setiyowati[1*], Nur Hidaayah[2], Mulyadi[3], Anie Tri Indiatinie[4]

[1,2] *Department of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya. East Java. Indonesia; eppy@unusa.ac.id*
[3]*Faculty of Medicine, Universitas Nahdlatul Ulama Surabaya. East Java. Indonesia*
[4]*Air Force Hospital Nursing Staff dr. M.Munir Lanud Abdulrachman Saleh Malang. East Java. Indonesia*
[4]*Student Magister of Nursing Program, Faculty of Nursing and midwifery, Universitas Nahdlatul Ulama Surabaya.*

*__Corresponding Author:__ eppy@unusa.ac.id

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ABSTRACT

In general, ischemic stroke patients experience psychological problemsanxiety, depression and increased blood pressure to be above normal. The purpose of the studywas to analyze anxiety, depression and blood pressure post mindfulness spiritual interventioncombination breathing exercise**.** Quasy experiment *research design* with a large sample of 25 respondents through purposive sampling techniques. The intervention group was given a combination of Spiritual *Mindfulness* and *Breathing Exercise* within 10-15 minutes 2 timesa day for 5 days and the control group was given an intervention according to hospital standards. The variables studied were anxiety, depression and blood pressure. Statistical Testwith anova test with the help of SPSS version 27. The results of the study through the anova statistical test showed that the mindfulness spiritual intervention combination breathing exercise had an effect on anxiety (sig = 0.000), depression (sig = 0.000), systole blood pressure (sig = 0.000), diastole (sig = 0.005) with the strength of influence on moderate anxiety (R = 0.571), moderate depression (R = 0.529), low systole blood pressure (R = 0.231) and low diastole blood pressure (R = 0.154). Mindfulness spiritual intervention in combination breathing exercise is anintervention technique that is applied, thus facilitating the rehabilitation and recovery processin ischemic stroke patients.

Keywords: Breathing, Depression, Anxiety, Mind-Fullnes, Ischemic Stroke.

INTRODUCTION

In general, ischemic stroke patients experience psychological problems anxiety, depression and increased blood pressure to be above normal (1–3). Psychological changes inischemic stroke patients that are felt can be seen from physical conditions and behavioral changes, among others, patients always feel confused, insecure, dependent and become passive individuals (4,5). Ischemic stroke survivors are less optimally capable as before, before they suffer an ischemic stroke (6–8).

Most (53.3%) stroke survivors experience severe anxiety (9–11). In addition to anxiety, depression is a disease that affects the physical, *feelings (mood)* and mind characterized by loss of energy and motivation, feelings of guilt, difficulty concentrating, decreased appetite and thoughts of death so that it can become a very serious problem if ischemic stroke does not get serious treatment and appropriate intervention (2,12,13).

One way to overcome this problem is to give a combination of Spiritual *Mindfulness*and *Breathing Exercise* (14,15). Nurses can use it as a stimulus to lower anxiety, depression and blood pressure of storoke patients through *breathing exercise* methods by surrendering to God (16,17). *Mindfulness* can be interpreted as an individual's ability to be fully

aware of his or her existencea (18,19), where a person is, what he does, and not overreacting to what ishappening around him and by surrendering to God (20)

On research (21) which states that deep Spiritual *Mindfulness* can lower anxiety and blood pressure. Based on this background, optimal management of nursing care in ischemic stroke patients is needed (22); (22), holistically with the combination of therapy to optimizetreatment, namely with the intervention of a combination of Spiritual *Mindfulness* and *Breathing Exercise* to surrender to God as a type of therapy carried out by nurses in overcoming anxiety, depression and controlling blood pressure of ischemic stroke patients (18,20,23).

The purpose of the study was to analyze anxiety, depression and blood pressure after mindfulness spiritual intervention combination breathing exercise.

METHOD RESEARCH DESIGN

Type of quantitative research, *quasy experiment* design with pretest *approach* - posttestcontrol group design . This study aims to determine changes in anxiety levels, depression levels and blood pressure after the intervention of Spiritual *Mindfulness* Breathing Exercise conmination. Data collection will be carried out in March – July 2023 at RSAU dr. M.MunirLanud Abdulrachman Saleh Malang, East Java Indonesia.

Participants

Sample selection technique with purpusive sampling in accordance with inclusion criteria: composmentis awareness and stable condition, age $\geq$ 20 years. Ischemic stroke patients who have undergone treatment or rehabilitation, ischemic stroke patients with comorbid hypertension; while exclusion criteria include: Ischemic stroke with comorbid diabetes mellitus or other diseases. The presence of aphasia of the sensory and motor systems,Patients with mental disorders psychosis. Following the research process with pre- intervention data collection, *the Mindfulness* intervention process of Breathing Exercise *termination* for 1 month, post-intervention data collection was carried out 3 weeks post- intervention.

Researchers managed to gather a population of 108 respondents, but in accordance withthe criteria of inclusion and exclusion of large samples that followed the research process untilthe completion of 25 respondents for the control group and 25 respondents for the interventiongroup.

