Application of *Emotional Freedom Technique* (EFT) Therapy in Reducing Hypertension in the Elderly

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Abstract. The incidence of hypertension increases with age, obesity, psychological stress, smoking, hereditary factors and unhealthy eating habits and consumption patterns. The age factor has an important role in the problem of hypertension. Blood circulation disorders in the elderly due to narrowing of the blood vessels which can trigger hypertension. Hypertensive patients sometimes do not show signs and symptoms (silent killer). Hypertension can be treated with non-pharmacological therapy to lower blood pressure without dependence on drugs and side effects such as Emotional Freedom Technique (EFT). EFT is a type of acupuncture that does not use needle pricks but instead uses light tapping with the fingertips to align the body's energy system through acupuncture meridian points, especially on the head and hands. The aim of the research was to determine the effect of EFT on reducing hypertension in the elderly. The research method used a pre-experimental one-group pretest-posttest design with a sample of 20 respondents in the treatment group using Emotional Freedom Technique (EFT) therapy which was carried out 7 days 20 minute. The results showed that posttest systolic decreased significantly (p=0.000) in 20 respondents, and posttest diastolic also experienced a significant decrease (p=0.000). The conclusion of this research is that the application of Emotional Freedom Technique (EFT) has an effect on reducing hypertension in the elderly

Key Words : Emotional Freedom Technique (EFT), Hypertension, Elderly

INTRODUCTION

Aging is a condition that occurs in a person's life. Age over 60 years is the final stage of the aging process which has an impact on three aspects, namely biological, economic and social. The elderly experience a continuous aging process which is characterized by decreased physical endurance and vulnerability to disease (Anis, 2020). According to WHO (World Health Organization), the number of elderly people in 2020 is 1.4 billion and in 2050 the number of people aged 60 years and over will double to 2.1 billion. According to the Badan Pusat Statistik (BPS), the elderly population in Indonesia reaches 10.48% of the total 273 million people. This shows that in Indonesia the percentage of people aged over 65 years has increased to 25% and in 2025 it is estimated that it will reach 80 million people (Badan Pusat Statistik, 2022).The number of elderly people in Central Java ranks third with a total of 4,671,430 with a percentage of 12.7% (Badan Pusat Satistik Provinsi Jawa Tengah, n.d.). The number of elderly people in Kudus Regency in 2022 will reach 89,729 people or 10.47% of 85,6472 people (Profil DinasKesehatan Kabupaten Kudus, 2022).

The increase in the number of elderly people will increase health problems due to changes due to physical, mental, social and other health problems. Various health problems in the elderly include blood circulation disorders due to narrowing of the blood vessels which can trigger hypertension (Azizah, 2011). The cause of hypertension in the elderly is because as people get older, their physiological functions decrease due to degenerative processes (aging). The elderly will experience degeneration of the cardiovascular system, such as stiffness and thickening of the heart valves, decreased elasticity of the aortic wall, a decrease in heart function of 1% every year, causing a decrease in contractions and cardiac output. This can cause hypertension (Potter PA & Perry AG, 2015). Hypertension is a condition where blood pressure increases beyond the normal threshold of 120/80 mmHg. The blood pressure limit that is still considered normal is less than 130/85 mmHg. If blood pressure is more than 140/90 mmHg,it is said to be hypertension (Hastuti, 2022). Based on data from the 2021 Central Java Province Health Profile, as many as 8,700,512 people or 30.4% had hypertension and 4,431,538 people or 50.9 percent had received health services (Dinkes, 2021). The prevalence rate for elderly people experiencing hypertension in Kudus Regency in 2022 is 51.0% (Profil Dinas Kesehatan Kabupaten Kudus, 2022). In 2021, in the working area of the Jepang Health Center, Kudus, there will be 267 elderly people with hypertension, while in 2022 it will be 291 people (Profil Puskesmas Jepang, 2022).

Hypertension can be treated in several ways, namely pharmacological and non-pharmacological. Non-pharmacological treatment by means of weight loss, diet, lifestyle, activity patterns, avoiding stress with relaxation. Relaxation is divided into two, namely physical stress relaxation such as yoga, progressive muscle relaxation, breathing exercises. Meanwhile, relaxation techniques that emphasize mental/psycho include autogenic suggestion, imagery, relaxation self-talk, meditation and EFT (Emotional Freedom Technique). EFT is a type of acupuncture that does not use needle pricks but instead uses light tapping with the fingertips to align the body's energy system through acupuncture meridian points, especially on the head and hands (Callahan & Trubo 2001; Craig 2011) EFT therapy in hypertension reduces blood pressure by producing the hormone cortisol, which influences the nerves to reduce the hormone adrenaline which has an impact on reducing the hormone epinephrine, therefore blood pressure will return to normal (Yaribeygi, H., Panahi, Y., Sahrei, H., Johnston, T.P., & Sahebkar, 2017).

