

EFFECT OF PROGRESSIVE MUSCLE RELAXATION THERAPY TO DECREASE BLOOD PRESSURE OF HYPERTENSION PATIENTS AT WORKING AREA OF PUSKESMAS KOTA UTARA IN GORONTALO CITY

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ABSTRACT

Hypertension is a silent killer where symptoms can vary between individuals and are almost the same as other disease symptoms. Hypertension is the highest disease experienced by the elderly with prevalence 54.9 % on age 55-64 years of age 54.9, 57.6 % on ages 65-74, and 63.8 % on age over 75. This research aimed to find the influence of progressive muscle relaxation therapy to decrease blood pressure of hypertension patients in working area of Puskesmas Kota Utara of Gorontalo City.

This type of research used in this study is Quasi Experiment Design with One Group Pretest-Posttest design. Data analyzed through Wilcoxon sign rank statistic test, with 30 sample. Independent variables was progressive muscle relaxation therapy and dependent variable was blood pressure.

The results of data analysis using Wilcoxon sign rank test with a significant level $\alpha = 0.05$ with p value = 0.000 which means that progressive muscle relaxation techniques have significance influence in reducing blood pressure in patients with hypertension in the working area of Puskesmas Kota Utara in Gorontalo City.

Keywords: *Progressive Muscle Relaxation, Hypertension*

INTRODUCTION

Hypertension is a silent killer or commonly called a killer in the dark where the symptoms are generally sufferers do not feel symptoms when blood pressure rises (Ministry of Health, 2014). World prevalence reaches 29.2% in men and 24% in women (World Health Organization, 2013). Global Status Report on Non-communicable Diseases 2010 data states, 40% of developing economies have hypertension, whereas developed countries only 35% (Global Status Report on Non-Communicable Diseases, 2015).

According to the Ministry of Health's report (2013), hypertension is the number 3 cause of death after stroke and tuberculosis, where the proportion of deaths reaches 6.7% of the population of deaths at all ages in Indonesia. Patients with hypertension in Indonesia are estimated at 15 million but only 4% of them are controlled hypertension. Controlled hypertension is those who suffer from hypertension and have been seeking treatment for it. Conversely 50% of patients do not realize themselves suffered from hypertension, so it becomes worst.

Hypertension can attack almost all groups of people throughout the world.

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The number of those suffering from hypertension continues to increase from year to year. From the latest research data, it was found that there are about 50 million (21.7%) American adults suffering from hypertension (Susilo and Wulandari, 2011). Risesdas data (2018), shows the prevalence of hypertension based on the results of measurements in the population aged \geq 18 years was 34.1%. This shows that the prevalence of hypertension in Indonesia has increased from 2013.

Hypertension is also a factor in the occurrence of several complications that cause a significant mortality rate, in an average year almost 9.7 million people throughout the earth die from this cardiovascular disease (World Health Organization, 2013).

Based on data from the Gorontalo Province for Health Issues Department in 2017, found that the prevalence of hypertension in Gorontalo was in 13th position out of 34 provinces in Indonesia, with percentage around 30.1%. The number of elderly population \geq 60 years is 92,569 people with hypertension cases included in the first of the eight most common diseases in Gorontalo, amounting to 9,027 people.

As we get older, the physiological function of the body decreases due to the aging process so that many non-communicable diseases emerge. Hypertension is the highest disease experienced by the elderly with a prevalence of 55-64 years as many as 54.9 %, aged 65-74 as many as 57.6 %, and age $75 >$ as many as 63.8 % For Puskesmas Kota Utara from the beginning of 2018 until October the number of figures morbidity due to hypertension as many as 1591 cases with a total of 4 deaths. The number of people with hypertension in the working area of the North Kota Puskesmas is dominated by women, of which in 1591 cases 989 were female and 602 were male. Efforts are made to treat hypertension by

checking blood pressure and taking medication from a doctor. However, side effects caused by one of the antihypertensive drugs namely beta-blockers can experience bradycardia, myocardial contractile disorders, cold hands and feet because of vasoconstriction in the smooth muscle of peripheral blood vessels, and impotence can also occur (Azizah, 2015). Continual side effects can cause serious illness and can end in death. Progressive muscle relaxation is an effective non-pharmacological therapy for relaxation and reduces muscle tension to get a relaxed feeling, which for the technique itself is oriented to muscle tension and relaxation. Non-pharmacological therapy is a factor that plays a role in lowering blood pressure. This type of therapy includes changing lifestyles consisting of stopping smoking, losing excess weight, stopping alcohol consumption, reducing salt intake, physical exercise, yoga, and relaxation (Putu, 2012) Progressive muscle relaxation is one of the techniques used to reduce blood pressure. This technique is systematic to achieve a relaxed state, a method that is applied through the application of progressive methods with gradual and continuous training of the skeletal muscles by tense and relax them so as to get a relaxed feeling (Murti, et al, 2012).

