DOI Number: 10.5958/0976-5506.2019.02268.X

An Effect of Breath Dhikr on the Stress Level of Patients with Pulmonary Tuberculosis

Hanik Endang Nihayati[1], Haris Arganata[1], RR Dian T[1], Fildzah Cindra Yunita[1]

[1]Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

ABSTRACT

Introduction: Pulmonary tuberculosis is an infectious chronic disease that can cause a stress condition on patients, such as the symptoms of tuberculosis disease, the long treatment process with a large amount of drugs, daily activity disruption, job loss and death threats. Unresolved stress can lead to irritability, anxiety, negative thinking, despair and helplessness. Some even blame God.

Objective: This study aimed to determine the effect of dhikr breath on the stress levels of patients with pulmonary tuberculosis in the public health centres of Tanah Kalikedinding Surabaya.

Method: A quasi-experimental design method with pre- and post-control groups was used. There was a treatment group and a control group; each group consisted of 16 respondents. The data analysis was performed using the Wilcoxon Signed Rank test and the Mann Whitney U test with a significance level of $p < 0.05$.

Results: The result of the Wilcoxon Signed Rank test showed that the stress level of the treatment group had significance with p=0.000. The control group had no significance; p=0.317. The Mann Whitney U test showed the differences in the stress levels post-intervention with p=0,000.

Discussion: Dzikir breath was a positive stimulus that affected the cognator process according to Roy's adaptation theory in the form of merging dhikr and breath, which is aimed at realizing God. Further research is expected to use cortisol measurements to obtain more accurate results. This should be performed at stress levels in other chronic disease patients.

Conclusion: Breath Dzikir is a spiritual therapy that can change stress into eustress (positive stress) and decrease the stress level of pulmonary tuberculosis patients overall.

Keywords: *Breath Dzikir, Stress, Pulmonary Tuberculosis*

Introduction

Pulmonary tuberculosis, in addition to having an impact on the physical body, can also result in psychosocial or psychological problems that can lead to mental disorders (severe depression).[1]Psychosocial problems such as stigma in society, the fear of being incurable, feeling isolated, not being confident and economic problems, can cause stress for the sufferers.[2]Unresolved stress will stimulate the hypothalamus to secrete corticotropin releasing factor (CRF), thus causing the pituitary gland to secrete adrenocorticotropin releasing hormone (ACTH) and stimulating the adrenal cortex to secrete cortisol.[3]An increase in excessive cortisol secretions causes complications, namely a decrease in the immune system and an excessive metabolism.[4]

The prevalence of stress in pulmonary TB patients is 90%, varying from moderate to severe.[5]Stress manifestations can be shown physically, psychologically and through behavior because of the conditions that they experience, such as symptoms of TB-related illnesses, long treatment processes with large amounts of medication, the disruption of daily activities, stigma in society and threats of death.[6]Stress that is not dealt with

Corresponding Author:
Hanik Endang Nihayati
Faculty of Nursing, Universitas Airlangga
Campus C Universitas Airlangga,
Jl Mulyorejo Surabaya 60115, Indonesia
Phone: +62 815-5334-4704
Email: hanik-e-n@fkp.unair.ac.id

properly can lead to anger, anxiety, negative thinking, despair and a sense of helplessness. Some even blame God. This condition can result in irregular pulmonary TB patients taking medication and even discontinuing medication, which will later affect their quality of life.[7]

One way of handling stress is through a spiritual approach or psychiatric therapy. This can form adaptive coping to help the pulmonary TB patients when dealing with the stress experienced.[8, 9]The religious psychological therapy that the researchers use is breath dzikir. Breath remembrance is a combination of dzkir and deep breaths which can make an individual sincere, grateful and trigger a relaxed state so as to reduce stress. This can even help in controlling one's emotions.[10]The research used Roy's adaptation theory framework. This is because spiritual therapy through psychology with the method of dhikr is a therapy that can improve individual positive coping mechanisms.[8] Previous studies have proven the benefits of reducing stress and anxiety through psychological therapy, especially the method of dhikr. Dhikr relaxation can reduce the stress in patients with essential hypertension.[11]

Method

This study aimed to prove the influence of breath dzikir in reducing the stress levels in pulmonary tuberculosis patients. A quasi-experiment method with a pre- and post-test control group design was used. The period of research was February to May 2018.

