

The Effectiveness of the Combination Therapy of Emotional Freedom Technique - Murottal Alqur'an on Blood Pressure of the Elderly with Hypertension

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Abstract—Background: The health care coverage of elderly in Wonogiri in 2014 reached 108.002 (65.19%) of the 165.685 elderly, and in Jatiroto Sub-District there were 2.072 of the total of 3.164 elderly who got health care. The report from Wonogiri Departement of Public Health (2013), the case of Non-Communicable Diseases (NCDs) of hypertensive patients in 2012 as many as 37.865 cases and 15.250 elderly with hypertension. It made Wonogiri Regency in the fourth place (49.5%) of the highest hypertension prevalence districts/cities in Indonesia and the first place in Central Java. This study attempts to identify the effect of combination therapy of Emotional Freedom Technique - Murottal Alqur'an on elderly's blood pressure with hypertension in Jatirejo of Jatiroto Sub- District, Wonogiri Regency. **Method:** This study employed the quasi-experimental research with pre-test and post-test non-equivalent control group. The sample of research consisted of 34 respondents with non-probability sampling techniques chosen by purposive sampling. The instruments used are digital spigmomanometer, observation sheets, questionnaires demographics, MP3 media player with reverberate standard settings (40-60 dB, 300-340 Hz) and a head set/earphones. To analyze the data, the Paired Sample T-Test, Independent Sample T-Test and Kendall's Tau- β were used. **Results and Conclusion:** (1) there are significant differences before (pre-test) and after (post-test) giving treatment of the combination therapy EFT - Murottal Alqur'an on blood pressure in the intervention group ($p < 0.001$ systolic ; $p < 0.001$ diastolic), (2) there are no significant differences the first (pre-test) and the final observation (post-test) on blood pressure in the control group ($p: 0.889$ systolic ; $p: 0.169$ diastolic), (3) there are the average difference in blood pressure (systolic-diastolic) that significant differences between the intervention and control group with $p < 0.001$, (4) there are the strong effect of combination therapy EFT - Murottal Alqur'an on the decrease of systolic and diastolic blood pressure ($p < 0.001$; r value -0.507 systolic and -0.526 diastolic).

Keywords: *Emotional Freedom Technique - Murottal Alqur'an, blood pressure, and elderly hypertension*

I. INTRODUCTION

The number of elderly people in Indonesia is increasing every year. In Indonesia there are 18,283,107 elderly. This number will increase up to ± 28.8 million elderly (11.34% of whole population in 2020 with a life expectancy of ± 71 years). This makes Indonesia's elderly population belong he fourth largest in the world after China, India and the United States [12].

As we grow, natural physical changes occur in the elderly, one of them is the cardiovascular system. The heart valve thickens and becomes stiff, the heart's ability decreases by 1% every year after 20 years of age, loss of sensitivity and elasticity of peripheral blood vessels for oxygenation makes blood pressure elevate [15].

Report from Wonogiri District Health Office (2014), there were 11,053 cases of essential hypertension (age > 45 years 9,688 people), and other hypertension 5,329 (age > 45 years 4,783 people), while in Jatiroto Subdistrict Jatiroto Health Center 725 UPT age > 45 years there are as many as 581 people. This high number makes the final adult - the elderly as a group that needs more attention in terms of health [6].

Hypertension is a disorder when the blood vessels functioning to supply the oxygen and nutrients carried by the blood cannot reach the tissues that need it. According to WHO someone is said to be hypertension if systolic blood pressure limit is > 140 mmHg and diastolic pressure is > 90 mmHg in people who do not suffer from diabetes mellitus; whereas in people with diabetes mellitus, heart blood pressure limit is 130/90 mmHg [9]. Hypertension can be fatal if it is not well controlled or commonly referred to as complications. Complications of hypertension occur due to organ damage caused by a very high increase in blood pressure for a long time. The continuous high blood pressure will of course damage blood vessels throughout the body, most clearly in the eyes, ischemic heart, kidney failure, and stroke [21].