RESEARCH METHOD

The research design used in this study is Pre-Experimental design with One-Group Pre-test Post-test Design approach, to reveal the causal relationship by involving one group of subjects. The population in this study was all patients with hypertension in the working area of Puskesmas Kota Utara. This study uses the Purposive Sampling technique, which determining the sampling with certain considerations in accordance for getting desired characteristics. This sampling technique is based on certain criteria from a

specific goal previously set by the researcher, subjects who meet these criteria become sample members (Nasir, 2011). The sample size in this study was determined by a total sampling technique of 30 samples. In this study, the independent variable is progressive relaxation therapy and the dependent variable in this study is blood pressure. Data collection in this study uses observation of the respondents surveyed, data processing editing, coding, scoring and tabulating followed by analysis of data with the normality test using the Shapiro Wilk test, if data distribution was normal, the Wilcoxon test to be processed or counted with using a computerized SPSS 16.0 program with a significance level $\alpha = 0.05$.

RESEARCH RESULTS

Table 6. Frequency Distribution of Respondents Based on Age Classification.

Age	Amount	Percentage
45 – 50	11	36,
51 – 55	19	63,3
Total	30	100,0

From the table above shows that the distribution of respondents who have first-degree blood pressure in the working area of PuskesmasOta Utara mostly in aged 51-55 years at around 19 respondents (63.3%).

Table 7. Frequency Distribution of Respondent Based on Education Classification

Education	Amount	Percentage
High	4	13,3
Intermediate	20	76,7
Low	6	10,0
Total	30	100,0

Based on the table above, it can be seen that hypertension sufferers with secondary education are the most with 20 respondents (66.7%) and the least highly educated are 4 respondents (13.3%).

Table 8. Frequency Distribution of Respondents' Based on Occupational Classification

Education	Amount	Percentage
Civil Officer	4	13,3
Private Employee		20,0
Housewife	10	66,7
	16	
Total	30	100,0

Based on the table above it can be seen that most hypertension sufferers are Housewives with 16 respondents (66.7%) and the lower work as civil servants, with 4 respondents (13.3%).

Table 9. Distribution of Reduction in Blood Pressure of Hypertension Patients

Blood Pressure	Amount	Percentage
There is a decline	28	93,3
There is no decrease	2	6,7
Total	30	100,0

Based on the data in the table above shows that between 30 respondents, there was 28 respondents (93.3%) have decreased blood pressure, and only 2 respondents (6.7%) have not experience decreased in blood pressure.

Table 10. Distribution of Blood Pressure Before and After Treatment

Blood Pressure	Average Before	Average after
Sistolic	150.10 mmHg	142.83 mmHg
Diastolic	95,53 mmHg	88.43 mmHg

Based on the data in the above table, it is known that of the 30 respondents of hypertension patients in the Work Area of PuskesmasKota Utara prior to conducting progressive muscle relaxation therapy the highest experienced systolic blood pressure of 150.10mmHg and diastolic blood pressure of 95.53mmHg. While the average blood pressure of hypertensive patients after treatment is systolic blood pressure 142.83mmHg and diastolic blood pressure 88.43mmHg.

Table 11. The Frequency Distribution of Effects of Progressive Muscle Relaxation Therapy to decrease Blood Pressure in Patients with hypertension.

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Variabel	BeforeAfter		P.Value
	Mean ± SD		
	Mean ± SD	Mean ± SD	
Systole Blood Pressure	150.10± 7.554	142.83± 7.931	0,000
Dyastole Blood Pressure	95,53 ± 3,288	88.43± 3.980	0,000

Based on the data in the table above shows that the average blood pressure of systole and diastole in patients with hypertension in the working area of the Puskesmas Kota Utara before progressive muscle relaxation therapy is 150.10mmHg in systole and 95.53mmHg in diastolic. With a standard systolic deviation of 7,554 and 3,288 diastolic. After progressive muscle relaxation therapy, systole and diastolic blood pressure decreased with systole to 142.83mmHg and diastole 88.43mmHg. Standard deviation of systole 7,931 and diastole 3,980.

DISCUSSION

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Based on the results of statistical analysis shows that the value of asymp.sigwilcoxon test for systole is 0,000 and the value of asymp.sig for diastol is 0,000, this significant value is less than α 0.05 so the hypothesis stating that progressive muscle relaxation therapy has decreased blood pressure in patients hypertension in the working area of the City of North Gorontalo Public Health is accepted, meaning that progressive muscle relaxation therapy affects the reduction in blood pressure in patients with hypertension in the working area of the City of North Gorontalo Public Health.