Sample: The research samples consisted of pulmonary TB patients in the area of Tanah Kalikedinding Health Center in Surabaya taken using non-probability sampling (purposive sampling). The size needed for each group, both the intervention and control group respectively, was 16 people. The inclusion criteria were pulmonary TB patients who experienced moderate to very severe stress, Muslim and aged between 17 - 64 years. The exclusion criteria included pulmonary TB patients with severe psychiatric disorders or mental disorders, severe complications such as pleurisy, pleural effusion or carcinoma, who had MDR and who had severe comorbidities such as HIV or AIDS.

Research Instrument and Data Analysis: The instrument used to measure the dependent variable was the stress level questionnaire sheet Depression Anxiety Stress Scale 42 (DASS 42). It was been tested for validity and reliability[12]with 10 respondents with the same characteristics; the resuts obtained r values of 0.64 - 0.76 ($r > 0.63$) and a Cronbach's alpha resut with a reliability of 0.938 ($\alpha > 0.6$). The researcher used 14 stress scale items from DASS 42, which were later modified to make them easier to understand.

The data analysis was performed using the Wilcoxon Signed Rank test and Mann Whitney U test with a significance level of $p < 0.05$. All of the statistical tests were measured using the Statistical Package for the Social Science (SPSS) version 16.0.

Results

The pulmonary TB patients who suffered from the disease and who experienced stress consisted of 18 female from the age >45 years; 18 people had a high school level of education, 26 people were married, 20 people were unemployed and 20 people were from the latent treatment phase (Table 1). The type of stress most experienced was psychological (emotional) stress in both groups (Table 2 and Figure 1).

Table 1: Demography of the Respondents

No.	Demography	Group			
		Treatment		control	
		Total	%	Total	%
1.	**Sex**				
	Male	7	43.75	7	43.75
	Female	9	56.25	9	56.25
	Total	16	100	16	100
2.	**Age**				
	17-25	5	31.25	5	31.25
	26-35	3	18.75	2	12.5
	36-45	3	18.75	1	6.25
	>45	5	31.25	8	50
	Total	16	100	16	100
3.	**Marrital Status**				
	Married	13	81.25	13	81.25
	Single	3	18.75	3	18.75
	Total	16	100	16	100
5.	**Accupation**				
	Unemployed	13	81.25	7	43.75
	Entrepreneur	0	0	4	25
	Private	3	18.75	5	31.25
	Total	16	100	16	100
6.	**Medical Phrase**				
	Intensive (0-2 Month)	6	37.5	6	37.5
	Latent (3-6 Month)	10	62.5	10	62.5
	Total	16	100	16	100

Tablle 2: Types of Stress Level for all of the respondents before and after the intervention

Responden	Pre-Test				Post-Test			
	SF	SPsi	SPer	Stress Score	SF	SPsi	Sper	Stress Score
P1	3	18	6	27	1	12	3	16
P2	3	13	3	19	2	6	3	11
P3	4	15	3	22	2	9	2	13
P4	4	15	4	23	0	5	1	6
P5	4	17	4	25	2	7	2	11
P6	2	16	3	21	2	16	3	21
P7	4	13	3	20	1	9	2	12
P8	4	14	4	22	2	7	1	10
P9	4	15	4	23	1	10	2	13
P10	2	15	3	20	0	3	0	3
P11	4	15	3	22	2	6	0	8
P12	4	13	3	20	2	6	2	10
P13	3	15	3	21	2	8	2	12
P14	4	14	2	20	2	7	1	10
P15	4	13	3	20	2	7	1	10
P16	2	15	4	21	2	7	1	10
K1	2	18	5	25	2	18	5	25
K2	4	16	3	23	4	12	2	18
K3	4	14	3	21	4	14	3	21
K4	4	15	5	24	4	15	5	24
K5	3	14	3	20	3	14	3	20
K6	2	16	3	21	2	16	3	21
K7	4	15	4	23	4	14	3	21
K8	4	14	2	20	4	14	2	20
K9	4	13	3	20	4	13	3	20
K10	4	13	2	19	4	13	2	19
K11	2	16	3	21	2	16	3	21
K12	4	12	3	19	4	14	3	21
K13	4	14	3	21	4	14	3	21
K14	4	12	3	19	4	12	3	19
K15	2	17	3	22	2	17	3	22
K16	4	13	3	20	4	15	3	22