During this time the pillar of managing hypertension is prioritized on pharmacological therapy. Standard hypertension drugs recommended by JNC VII are a combination of 2 or more types of hypertension drugs which include diuretics, especially thiazide (Thiaz) or aldosterone

antagonists, beta blockers, calcium channel blockers or calcium antagonists, Angiotensin Converting Enzyme Inhibitors (ACEI), Angiotensin II Receptor Blocker or AT1 receptor antagonist / blocker (ARB) [1]. However, the persistence use of antihypertensive drugs in patients with chronic hypertension is caused by many factors include: expensive costs, requiring compliance because it requires a relatively long time to be able to reduce blood pressure, and frequent boredom in taking medication in hypertensive patients [16].

Then a complementary therapy (Complementary and Alternative Therapies) is needed which can control blood pressure, for example: diet, regular exercise and stress management [2]. One form of mind body therapy in evidence based stress management techniques is emotional freedom technique and music therapy (Murottal Alqur'an), etc. The implementation can be done in conjunction with medical therapy [20].

Emotional Freedom Technique (EFT) is a therapy that combines the spiritual power and psychological energy that utilizes the body's energy system to improve the state of mind, emotions, and behavior [8]. Emotional Freedom Technique (EFT) can overcome a person's anxiety problems based on the root of the main problem through the set up process that will be carried out and can affect the human subconscious by suggesting oneself. This source of anxiety is what will be used as an affirmation sentence when doing tapping. In EFT there are also technical elements of Eye Movement Desensitization Repatterning (EMDR) through the Nine Gamut Procedure to control emotions of anxiety. This technique is to stimulate the balance of the left brain and right brain [10]. When tapping and repeat tapping, there is an increase in the process of traveling neurotransmitter signals that reduce regulation of the Hypothalamic-Pituitary-Adrenal Axis (HPA Axis) so that it reduces the production of stress hormones namely cortisol then finally decreases blood pressure [11].

According to Ahmad Al Khadi, managing director of the Islamic Medicine Institute for Education and Research in Florida, United States, the voice of the Qur'an can reduce stress hormones, activate natural endorphin hormones, increase feelings of relaxation, and divert attention from fear, anxiety and stress, improve the body's chemical system so that it lowers blood pressure and slows breathing, heart rate, pulse and brain wave activity [14].

One of the weaknesses of Emotional Freedom Technique can only be used to release emotions that are at the root of the problem. In this study, researchers tried to combine EFT therapy with Murottal Alquran because of the combination of elements originating in the self (soul) and chanting of the Alqur'an scriptures which calmed the heart, which in the end is expected to increase the spiritual element (divinity).

Preliminary study on December 31, 2015, carried out direct observation and measurement of blood pressure in elderly people with hypertension in Jatirejo Village, Jatiroto

District, Wonogiri Regency. From 10 elderly people, we found 7 respondents suffer from hypertension with systolic blood pressure is > 140 mmHg and diastolic blood pressure is > 90 mmHg, with an average blood pressure of 165/95 mmHg. The ten respondents stated that they had done pharmacological treatment but had not shown significant changes. The ten respondents also did not know about Emotional Freedom Technique therapy, but 3 of 10 elderly hypertension had known Murottal Alqur'an.

Later on, this study examines Effectiveness of Murottal Alqur'an Emotional Freedom Technique on Blood Pressure in Elderly Hypertension in Jatirejo, Jatiroto District, Wonogiri Regency".

II. METHOD

A. *Research Design*

This study was a quasi-experimental study with a pre-test and post-test non-equivalent control group design. The time approach used is a prospective longitudinal approach.

B. *Population and Samples*

The population were all elderly people with hypertension in Jatirejo Village, Jatiroto District, Wonogiri Regency. Based on data obtained from Uatir Puskesmas Jatiroto in January - July 2015 173 people (aged > 45 years) suffer from hypertension. The samples were 34 respondents with non-probability sampling technique with purposive sampling method, and has met the inclusion criteria, namely elderly (age > 60 years) hypertension, who do not take antihypertensive drugs, who do not suffer other disease complications, are not hearing impaired, and are willing to become the subject of the research. While the exclusion criteria are subjects who suddenly cannot complete the research program to the end and who experience physical and mental disorders that are in chronic situations.