Blood pressure in the therapy group experienced a decrease, but there were also respondents whose blood pressure did not decrease there were 2 respondents (6.7) and who had decreased

by 28 respondents (93.3). According to the results of observations of respondents, it was found that there were several respondents who did this therapy by tensing muscles that were too excessive so that they were not in accordance with the instructions given so that the results were less than optimal.

This was also proven by the results of a study by SuciptoAdi (2014) that in his research, systole and diastolic blood pressure after being given progressive muscle relaxation therapy did not decrease, because it influenced the successful implementation of progressive muscle relaxation therapy in lowering blood pressure due to the inability of respondents in implementing progressive muscle relaxation therapy techniques correctly and appropriately.

The theory said by Setyo Adi and Kushariyadi (2011) that several things must be considered in the implementation of progressive muscle relaxation therapy, namely: do not over-strain the muscles because it can hurt yourself. For each type of movement, the client's position is maintained for only 5-7 seconds then relaxed 10 seconds and repeated 2 times.

According to researcher's efforts that need to be made so that blood pressure in respondents who did not experience a decrease still experience changes in blood pressure by providing more supervision when implementing it, and strive to carry out this therapy in a calm and relaxed state.

Another study conducted by Khasanah [19], Progressive muscle relaxation therapy aims to increase relaxation in the body by decreasing the activity of the sympathetic nerves and increasing the activity of the parasympathetic nerves that cause vasodilatation in the diameter of the arterioles. This relaxation therapy is done by stretching and relaxing the muscles consciously by not straining strongly and for too long. The handling

has done in a long time will make respondents experience fatigue.

According to researchers Progressive muscle relaxation technique is a technique to focus attention on a muscle activity, by identifying tense muscles and then reducing tension by doing relaxation techniques to get a feeling of relaxation. In a state of relaxation, a person is in a conscious but relaxed, calm, resting mind, relaxed muscles, eyes closed and regular breathing.

Researchers assume that progressive muscle relaxation can trigger pumping activity in the heart and decrease the arteries to dilate, so that a lot of fluid comes out of the circulatory circulation. This will reduce the workload of the heart because hypertension sufferers have a faster heart rate to pump blood as a result of increased blood so that if this technique is done in the right way it is likely that the increase in blood pressure can be minimized.

CONCLUSIONS

Based on the results of research and discussion it can be concluded that there is an Effect of Progressive Muscle Relaxation Therapy on Reducing Blood Pressure in Patients with Hypertension in the Work Area of the City of North Gorontalo Health Center, while the research results are as follows:

1. Respondent's blood pressure before progressive muscle relaxation therapy in patients with hypertension in the Work Area of the City Health Center of North City is all classified as 1st degree hypertension.
2. Respondent's blood pressure after progressive muscle relaxation therapy in patients with hypertension in the Work Area of the North City Health Center all decreased.
3. There is a significant influence on the respondent's blood pressure

before and after the administration of progressive muscle relaxation therapy to patients with hypertension in the working area of the North City Health Center where there is a decrease in the blood pressure of the respondent after being treated.

SUGGESTIONS

From the result of the research it can be suggested that Progressive Muscle Relaxation Technique can used as non-pharmacological therapy, specifically from many side, as follow:

1. For Public Health Kota Utara / community health center
The results of this study for Community health center can be suggestion to use non-pharmacological treatment to reduce blood pressure in people with hypertension. Researchers assume that the Progressive Muscle Relaxation Technique in terms of effectiveness and efficiency is far better compared to other techniques as an effort to minimize the occurrence of a significant increase in blood pressure.
2. For Nurses and other health provider
It is hoped that this research can be used as a reference to increase knowledge and understanding of progressive muscle relaxation therapy with programs such as seminars, training by nurses on how to reduce blood pressure in hospitals, health centers, or clinics. In addition, the researchers hope that the existence of these non-pharmacological techniques can minimize the use of pharmacological therapies, which can actually aggravate and even damage kidney function and can cause chronic advanced complications.
3. For People with Hypertension
It is hoped that this therapy as an option to reduce the side effects of pharmacological treatment, so that

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this therapy can be used as an alternative intervention to decrease blood pressure while still paying attention to the procedures and techniques of Progressive Muscle Relaxation so that later the use of this therapy can have a positive impact on reducing blood pressure people with hypertension. Besides this technique can not be separated from the demands for people with hypertension to be able to maintain a healthy lifestyle and a good intake of so that some predisposing factors or triggering factors for an increase in blood pressure can be minimized.

4. For Further Researchers

It is hoped that this research can be used as evidence based and additional information to develop further research on other benefits of progressive muscle relaxation therapy on health. Considering that there are some limitations in the current study such as the small number of samples, the lack of supervision of respondents in the use of techniques and methods of progressive muscle relaxation therapy that are good and right, causing no effect resulting in a decrease in the blood pressure of the respondent after being treated, as well as the lack of frequency of the implementation of therapy in every day in order to be able to be increased again.

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