Research that supports Emotional Freedom Technique (EFT) in reducing blood pressure in hypertensive elderly conducted by Isworo, Anam, and Indrawati (2019) with the title "The Effect of Emotional Freedom Technique Therapy in Lowering Blood Pressure in Hypertensive Elderly" obtained hypothesis test results (p value) shows that there is a significant difference in systolic blood pressure before and after EFT therapy ($p<0.001$). So it can be concluded that EFT is able to reduce blood pressure in hypertensive elderly (Isworo *et al*., 2019) . Another research by Lestari (2020), entitled "The Effect of Emotional Freedom Technique on Blood Pressure in the Elderly in the 2017 RPSTW" calculated the t value for systolic with a p-value of 0.005 and for diastolic blood pressure a p-value of 0.006. The results of the statistics can be concluded that there is a significant effect of EFT on reducing blood pressure in the elderly (Lestari, 2020).

METHODS

The design in this study used a pre-experimental one-group pretest-posttest design. The sampling technique used purposive sampling, taking a sample of 20 respondents with inclusion criteria (1) willing to be a respondent, (2) Systolic Blood Pressure (TDS) ≥ 140 mmHg and Diastolic Blood Pressure (TDD) ≥ 90mmHg, (3) the patient can communicate well, and exclusion criteria are clients who have severe complications. Hypertension can cause complications including stroke, heart failure, coronary heart disease, kidney disease, hypertensive retinopathy and blindness, hypertensive crisis, and hypertensive encephalopathy (Andrea Saferi wijaya, 2013).

This research was conducted in Mejobo village, Mejobo District, Kudus Regency. The variables in this study are divided into two variables; namely the independent variable and the dependent variable. The independent variable in this research is the application of Emotional Freedom Technique (EFT). This EFT was given for 7 days for 20 minutes. The dependent variable of this research is a decrease in blood pressure in elderly people with hypertension. Blood pressure measurements are carried out before the EFT procedure is carried out (pre test) and blood pressure is measured again after 7 days (post test).

RESULTS AND DISCUSSION

A general description of respondents can be seen from the following table:

Table 1. Frequency Distribution of Respondents based on gender (n=20)

Gender	Frekuensi	Presentase (%)
Man	8	40,0
Woman	12	60,0
Total	**20**	**100.0**

Based on Table I above, the show that on female gender is also greater at 12 (60.0%). This is due to a decrease in estrogen hormone levels. Menopausal women experience a decrease in estrogen levels which results in a decrease in Low Density Lipoprotein (LDL) levels in the body, causing an increase in plasma cholesterol levels, because LDL content is 70% plasma cholesterol. LDL can be oxidized which can damage vascular walls and form atherosclerosis which causes hypertension (Aaronso, P.I., &Ward, 2010). Another thing is because women have a higher life expectancy compared to men. Researchby Rahmayanti & Ariguntur (2017) states that women are more responsive to seeking health assistance when experiencing health problems than men (Rahmayanti, S.N., dan Ariguntar, 2015). Based on this,it could be one of the factors that women's life expectancy is higher than men.

Table 2. Frequency Distribution of Respondents based on Respondent Age (n=20)

	Mean	Median	Minimum	Maximum
Age	66.30	65.50	60	75

Based on table 2 above, it is known that the average age of respondents is 66 years, with the youngest age being 60 years and the oldest age being 75 years. Age is not the only cause of hypertension. Based on Riskesdas (2018) it is stated that the incidence of hypertension increases over the age of 45 years ((Riskesdas), 2018) The cause of hypertension in the elderly is stiffness of the blood vessels and weakening of the elasticity of the arteries, stiffness in the arteries causes increased arterial pressure. Degeneratids are the cause of the high risk of hypertension in the elderly (Rosari, 2014). This is reinforced by the statement of Huanhuan et al, 2013 which states that an increase in blood pressure canbe influenced by a person's age, physiological changes that occur in the body with increasing age, one of which is wall thickening. arteries which can gradually cause narrowing of the blood vessels. (Huanhuan, H., Gang, L., dan Takashi, 2013).