C. *Data Collecting and Analysis*

The instruments used included: digital sphygmomanometer, observation sheet, demographic questionnaire, MP3 media player with echo default settings (40-60 dB, 300-340 Hz), and head set / earphone. The data analysis used was the Paired Sample T-Test, Independent Sample T-Test and Kendall's Tau-b.

The data collection process was conducted in March 2016. It is targeted that the research will be completed in 14 days. Each individual was given a combination of Emotional Freedom Technique - Murottal Alqur'an therapy for ± 20 minutes (15 minutes EFT and 5 minutes Murottal Alqur'an Surah Al-Faatihah) 1 time a day for 3 consecutive days in the intervention group, while in the control group initial observation range (pre-test) to final observation (post-test) for 3 days without treatment therapy, and only given health education about hypertension. How to assign the sample into the intervention and control groups is according to the researchers' consideration; there are 4-5 people for each group every 3 days.

III. RESULTS

A. *Univariate Analysis*

Blood Pressure Before Given Combination of Emotional Freedom Technique - Murottal Alqur'an Therapy in the Intervention and Control Group.

TABLE I. ANALYSIS OF DESCRIPTION OF BLOOD PRESSURE BEFORE TREATMENT

Blood Pressure	Mean	Median	Modus	SD	Min	Max
Intervention Group						
Systolic	164,35	159	159	19,815	142	202
Diastolic	93,82	93	78	11,965	78	120
Control Group						
Systolic	163,76	159	159	17,981	141	207
Diastolic	97,65	95	91	10,903	82	125

Based on Table 1, in the intervention group before being given the combination treatment of Emotional Freedom Technique-Murottal Alqur'an treatment, the average systolic BP was 164.35 while the average diastolic BP was 93.82 mmHg. As for the control group before (preliminary

observation) the average systolic BP was 163.76 mmHg, while the average diastolic BP was 97.65 mmHg. Blood Pressure After Given Combination of Emotional Freedom Technique - Murottal Alqur'an Therapy in the Intervention and Control Group.

TABLE II. ANALYSIS OF DESCRIPTION OF BLOOD PRESSURE AFTER THERAPY

Blood Pressure	Mean	Median	Modus	SD	Min	Max
Intervention Group						
Systolic	151,88	146	146	20,871	117	191
Diastolic	86,35	87	75	8,845		104
Control Group						
Systolic	164,12	164	160	19,688	199	196
Diastolic	99,94	96	93	12,260	79	134

Based on Table 2, in the intervention group after being given the combination treatment of Emotional Freedom Technique - Murottal Alqur'an treatment, the average systolic BP was 151.88 mmHg while the average diastolic BP was

86.35 mmHg. As for the control group after (final observation) the average systolic BP was 164.12 mmHg, while the average diastolic BP was 99.94 mmHg.

B. *Bivariate Analysis*

Differences in Pre-Test with After Treatment (Post-Test) in the Intervention Group and Early Observation with Final Observation in the Control Group

TABLE III. TEST THE PAIRED-SAMPLES T TEST

	n	Perbedaan Rerata ± s.b.	IK 95%		p
			Lower	Upper	
TDS Pre-Test : TDS Post-Test Intervention Group	17	12.471 ± 6.615	9.069	15.872	.000
TDD Pre-Test : TDD Post-Test Intervention Group	17	7.471 ± 6.286	4.239	10.703	.000
TDS Pre-Test : TDS Post-Test Control Group	17	-3.353 ± 10.234	-5.615	4.909	.889
TDD Pre-Test : TDD Post-Test Control Group	17	-2.294 ± 6.574	-5.674	1.086	.169

In table 3 with the Paired-Samples T Test statistical test, it was shown that in the intervention group the results showed a decrease in the average difference in systolic blood pressure of 12,471 mmHg, a standard deviation of 6.615 with a 95% IK value (9,069 to 15,882), and a decrease in the mean difference average diastolic blood pressure 7,471 mmHg, standard deviation of 6,286 with 95% IK value (4,239 to 10,703). Both values were found to be $<0.001 < \alpha (0.05)$, so H_0 was rejected or H_a was accepted which means "There is a Meaningful Difference between Blood Pressure