Keterangan:

SF : Physiology Stress

SPsi: Psycology Stress

SPer: Beharvioral Stress

Stress Score:

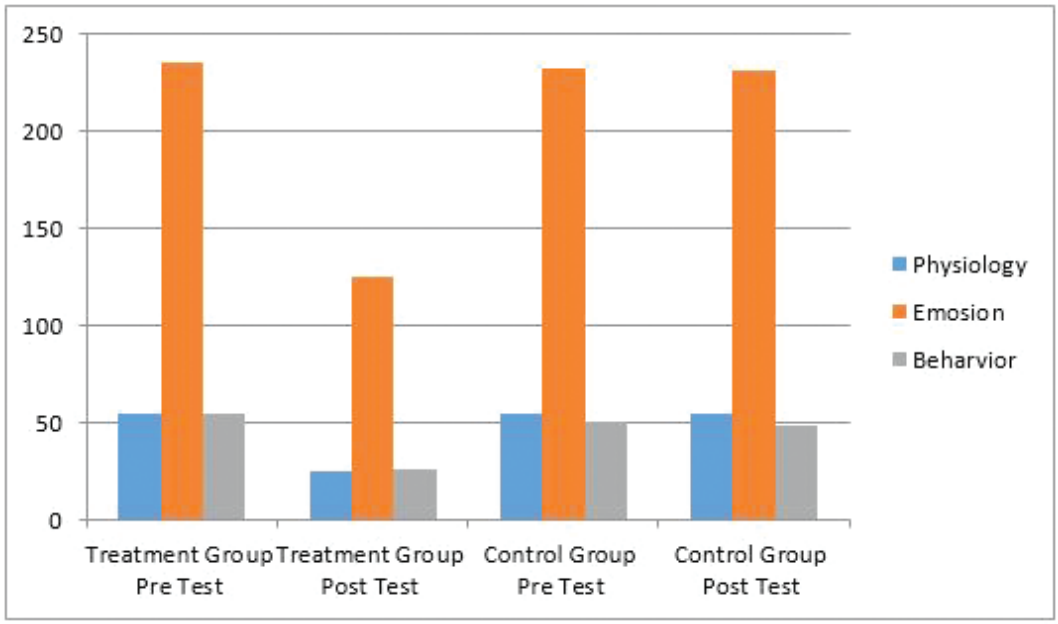
Normal (0-14)

Low (15-18)

Moderate (19-25)

Severe (26-33)

Very Severe (>33)



Picture 1: The results of processing the types of stress level of all respondents

Before being given the breath dzikir intervention, most of the respondents in the treatment group had moderate stress levels. The stress levels in the treatment group consisted of 15 respondents (93.75%) with moderate stress levels and 1 respondent (6.25%) with severe stress levels. In the control group, 16 respondents (100%) had moderate stress levels (Table 3). After being giving the breath dzikir intervention in the treatment group, the stress level of the group decreased, although there was a respondent, the sixth, whose stress level was still constant. The results of the Wilcoxon signed rank test between the pre- and post-test was *p*=0,000. This means that H1 was accepted and that there was a significant influence from dzikir breath on the decreased stress levels. In the control group, there was no significant difference found in the stress level of the respondents. The Wilcoxon signed rank test statistic had a value of *p*=0.317. This means that there was no change in the stress levels in the control group of respondents.

Table 3: Analysis of the stress levels of all respondents before and after the intervention

Stress Level	Group							
	Treatment Group				Control Group			
	Pre-Test		Post-Test		Pre-Test		Post-Test	
	Total	%	Total	%	Total	%	Total	%
Normal	0	0	14	87.5	0	0	0	0
Low	0	0	1	6.25	0	0	1	6.25
Moderate	15	93.75	1	6.25	16	100	15	93.75
Severe	1	6.25	0	0	0	0	0	0
Very Severe	0	0	0	0	0	0	0	0
Total	16	100	16	100	16	100	16	100
Wilcoxon	p = 0.000				p = 0.317			
Mann Whitney	Before The Breath Dzikir p=0.780							
After The Breath Dzikir p=0.000								

The stress level both of groups before the intervention was not significantly different. This was indicated by the results of the Mann Whitney U test with a value of *p*=0.780. This meant that there was no significant difference between the stress level of the treatment group and the control group before being

given the intervention in the form of breath dhikr. The results of the statistical test after being given the breath dzikir intervention showed a value of *p*=0,000. This is smaller than 0.05, meaning that there was a significant difference in the stress level of the treatment group and the control group after being given the intervention.