Table 3. Frequency Distribution of Respondents based on systolic blood pressure (n=20)

	Mean	Median	Minimum	Maximum
Pre Sistole	154,85	155,0	145	164
Post Sistole	133,00	135,0	126	139

Based on table 3 above, it is known that the average pre-systolic value is 154.85 mmHg with the lowest systolic blood pressure being 145 mmHg and the highest systolic blood pressure being 164 mmHg. The average post systole value is 133.00 mmHg with the lowest post systole blood pressure being 126 mmHg, and the highest systole being 139 mmHg.

Table 4. Frequency Distribution of Respondents based on diastolic blood pressure **(**n=20)

	Mean	Median	Minimum	Maximum
Pre Diastole	93,15	93,00	90	99
Post Diastole	84,45	84,50	80	89

The average pre-diastole value was 93.15 mmHg with the lowest diastolic blood pressure being 90 mmHg and the highest diastolic blood pressure being 99 mmHg. The average post diastole value is 84.45 mmHg with the lowest post diastole blood pressure being 80 mmHg, and the highest diastole being 89 mmHg.

Table 5. Wilcoxon Signed Ranks Test blood pressure (n=20)

	Mean	Z	*p value*
Pre-Post Sistolic	10.5	-3.923	0.000
Pre-Post Diastolic	10.5	-3.928	0.000

Based on table 5 of the Wilcoxon Sign Ranks Test results, it is known that Emotional Freedom Technique (EFT) has a significant influence on reducing hypertension in the elderly with a p value of 0.000 in systole and a p value of 0.000 in diastole. Hypertension is a condition where there is an increase in blood pressure above the normal threshold, namely 120/80mmHg. The blood pressure limit that is still considered normal is less than 130/85 mmHg. If blood pressure is more than 140/90 mmHg, it is considered hypertension (Triyanto, 2014). Hypertension will generally cause dizziness or headaches accompanied by a feeling of heaviness in the nape of the neck, nausea, vomiting, anxiety, palpitations (Pujiastuti et al., 2019). These symptoms occur because the heart pumps more strongly so that it flows more blood every second so that the large arteries lose their flexibility and become stiff and unable to expand when the heart pumps blood through these arteries. Therefore, every heartbeat of blood that is forced through blood vessels that are narrower than usual will cause blood pressure to rise (Kardiyudiani & Susanti, 2021). Factors that cause hypertension are divided into two, namely factors that can be controlled and factors that cannot be controlled. Factors that can be controlled are generally related to lifestyle and eating patterns, such as obesity, smoking and stress, while factors that cannot be controlled are age, heredity and gender (Sari, 2017).

Hypertension can be caused by two factors, namely hypertension that can be controlled and hypertension that cannot be controlled. Hypertension that can be controlled is usually caused by a

lifestyle, diet that causes obesity, smoking, stress. Meanwhile, factors that cannot be controlled include: age, heredity and gender (Yanita Nur Indah Sari, 2017). Basedon this fact, the number of elderly people suffering from hypertension is high. Treatment of hypertension can be done through two approaches, namely a pharmacological approach and a non-pharmacological approach. Pharmacological treatment includes the use of drugs including ACE inhibitors, β blockers, diuretics, calcium channel blockers and arteriolar vasodilators. Non-pharmacological treatment includes lifestyle modification, low diet modification. fat, reducing alcohol consumption, caffeine, relaxation, complementary therapy (Hubkova, 2017). Complementary therapy that can be used to reduce blood pressure in hypertension sufferers includes deep breathing techniques, cupping, hypnotherapy and Emotional Freedom Technique (EFT) therapy (Fajri, I., Nurhamsyah, D., Mudrikah & Aisyah, S., & Azjunia, 2022).

The application of Emotional Freedom Technique (EFT) is a therapy that combines the body's energysystem with a combination of body point techniques. Craig & Fowlie were the people who first introduced EFT as a simple form of Though Field Therapy (TFT) by tapping on twelve body meridian points. (Moore-Hafter, B., Barbee, J., Zacharias-Miller & & Shaner, 2021) (tapping can make you relax and feel comfortable. EFT reduces blood pressure by producing the hormone cortisol which can affect the nerves in reducing the hormone adrenaline which has an impact on reducing the hormone epinephrine (Isworo *et al*., 2019). EFT therapy or often also called energy therapy is a therapy that does not require other instruments when practicing it. EFT uses a form of emotional acupressure where this therapy is practiced by massaging or pressing meridian points on the body (Wijaya & Putri, 2014). Tapping in EFT therapy consists of the top of the point, the eyebrow point, the side of the eye point, the under the eye point, the under the nose point, the chin point, the collar bone point, the under the arm point, the thumb point, the index finger point, the middle finger point, and the little finger point. EFT therapy is carried out once a day for 7 days for 20 minutes. When individual tapping is done, the blood vessels experience vasodilation and alternatively lower blood pressure, the body feels comfortable and relaxes smoothly. When doing EFT it causes the cortisol hormone to decrease and the endhorphin hormone to increase, the increase in the endhorphin hormone causes vasodilation of blood vessels which causes blood pressure to decrease (Purwitarsari, U. K. P., Rohmi, F., & Aditya, 2021).