(Systolic-Diastolic) Before and After Combination of Emotional Freedom Technique - Murottal Alquran '. Whereas in the control group, there was an increase in the average difference in systolic blood pressure of 0.353 mmHg, standard deviation of 10.234 with a 95% IK value (-5,615 to 4,909), and an increase in the average difference in diastolic blood pressure of 2,294 mmHg, a standard deviation of 6,574 with a 95% IK value (-5,674 to 1,086). On systolic blood pressure p value is $0.889 > \alpha (0.05)$, and p diastolic value is $0.169 > \alpha (0.05)$, then H_0 is accepted or H_a

is rejected which means "There is no Meaningful Difference between Blood Pressure (Systolic-Diastolic) Early Observation (Pre-Test) with Final Observation (Post-Test) ".

Differences in Differences in Blood Pressure Given by Treatment in the Intervention Group with No Treatment in the Control Group

TABLE IV. INDEPENDENT-SAMPLES T TEST

		n	Perbedaan Rerata.	IK 95%		p
				Lower	Upper	
Blood Pressure Systolic	Tidak Diberikan Terapi EFT - Murottal Alqur'an	17	12.824	6.803	18.844	.000
	Diberikan Terapi EFT - Murottal Alqur'an	17				
Blood Pressure Diastolic	Tidak Diberikan Terapi EFT - Murottal Alqur'an	17	9.765	5.271	14.258	.000
	Diberikan Terapi EFT - Murottal Alqur'an	17				

Based on table 4. with the Independent-Samples T Test statistical test, it was found that the average difference in systolic blood pressure was 12,824 with 95% IK values (6,803 to 18,854) and diastolic blood pressure of 9,765 with 95% IK values (5,271 to 14,258). Both have a value of $<0.001 < \alpha (0.05)$, so that H_0 is rejected which means "There

is a Meaningful Difference in Difference in Average Blood Pressure (Systolic-Diastolic) Treatment in the Intervention Group Given the Treatment of the Control Group". Analysis of How Powerful the Effectiveness of Combination of Emotional Freedom Technique - Murottal Alqur'an Therapy Against Blood Pressure (Systolic-Diastolic)

TABLE 5. TEST OF KENDALL'S TAU-B

		Blood Pressure Systolic	Blood Pressure Diastolic
Pemberian Terapi Kombinasi EFT - Murottal Alqur'an	r	-.507**	-.526**
	p	.000	.000
	n	34	34

Based On Table 5. The Kendall's Tau-B Correlation Test Statistic, Continuity Correlation Is $-.507$ For Systolic And $-.526$ For Diastolic. This Shows That The Two R Values When Rounded Are Between The Range $R = 0.51 - 0.75$ (Correlation Has Strong Closeness). Negative Marks On Both R Values Indicate The Direction Of The Relationship Pattern Is Negative/Inversely Proportional, It Means That Each Given EFT Therapy - Murottal Alqur'an Will Be Followed By A Decrease Or In The Range Of Systolic And Diastolic Blood Pressure Stability. In Other Words, Blood Pressure Will Increase In The Group Without EFT Therapy - Murottal Alqur'an. Both Have P Values Of $<0.001 < \alpha (0.05)$. So H_0 Is Rejected, Which Means "There Is Significant Effectiveness Between EFT Combination Therapy - Murottal Alqur'an On Decreasing Systolic And Diastolic Blood Pressure".

IV. DISCUSSION

Based on the finding, it can be said that there was a significant reduction in mean blood pressure (systolic-diastolic) in the intervention group. In addition to being given EFT therapy, this study combined with Murottal Alqur'an Surah Al-Faatihah therapy for 1 minute 40 seconds which was played 3 times in a while for 3 consecutive days it was able to relax the limbs.

This is in line with the research of Ernawati (2013), that the voice of Alqur'an is like a sound wave that has certain beats

and waves, spreads in the body then becomes a vibration that can affect the function of the movement of brain cells and create balance in them [7].

There was a clear difference in the average difference in blood pressure (systolic-diastolic) after being given a combination treatment of EFT therapy - Murottal Alquran in the intervention group with the final observation (post-test) in the control group.