Measurement

In the intervention group in addition to carrying out standard hospital treatment procedures, non-pharmacological therapy was given, namely Spiritual Mindfulness *intervention* combination Breathing Exercise was given to the treatment group *2 times per day for 1 month, Spiritual* Mindfulness *combination* Breathing Exercise *was given for 10-15minutes.* The intervention instrument in the group is in the form of a Spiritual *Mindfulness* module in combination *with Breathing Exercise.* The control group carried out therapy in accordance with standard operating procedures for stroke patients in the hospital.

The content of the Spiritual *Mindfulness and* Breathing Exercise *module is a relaxation with breathing exercises using breathing techniques slowly and deeply, and using*diaphragm muscles, So as to allow the abdomen to be lifted slowly and the chest to expand fully to the maximum while saying motivational sentences, gratitude and self- surrender (Islamic prayers) and create concentration strategies to deal with cognitive problems and reactivate the power of the mind to reduce emotional distress.

Anxiety measurement based on assessment of anxiety level using Zung *Self-Rating Axiety Scale* (SAS/SRAS) questionnaire with the lowest score of 0 and the highest score of

80. Parameters in SAS include feeling uneasy than usual, fear for no apparent reason, Irritable, irritable and panicked, both legs and hands often shaking, often disturbed by headaches and muscle pain, body weakness and frequent urination.

Depression measurement based on assessment of cognitive images, emotional imagesand vegetative images with the lowest score of 0 and the highest score of 39. Assessments in the depression questionnaire include: feelings *(mood)* accompanied by concomitant symptoms including changes in sleep patterns, changes in appetite, psychomotor, concentration, fatigue, a sense of hopelessness and helplessness. The depression instrumentuses interviews using the *Depression Anxiety Stress Scale* (DASS) developed by (24). Kuisioner DASS terdiri dari 42 item Questions used to measure negative vocational states that include depression, anxiety and stress. Each of the three scales has 14 question items. In this study, researchers will only use a scale regarding depression which amounts to 14 question items.

Blood pressure measurement is systole and diastole using *the digital Sphygmoman ometer* (mmHg) tool brand Omron. The results of hemodycanic measurements in time, whichis the lateral force on the artery wall by blood pushed by pressure from the heart.

The results of the normality test using the Kolmogorov Smirnov test obtained normal results (sig = > 0.05). Furthermore, an independent statistical test T-test was carried out with significant = 0.05. Furthermore, multivariate statistical tests using manova were carried outto determine differences in anxiety levels, depression levels, systole blood pressure and diastole blood pressure in the control group and the post-mindfulness spiritual intervention treatment group in combination breathing exercises.

RESULTS AND DISCUSSION

Results

The results of this study are in accordance with the purpose of the study, which is to analyze the effect of applying spiritual mindfulness combination breathing exercice in ischemicstroke patients. As presented in table 1 is the data of respondent characteristics including: age,gender, education, occupation. According to the results of the statistical test Kolmogorov smirnov test data declared normal (sig. > 0.05), Furthermore, a statistical test Independent T- test is carried out, the results are as presented on table 2. To know the magnitude of the influence and strength of the spiritual influence of mindfulness on anxiety, depression, systoleblood pressure and diatole blood pressure as presented on table 3.

Table 1. Characteristic data respondents'

Characteristic Data	**Intervension**		**Control**	
	Frequency	**%**	**Frequency**	**%**
Age				
20-40 year	-	-	-	-
41-60 year	25	100,0	25	100,0
> 60 year	-	-	-	-
Gender				
Man	19	76,0	17	68,0
Woman	6	24,0	8	32,0
Education				
Primary school	1	4,0	1	4,0
Junior High School	3	12,0	7	20,0
High School	17	68,0	13	60,0
College	4	16,0	4	16,0
Work				
Work	7	28,0	8	32,0
Does not work	18	72,0	17	68,0

Table 2. Independent T-Test Results on anxiety, depression, systole bloodpressure and diastole blood pressure.

Variable	**Group**		**Mean**	**N**	**SD**	**SE**	**95% CI**	**T**	**p *value***
Anxiety									
	Intervention	Before	71.48	25	6.145	1.229	10.634 -	13.95	0.000
		After	59.00	25	7.692	1.538	14.326	0	
	Control	Before	70.32	25	6.210	1.242	-.066 - 3.106	1.978	0.059
		After	68.80	25	6.928	1.386			
Depression									
	Intervention	Before	20.80	25	6.145	1.229	5.258 - 8.182	9.487	0.000
		After	14.08	25	7.692	1.538	-.263 - 1.063	1.244	0.225
	Control	Before	19.04	25	5.842	1.168			
		After	18.64	25	6.068	1.214			
Blood pressure									
	Systole Intervention	Before	136.16	25	12.182	2.436	8.461 - 15.059	7.358	0.000
		After	124.40	25	10.033	2.007			
	SystoleControl	Before	136.04	25	12.273	2.455	-.417 - 5.777	1.786	0.087
		After	133.36	25	11.750	2.350			
	Diastole Intervention	Before	88.16	25	6.974	1.395	4.177 - 7.903	6.691	0.000
		After	82.12	25	5.061	1.012			