The research results in table 5 pre and post systole pressure have a p-value of 0.0000, and pre and post diastole pressure have a p-value of 0.0000. These results show that there is a significant effect of EFT in reducing hypertension in the elderly. In accordance with research by Atyanti, et al, 2019 which states that Emotional Freedom Technique therapy has an effect in reducing blood pressure in hypertensive elderly with the results that there is a significant difference between systolic and diastolic blood pressure. given EFT (intervention group) compared to systolic and diastolic blood pressure without EFT (control group) with a p-value of 0.001 ($p > 0.05$) (Isworo *et al*., 2019).

EFT uses meridian points on the body, EFT therapy is safe, simple and can be done independently. In the EFT method, the energy system in the body becomes normal so that it can reduce the production of the hormone cortisol and affect the brain, including decreasing adrenaline production and decreasingthe amount of epinephrine, causing heart rate and blood pressure to return to normal (Imam Abidin, NurIntan Hayati, Randen Siti & Restri, 2023). Light tapping on organ meridian points and meridian ki pathways can increase endorphin hormones which can reduce blood pressure due to stress. This is almostthe same as the effleurage massage technique used in research (Imam Abidin, Nur Intan Hayati, Randen Siti & Restri, 2023) that the effect of massage therapy is to stimulate the hypothalamus to release endorphin and encaphalin hormones which can affect parasympathetic nerves and reduce the hormones cortisol, norepinephrine and dopamine which results in venous blood flow. faster return to the heart andvasodilation of blood vessels. Reducing these hormones can cause feelings of comfort, resulting in relaxation and a decrease in blood pressure.

EFT tapping also provides a response in the peripheral nervous tissue and involves the central nervous system. When tapping a peripheral nerve sends a stimulus to the central nerve via neurotransmitters (Ningsih, S.F., Karim, D., dan Sabrian, 2015). The stimulus is transmitted through the spinal cord to the hypothalamus and pituitary gland. which affects the secretion of β-endorphins, enkephalins and serotonin, which act as pain inhibitors. The secretion of these neurotransmitters also plays a role in healing mental (psychiatric) illnesses. The secretion of serotonin and enkephalin in the central nervous system and blood plasma plays a role in the treatment of mood disorders, depression and anxiety (Purba, 2010). This is in line with research (Imam Abidin, Nur Intan Hayati, Randen Siti & Restri, 2023). The results show that on average The average systolic blood pressure before EFT therapy was given was 147.60 mmHg and diastolic blood pressure 88.60 mmHg. The average systolic blood pressure after EFT therapy was given was 136.20 mmHg and diastolic blood pressure 76.24 mmHg. Blood pressure after EFT therapy in the intervention group showed significant differences in both systolic blood pressure (p value 0.020) and diastolic pressure (p value <0.001). The results of the

analysis showed that blood pressure dropped significantly after being given EFT therapy twice a week. This therapy is very useful for hypertension sufferers as an alternative treatment to control blood pressure.

CONCLUSION

The results of the seven-day study showed a decrease in the average systolic and diastolic blood pressure in the respondents. The results showed p-value = 0.000 in systole and p-value = 0.000 in diastole. Tapping in EFT therapy causes the energy system in the body to normalize so that it can reduce the production of the hormone cortisol and affect the brain, including decreasing adrenaline production and the amount of epinephrine which causes heart rate and blood pressure to return to normal.

RECOMMENDATIONS

1. For Health workers
   The author hopes that health workers will use the Emotional Freedom Technique as an intervention in gerontic nursing care to reduce hypertension in the elderly.
2. For patients or respondents
   Researchers hope that elderly people with hypertension will use Emotional Freedom Technique as relaxation therapy during hypertension because Emotional Freedom Technique therapy can be done independently and safely.
3. For institutions or further research
   Future researchers are advised to carry out further research regarding the application of Emotional Freedom Technique (EFT) by developing other methods such as easy EFT, so that they can observe the impact on reducing hypertension.

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