

THE IMPACT OF TERA GYMNASTICS ON THE REDUCTION OF HYPERTENSION IN THE ELDERLY

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Kata Kunci:

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ABSTRACT

Aging process in the journey of human life is a natural thing. Problems that commonly occur in the elderly related to physical health are susceptible to various diseases, due to reduced body resistance in dealing with outside influences. About 30% of the elderly have hypertension. Hypertension is a silent killer that must be watched out for. One strategy that is cost effective in an effort to control hypertension is to do therapy. The purpose of this study was to determine the Effectiveness of Tera Exercise on Lowering Blood Pressure in the Elderly with Hypertension at PSTW Sabai Nan Aluih Sicincin. This study used a Quasi-Experimental design with One Group PreTest – Posttest Design. The population in this study were elderly people with hypertension in PSTW with a sample of 14 people. The sample selection used a purposive sampling technique. The research was conducted in July-August 2022. Data analysis used the Independent T-Test statistical test. The results showed that there was a decrease in systolic blood pressure before and after the tera exercise with a mean of 17,500 and diastolic blood pressure before and after with a mean of 13,929. Based on the results of statistical tests with hypothesis testing obtained p value = 0.000 ($p < 0.05$). The conclusion of this study is the Effectiveness of Tera Gymnastics on Lowering Blood Pressure in Elderly People with Hypertension at Tresna Werdha Sabai Nan Aluih Sicincin Social Institution. It is expected that officers at PSTW routinely once a week provide therapy for elderly people who are in that place.

ABSTRAK

Aging process dalam perjalanan hidup manusia merupakan salah satu hal yang wajar. Masalah yang biasa terjadi pada lansia yang berhubungan dengan kesehatan fisik yaitu rentan terkena berbagai penyakit, sebab berkurangnya daya tahan tubuh dalam menghadapi pengaruh dari luar. Sekitar 30% lansia mengalami hipertensi. Hipertensi merupakan silent killer yang harus diwaspadai. Salahsatu strategi yang cost efektif dalam upaya mengontrol hipertensi adala dengan melakukan terapi. Tujuan penelitian ini untuk mengetahui Efektivitas Senam Tera Terhadap

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Penurunan Tekanan Darah Pada Lansia Penderita Hipertensi Di PSTW Sabai Nan Aluih Sicincin. Penelitian ini menggunakan design Quasi Eksperimen dengan One Group PreTest – Posttest Design. Populasi pada penelitian ini yaitu lansia penderita hipertensi di PSTW dengan sampel 14 orang. Pemilihan sampel menggunakan teknik purposive sampling. Penelitian dilaksanakan pada Juli-Agustus 2022. Analisis data menggunakan uji statistic T-Test Independent. Hasil penelitian menunjukkan terdapat penurunan tekanan darah sistolik sebelum dan sesudah senam tera dengan mean adalah sebesar 17,500 dan tekanan darah diastolik sebelum dan sesudah dengan mean sebesar 13,929. Berdasarkan hasil uji statistic dengan uji hipotesis diperoleh p value = 0,000 ($p < 0,05$). Kesimpulan penelitian ini ada Efektivitas Senam Tera Terhadap Penurunan Tekanan Darah Pada Lansia Penderita Hipertensi Di Pantia Sosial Tresna Werdha Sabai Nan Aluih Sicincin. Diharapkan petugas di PSTW rutin sekali dalam seminggu memberikan terapi senam tera kepada lansia yang ada di tempat tersebut.

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PENDAHULUAN

Aging process in the course of human life is one of the natural things. A common problem for the elderly related to physical health is that they are susceptible to various diseases, due to reduced endurance in the face of external influences (Brunner, 2014). Problems found by the elderly include physical changes such as decreased cell function, hearing system, vision system, cardiovascular system, body temperature regulation system, respiration system, gastrointestinal, endocrine system, skin system and musculoskeletal system (Khasanah & Nurjanah, 2020).

The rate of population growth every year increases from year to year, even as can be seen from the Life Expectancy (UHH) in Indonesia, the Central Statistics Agency (BPS) noted that it was 71.47 in 2020. It even seems that the age of the elderly every year in Indonesia increases the number of elderly people in Indonesia every year. Even in 2020-2025 Indonesia will be ranked as a country with a structure and number of elderly people after the PRC, India, and the United States, with a life expectancy of more than 70 years. According to estimates of the Central Bureau of Statistics, in 2015 there were (10.0%) 24. 446,290 elderly residents. The Ministry of Health of the Republic of Indonesia noted that the number of elderly people was 80,000,000 in 2020. The increasing number of the elderly greatly affects various problems that arise due to changes in body functions, health problems that always arise in the elderly are diseases such as astitis, stroke, diabetes mellitus, hypertension According to estimates of the Central Bureau of Statistics, in 2015 there were (10.0%) 24. 446,290 elderly residents. The Ministry of Health of the Republic of Indonesia noted that the number of elderly people was 80,000,000 in 2020. The increasing number of the elderly greatly affects various problems that arise due to changes in body functions, health problems that always arise in the

elderly are diseases such as atherosclerosis, stroke, diabetes mellitus, hypertension (Eriyanti, Widodo, Kep, & Jadmiko, 2016).