	DiastoleControl	Before After	87.96 86.20	25 25	7.586 6.776	1.517 1.355	-.238 - 3.758.	1.818.	0.082

Table 3. Anova Test Results of anxiety, depression, systole blood pressure and diastole bloodpressure

Variable	Group	N	Min.	Max.	Meanpre	Meanpost	Meandelta	Sig.	R Squared
Anxiety									
	Intervention	25	2.00	4.00	3.240	3.000	1.520	0.000	0.571
	Control	25	3.00	4.00	3.400	2.280	12.480		
Depression									
	Intervention	25	2.00	4.00	2.400	2.360	0.400	0.000	0.529
	Control	25	2.00	4.00	2.560	1.840	6.720		
Systole									
	Intervention	25	1.00	4.00	2.480	2.320	1.760	0.000	0.231
	Control	25	1.00	4.00	2.520	1.800	6.040		
Diastole									
	Intervention	25	1.00	4.00	2.480	2.320	2.680	0.005	0.154
	Control	25	1.00	4.00	2.520	1.800	11.760		

Discussion

The results of the study using the anova test showed a significant influence between anxiety, depression and blood pressure after the administration of the Combination of Spiritual*Mindfulness and* Breathing Exercise *showed that* p value = 0.000, (R squared value 0.571) on anxiety followed by depression *p value = 0.000, (R squared* value 0.529) and systole blood pressure p value = 0.000, (R squared value *0.5231) and systole blood pressure p* value = 0.000, (R *squared* value 0.154).

The combination of Spiritual *Mindfulness* and *Breathing Exercise* can stimulate the reward center which further creates a feeling of calm. As an effector of the feeling of relaxation and calm that arises, the *midbrain* will release *gamma aminobutyric acid* (GABA),*encephalin* and *beta endorphin*, so as to reduce anxiety, depression and blood pressure so that the quality of life of ischemic stroke patients increases with minimal complaint levels(25,26) The combination of Spiritual *Mindfulness* and *Breathing Exercise* effectively reduces the level of anxiety, depression and blood pressure of ischemic stroke patients (27). This technique is easy to do, so it can be applied as a nursing intervention in the inpatient room for the development of nursing science in hospitals and is also recommended to be donein ischemic stroke patients in the rehabilitation phase.

To overcome anxiety, depression and high blood pressure patients with ischemic stoke requires good cooperation between the medical team, patients, as well as family and environment (28). Educating patients and families about diseases and complications will helpimprove treatment outcomes, and is expected to help improve the quality of life of ischemic stroke patients. There are two risk factors for ischemic stroke, namely factors that cannot be modified, including genetic factors, age, sex, and ethnicity and modifiable factors include anxiety, depression, obesity, and nutrition (29). Anxiety and depression in ischemic stroke patients that cannot be reduced or managed properly will pose a risk of one of them attackingphysical problems. In healthy individuals, anxiety and depression will be well managed, this can be seen by the ability to decipher the sources of anxiety and depression so as to name ways to avoid, among others: Learn what anxiety and depression are, recognize the symptomsof anxiety and depression that occur in the self, change behavior patterns and take advantageof a series of techniques and relaxation from quick and simple management of anxiety and depression (30,31)

Strategies for managing anxiety and depression in patients with ischemic stroke can bedone by administering pharmacological therapy / drugs or non-pharmacological interventionsor non-pharmacological interventions. Based on *evidence-based practice* (EBP), there are many ways we can do to reduce anxiety and depression in patients with ischemic stroke, Among others: relaxation distraction*, mindfulness*, deep breath relaxation or *breathing exercise,* progressive muscle relaxation, music therapy*, guided imagery*, spiritual relaxation and so on (32,33)

Spiritual is one way to minimize anxiety and depression that acts as a positive psychological factor (free from anxiety and depression) through the functional limbic systemcan give rise to positive coping mechanisms (34). Spirituality can significantly help patients adapt to the changes caused by ischemic stroke. Spiritual intervention is believed to reduce anxiety and depression optimally so that there is stability of blood pressure in patients with ischemic stoke because it can be carried out independently, anytime and anywhere, inexpensive and non-toxic (35,36). The relationship between man and the Creator is the first element in spirituality. Getting closer to God is the coping strategy most often used by patientsto overcome anxiety and depression in ischemic stroke patients (37,38) . One spiritual intervention to lower anxiety and depression as well as blood pressure is using *breathing exersice* (39).

Conclusion. Spiritual *Mindfulness* Breathing Exercise Combination effectively lowers anxiety, depression and blood pressure levels of ischemic stroke patients.This technique is easy to do,so it can be applied as a nursing intervention in the inpatient room for the development of nursing science in hospitals and is also recommended to be done in ischemic stroke patients in the rehabilitation phase.

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