This is in line with the results of Lane (2009) study that manually stimulating the acupuncture points can control the hormone cortisol, reduce pain, slow down the heart rate, reduce anxiety, and control the autonomic nervous system so as to create a sense of calm and relaxation [13]. Another opinion stated that controlled autonomic nerve stimulation will cause the secretion of epinephrine and norepinephrine by the adrenal medulla to be controlled as well. The control of the epinephrine and norepinephrine hormones will inhibit the formation of angiotensin, which in turn affects the work of the heart by reducing cardiac output which ultimately can reduce blood pressure [7].

Ernawati (2013) stated that listening to Alqur'an will provide an effect of calmness in the body because of the element of meditation, autosuggestion and relaxation contained in it. In the Alquran, the verse has been revealed as follows: "And when recited Alquran, listen carefully and pay attention quietly so that you get mercy." (Al-A'raf: 204) [7].

This is in line with the research conducted by Siswantinah (2011), about the effect of Murottal Alqur'an therapy on reducing stress levels in hypertensive patients indicating that Alqur'an chanting proved effective for reducing stress levels because it physically contained elements of human voice. Human voice is an amazing healing instrument and the most accessible tool [17]. Sound can reduce stress hormones, activate natural endorphin hormones, increase feelings of relaxation, and divert attention from fear, anxiety and stress, improve the body's chemical system and body metabolism thereby reducing blood pressure and slowing breathing, heart rate, pulse and activity brain waves.

Based on the results of the test, by giving Emotional Freedom Technique - Murottal Alqur'an therapy to elderly hypertensive patients for 3 days and health education in controlling lifestyle (hypertension) of hypertensive patients, namely by regulating food intake, smoking ban and alcohol consumption in the intervention group, it showed a significant decrease in systolic and diastolic blood pressure when compared with the control group that was not given therapeutic treatment, which was only given health education.

But based on the observations of researchers in the course of the study, related to dietary food intake, the average respondent ate twice a day and some preferred fatty foods, they also put more than one teaspoon of cooking salt in it, if converted more from 6 grams per day. Some male respondents cannot reduce/stop smoking during the study, due to the lack of compliance and support from themselves and their families. But they can stop consuming beverages containing caffeine and replaced it with tea. Many of them experience stress due to various factors, including many elderly who live alone without their children or daughter-in-law migrating out of the area, some are caused by family problems and some are worried about their condition which is old and suffering from various diseases including hypertension.

Some respondents who are interviewed further about the effect of giving Emotional Freedom Technique-Murottal Alqur'an therapy said that the provision of this therapy not only reduced psychological and physical tension but also increased confidence in the recovery of the disease because one of the contents in the procedure (Set Up) was focus all thoughts on pain and believe that healing comes from within and towards God the Almighty.

Although the results of the study showed a significant decrease in blood pressure, the likelihood of respondents still feeling other symptoms of hypertension such as dizziness, palpitations, or difficulty in sleeping can still arise. Therefore Emotional Freedom Technique - Murottal Alquran therapy in elderly hypertension needs to coincide with other therapies such as hypertension medication therapy, low salt diet, low cholesterol diet, smoking cessation, and stress management techniques.

V. CONCLUSION

In short, there is a significant difference before (pre-test) and after (post-test) EFT - Murottal Alqur'an combination therapy for blood pressure in the intervention group ($p < 0.001$ for systolic and $p < 0.001$ for diastolic). Whereas in the control group there was no significant difference in the initial observation (pre-test) with the final observation (post-test) on blood pressure ($p: 0.889$ for systolic and $p: 0.169$ for diastolic).

Moreover, there are significant differences in the mean difference in blood pressure (systolic-diastolic) given the combination treatment of EFT therapy - Murottal Alqur'an in the intervention group without treatment in the control group ($p < 0.001$ for systolic and $p < 0.001$ for diastolic). Later on, there is the effectiveness of the combination of EFT therapy - Murottal Alquran on systolic and diastolic blood pressure (p value < 0.001 ; r -value of 507 for systolic and -0.526 for diastolic).

It is expected that future researchers can develop further research, for example by research design that has high validity such as Randomized Controlled Trial (RCT), larger sample size, longer research duration and randomization of samples and designing special rooms for therapy so that they can improve the research and the results are more accurate.

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