According to the World Health Organization (WHO) about 30% of the elderly are affected by hypertension. This is because there are no definite signs of symptoms for developing hypertension as a result of which hypertensive patients tend to let and not control hypertension. WHO data 2018, around 972 million people or 26.4% of people worldwide have hypertension, this figure is likely to jump to 29.2% in 2025. A total of 972 people with hypertension, 333 million are in developed countries and the remaining 639 are in developing countries, including Indonesia.

Hypertension is a condition in which the increase in systolic blood pressure is higher than 140 mmHg and diastolic is higher than 90 mmHg after two measurements in an interval of 5 minutes in a state of adequate rest or calm (Eriyanti et al., 2016). Based on Basic Health Research data in 2018, the prevalence of hypertension in the elderly in Indonesia has increased in the population of 64 years and over by 55.2%. Meanwhile, the prevalence of hypertension in West Sumatra was 25.6% with a total of 176,169 cases detected through blood pressure measurements.

Judging from several articles found, it turns out that the prevention of hypertension is not only in the form of pharmacology that can be done, but also non-pharmacology. Pharmacological treatment using diuretic drugs, while non-pharmacology is in the form of complementary therapy. Complementary therapies that can be done are herbal therapy and relaxation therapy. Relaxation therapies that can be given such as laughter therapy, music therapy and progressive relaxation. Judging from several articles found, it turns out that the prevention of hypertension is not only in the form of pharmacology that can be done, but also non-pharmacology. Pharmacological treatment using diuretic drugs, while non-pharmacology is in the form of complementary therapy. Complementary therapies that can be done are herbal therapy and relaxation therapy. Relaxation therapies that can be given such as laughter therapy, music therapy and progressive relaxation (Tulak, 2017).

However, from some of these therapies, the provision of physical activity therapy such as gymnastics still needs to be done. Gymnastics is a sport or physical activity that can be done to maintain heart and circulatory health. Sports can maintain muscle and joint flexibility and stimulate the heart to supply oxygen to meet the needs of the whole body. Tera gymnastics is one of the physical and mental activities that combines body movements using breathing techniques and rhythms through concentration of the mind which is carried out regularly, harmoniously, correctly, and continuously (Senja & Prasetyo, 2021).

Tera gymnastics is a breathing exercise combined with movement. This gymnastics is taken from Tai Chi Gymnastics which originated in China. The word Tera itself comes from the word therapy which means exercise that functions as therapy. Tera gymnastics has many benefits, one of which is from every movement, namely stretching movements that aim to stretch muscles before doing gymnastic movements, joint movements that move all joints that have benefits for physical and mental health. While

the last one is a breathing movement that adapts from Tai Chi Gymnastics, therefore the movements / moves of Tera Indonesia Gymnastics are gentle and relaxed. Therefore, it is not surprising that Tera Gymnastics can be followed by all layers of both children, adults and the elderly. (Rofika & Yuniastuti, 2018).

Based on several studies, it was found that tera gymnastics can be useful for the elderly. This is in accordance with the research conducted by (Ekasari, Riasmini, & Hartini, 2019) entitled the effectiveness of tera gymnastics and heart-healthy gymnastics against blood pressure in the elderly with hypertension in Sinomwidodo Village, Tambakromo District, Pati Regency, said that by measuring using a mercury sphygmomanometer that there was a significant difference in the average systolic blood pressure before and after being given tera gymnastics, which used an experimental quasy method with a non-equivalet control group design. Further strengthened by research conducted by Sufendi (HARIANTO, n.d.) entitled The Effect of Tera Gymnastics on the Blood Pressure of Hypertensive Elderly, said the average value of systolic blood pressure before gymnastics was 172 mmHg and after gymnastics 169 mmHg. The average value of diastolic blood pressure before gymnastics is 89 mmHg and after gymnastics is 84 mmHg, where using the quasy method pre-post test experiments this research was conducted in Kalik Village, Tambelang District, Jombang Regency.

Based on data obtained by researchers from the Tresna Werdha Social Institution (PSTW) Sabai Nan Aluih Sicincin on March 16, 2022, there were 110 elderly people consisting of 64 men and 46 women consisting of 13 guesthouses. From the results of interviews and blood pressure measurements in 32 elderly people, data was obtained that out of the 32 elderly people, as many as 28 elderly people suffered from hypertension.

METODE PENELITIAN

The type of research used in this study is quasi-experimental with a one group pretest posttest design approach. Held at PSTW Sabai Nan Aluih Sicincin, in July-August 2022 (Notoatmodjo, 2012). The population of this study was all elderly people suffering from hypertension as many as 28 people. The sample was calculated using a sampling quota of 14 people. Selected to glorify the purposive sampling technique. Data analysis using the Indepent T-Test.