Discussion

Based on Roy's adaptation theory which states that some people do not have an effective coping system, the stress experienced can cause maladaptive psychological processes and self-concepts. The cognator system in the psychological processes that experience stress are closely related to mood and the mind, giving rise to bad moods dominated by negative thoughts and anxious feelings.[13]Stress conditions that are not properly addressed will interfere with one's physiological conditions as well, which stimulates the hypothalamus to secrete corticotropin releasing factor (CRF). This causes the pituitary gland to secrete adrenocorticotropin releasing hormone (ACTH). This stimulates the adrenal cortex to secrete cortisol.[3]An increase in excessive cortisol secretion in pulmonary TB patients can lead to complications, a decreased immune system and an excessive metabolism.[4]According to Roy's theory, a human is seen of as a system of adaptation. This theory aims to help the patients adapt to changes in their physiological needs, self-concept, role function and any interdependent relationships during health and illness.[13]Therefore humans are actually able to adapt to the stressful conditions that they are experiencing if they have effective coping methods.

One effective method of coping and dealing with spiritual-based stress is psychoeligious dzikir breath therapy.[9]Breath Dzikir is a method of combining dzikir and deep breaths, which can make individuals sincerely accept, give thanks, increase confidence and trigger a relaxed state, thereby reducing stress and even helping in controlling one's emotions.[10]Spiritual factors contribute to the healing process of clients. Even those who are religious are better able to cope with suffering and the healing process is faster.[14]Increasing the spiritual factors is also intended to maximize the benefits of experience, treatment and a feeling of peace for the patients.[15]Breathdzikir can be used as one of the complementary therapies to overcome the emotional problems that are proven to reduce the stress level of respondents in this study.

Dhikr contains elements of spirituality or religion that can arouse self-confidence and faith in the person who is sick. As the immune system increases, this accelerates the healing process.[9] A positive emotional response from the influence of the therapy of breath dhikr runs in the body and is received by the brain stem. After being formatted into the language of the brain, it is then transmitted to one part of the cerebrum, the hypothalamus. The hypothalamus then transmits impulses to the hippocampus (a vital memory center that coordinates everything that is absorbed by the senses) to secrete GABA (Gama Amino Batiric Acid). GABA acts as a controller of emotional responses. It also inhibits or reduces the activity of the neurons or nerve cells, CRH and other producing neurotransmitters cortisol and stress hormones. There will be a process of homeostasis and the repairing of the disrupted neurotransmitter system, giving rise to optimism, eliminating negative thoughts and generating positive thoughts. All protectors in the human body work with obedience to worship, such as getting closer to Allah SWT. There is the creation of an atmosphere of balance from the neurotransmitters in the brain.[16] Hormone stability and reduced stress cancause eustress in pulmonary TB patients.

The results of this research are in accordance with several studies' results, in which dhikr can reduce stress and increase the positive response of someone who has a problem.[11, 16, 17]Previous research has focused on patients with kidney transplants who experience stress; it was found that the higher a person's spirituality, the better they are coping and dealing with problems.[18]Spirituality can also improve quality of life and reduce the anxiety and depression of patients who have cancer.[19]Breath remembrance is a spiritual therapy, so it can therefore reduce stress levels in pulmonary TB patients as evidenced by the significant reduction in stress levels in the treatment group. In the control group, they did not experience a decrease in stress levels. The decrease in stress levels in the treatment group was because the respondents carried out breathing dhikr in earnest and according to the guidelines that the researcher gave 2 times a day for 7 days for ± 10 minutes each time. The more frequently that dzikir is done, the lower the anxiety that someone experiences.[20]

Conclusion

Breath Dzikir is a spiritual therapy that can change stress into eustress (positive stress) and decrease the stress level of pulmonary tuberculosis patients.