HASIL DAN PEMBAHASAN

A. Characteristics of Respondents

The frequency distribution based on characteristics can be seen in table 1 below:

Table 1. Characteristics of Respondents

No	Karakteristik Responden	F	%
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1	Umur		
	60-69 Tahun	9	64,2
	>70 Tahun	5	35,8
2	Jenis Kelamin		
	Laki-laki	10	71,4
	Perempuan	4	28,6
	Jumlah	14	100

Based on table 1, it was obtained from 14 respondents more than half (57.1%) respondents aged 60-69 years, respondents were more male than 10 people (71.4%).

B. Hasi Bivariate Test

Table 2. Differences in Blood Pressure in Elderly People with Hypertension Before and After Being Given Tera Gymnastics at PSTW Sabai Nan Aluih Sicincin

Kelompok		n	Mean	Beda Mean	t	P value
Sistolik	Pretes	14	165,36			
	Postes	14	147,86	17,500	15,319	0,000
Diastolik	Pretes	14	90,00			
	Postes	14	76,07	13,929	7,948	0,000

Based on table 2, it was found that the decrease in systolic blood pressure before and after tera gymnastics with the mean was 17.500 and the diastolic blood pressure before and after with a mean of 13.929. Based on the results of the statistical test, p value = 0.000 ($p < 0.05$) was obtained, so H_a was accepted. So there is an effectiveness of giving tera gymnastics against blood pressure in elderly people with hypertension at the Tresna Werdha Sabai Nan Aluih Sicincin Social Institution.

The results of this study are almost the same as the research conducted by Uswatul (Khasanah & Nurjanah, 2020) in the Lipi Complex RW 010 Rawapanjang Bojong Gede Bogor, a decrease in systolic blood pressure was obtained before and after tera gymnastics with a mean of 13,333 and a p value = 0.000 and diastolic blood pressure before and after tera gymnastics with a mean of 6.667 and a p value = 0.001. Strengthened by research conducted by Pratiwi (2021) at PSTW Nirwana Puri Samarinda, it was found that the decrease in systolic blood pressure before 125.71 and after 116.67 tera gymnastics was carried out and the p value = 0.000. In line with research by Ana Rofika (2018) in Sinomwido Village, Tambakromo District, Pati Regency, there was a decrease in blood pressure before and after tera gymnastics with a p value of 0.006.

Hypertension is an increase in blood pressure where the systolic pressure value is more than 140 mmHg and the diastolic pressure is more than 90 mmHg

(Pratiwi & Muflihatin, 2021). Hypertension is the main risk factor for death in the world. Hypertension is greatly influenced by the way and habits of a person who is often referred to as the killer disease because people with hypertension do not know if they have hypertension (Hasnawati, 2021).

A person suffering from hypertension is caused by several factors, namely age, gender, obesity, smoking, stress, prevention of hypertension not only in the form of pharmacology that can be done, but also non-pharmacology. In non-pharmacology, namely in the form of providing physical activity therapy such as gymnastics, it is still necessary to do (Black & Hawks, 2014). Gymnastics is a sport or physical activity that can be done to maintain heart and circulatory health. Exercise can maintain muscle and joint flexibility and stimulate the heart to supply oxygen to meet the needs of the whole body. Doing tera gymnastics for people with hypertension can lower blood pressure.

Tera gymnastics is one of the physical and mental activities that combines body movements using breathing techniques and rhythms through concentration of the mind which is carried out regularly, harmoniously, correctly, and continuously (Ns Mohamad Roni Alfaqih & Ns Mei Fitria Kurniati, n.d.). Tera Gymnastics has many benefits, one of which is from every movement, namely stretching movements that aim to stretch muscles before doing gymnastic movements, joint movements that move all joints that have benefits for physical and mental health While the last one is a breathing movement that adapts from Tai Chi Gymnastics, therefore the movements / moves of Tera Indonesia Gymnastics are gentle and relaxed. Therefore, it is not surprising that Tera Gymnastics can be followed by all layers of both children, adults and the elderly.(Sugiyono, 2013).

Tera gymnastics can lower blood pressure because this gymnastics can stimulate a decrease in physical activity of the sympathetic nervous system and an increase in parasympathetic nerves which affects the decrease in the hormones adrenaline, norepinephrine and catecholamines as well as vasodilation (dilation of blood vessels) which results in the flow of oxygen throughout the body, especially the brain part smoothly so that it can lower blood pressure.

When a person performs this exercise, there will be a process where the mechanism of HPA (Hypothalamus Pituitary Adrenal) by the pineal gland to secrete serotonin and melatonin, then stimuli from the hypothalamus will be passed on to the anterior pituitary to form beta endorphins and ankephalin which can cause a person to be relaxed and happy(Triyanto, 2014)

KESIMPULAN

Tera Gymnastics Therapy for the elderly at PSTW Sabai Nan Aluih Sicincin has proven effective in reducing hypertension in the elderly. It is expected that the nursing home staff will routinely do this therapy for the elderly in the PSTW.

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