Ethical Clearance: This study received a certificate of ethical clearance from the Ethical Commission of Fakultas Keperawatan, Universitas Airlangga Indonesia No: 999-KEPK on 11th July 2018.

Source of Funding: This study received no external funding.

Competing Interests: The authors declare that they have no competing interests.

REFERENCES

1. Jong. Psychosocial and mental health interventions in areas of massive violence. 2nd ed. Amsterdam: Rozenberg Publishing Services; 2011.
2. Aye R, Wyss K, Abdualimova H, Saidaliev S. Factors determining household expenditure for tuberculosis and coping strategies in Tajikistan. Tropical medicine & international health : TM & IH 2011;163:307-13.
3. McArdle, Jackson M. Essentials of Exercise Physiology. 2nd ed. Philadelphia: Lippincott Williams and Wilkins; 2007.
4. Sherwood L. Fisiologi Manusia dari Sel ke Sistem. Jakarta: EGC; 2011.
5. Hartono L. Stres dan Stroke. Yogyakarta: Kanisius; 2011.
6. Muttaqin A. Buku Ajar Asuhan Keperawatan Klien dengan Gangguan Sistem Pernafasan. Jakarta: Salemba Medika; 2008.
7. Rubeen R, Zareen N, Zameer S, Ghulam Rasool A, Nasim S, Iqbal J. Anxiety and Depression in Tuberculosis Can Create Impact on Quality of Life of Patient2014. 93-8 p.
8. Yosep I. Keperawatan Jiwa. Revision ed. Bandung: PT. Refika Aditama; 2010.
9. Hawari D. Manajemen Stres, Cemas, dan Depresi. Jakarta: Balai Penerbit FKUI; 2008.
10. Purwanto S. Dzikir Nafas. Solo: Romiz aisy; 2012.
11. Anggraieni WN. Pengaruh Terapi Relaksasi Zikir Untuk Menurunkan Stres Pada Penderita Hipertensi Esensial. Jurnal Intervensi Psikologi 2014;61:81–102.
12. Hartono. Pengaruh Spiritual Emotional Transcendence Care (SET Care) terhadap Tingkat Stres Penderita Tuberkulosis Paru di Puskesmas Perak Timur Surabaya. Surabaya: Universitas Airlangga; 2015.
13. Perry A, Potter AR. Buku Ajar Fundamental Keperawatan: Konsep, Proses, dan Praktik. 4th ed. Jakarta: EGC; 2005.
14. Yusuf A, Nihayati HE, Iswari MF, Okviasanti F. Kebutuhan Spiritual: Konsep dan Aplikasi dalam Asuhan Keperawatan. Jakarta: Mitra Wacana Media; 2016.
15. Yusuf A, Fitryasari R, Nihayati EH. Buku Ajar Keperawatan Kesehatan Jiwa. Jakarta: Salemba Medika; 2015.
16. Jauhari J. Pengaruh Terapi Psikoreligius: Doa Dan Dzikir Terhadap Penurunan Tingkat Depresi Pada Penderita Gagal Ginjal Kronik Yang Menjalani Hemodialisa di Ruang Hemodialisa Rumah Sakit Kota Semarang. Semarang: STIKES Ngudi Waluyo Ungaran; 2014.
17. Cristianto R. Pengaruh Terapi Psikoreligius Dzikir terhadap Tingkat Kecemasan pada Pasien Tuberkulosis Paru di Puskesmas Pegirian Surabaya. Surabaya: Universitas Airlangga; 2016.
18. Saadatpanah S, Valizadeh Zare N, Malekzadeh J, Sadeghi T, Khorashadizadeh F. Relationship between Coping and Spiritual Health in Renal Transplant Recipients. Evidence Based Care 2018;74:73-7.
19. Chaar EA, Hallit S, Hajj A, Aaraj R, Kattan J, Jabbour H, et al. Evaluating the impact of spirituality on the quality of life, anxiety, and depression among patients with cancer: an observational transversal study. Supportive care in cancer : official journal of the Multinational Association of Supportive Care in Cancer 2018;268:2581-90.
20. Tulus, Mohammad, Qoth'iyah N. Efektifitas Terapi Dzikir terhadap Tingkat Kecemasan Ibu Hamil di Lembaga Pemasyarakatan (LP) Wanita Kelas II A Sukun Malang. Jurnal El-Qudwah 2015.