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Effect of Autogenic Relaxation on Blood Pressure Reduction in Elderly Patients with Hypertension

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ABSTRACT

Hypertension is still one of the major health problems in public health in developed countries. Hypertension can be treated with pharmacological and nonpharmacological treatments. One of nonpharmacology treatment is autogenic relaxation to hypertension blood pressure. Objective to determine whether autogenic relaxation can reduce hypertension blood pressure. This was a pre-experimental study with pre and post design, The population of all elderly with hypertension, the ware 10 elderly purposive sampling. Autogenic relaxation techniques are carried out using guidelines for relaxation techniques performed by nurses who have the ability to do relaxation techniques. Independent t-test ware used for data analysis. The result of the analysis showed that there was a change of mean pressure between before and after autogenic relaxation therapy with significant systole value at p - value = 0,00 (α <0,05) and diastol significant value at p - value = 0,00 (α <0.05) so that there is an autogenic relaxation effect on the decrease in blood pressure in the elderly patients with hypertension. Seeing the results of this study then this autogenic relaxation therapy can be used as an alternative therapy in treating blood pressure problems in elderly or parents in addition to treatment therapy.

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1. Intruduction

In health examinations, many people come to health services, and they feel shocked when getting a diagnosis that they have hypertension. Those who come from all ages, never thought they had this problem, because they felt that they had perfect health, and there were no symptoms that they had high blood pressure. This problem, when it occurs in a protracted manner without countermeasures, it can lead to dangerous situations such as stroke, heart attack, and other problems that are also very serious.

There are several factors that can affect blood pressure, namely age, stress, race, medication, diurnal variation and gender. According to London & Guerin (1999) Studies have shown that stiffening of arteries and the associated increase in systolic and pulse pressures are important cardiovascular risk factors. Patients with an increased risk of cardiovascular events associated with such changes should be identified and receive appropriate therapeutic interventionsblood pressure describes the interrelation of cardiac output, peripheral vascular resistance, blood volume, and blood viscosity and arterial elasticity.

Many people who deal with hypertension are mostly done pharmacologically, beside practice this method is also effective. However, the stability and effectiveness of the treatment of hypertension is not only given with pharmacology, but also with non-pharmacological therapy, especially handling of stress (Townsend, 2008). Stress has been known as one of the main trigger factors of hypertension (Setiawan, 2008). Therefore one of the alternative therapeutic attempts that can be performed to stabilize the stress condition is the provision of modality therapy in the form of autogenic relaxation therapy, so it can be expected to improve the quality of life of parents or elderly (Beevers, 2002).

Hypertension is an increase in blood pressure that gives continuous symptoms for a target organ, such as a stroke for the brain, coronary heart disease for the heart's blood vessels and for heart muscle (Guyton & Hall, 2007). The disease which known as high blood disease is a major risk factor for the development of heart disease and stroke. Hypertensive disease is also often called the "silent killer" because we can not its signs and its symptoms from the outside. The development of hypertension runs slowly, but potentially very dangerous (Martuti, 2009).

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This disease is one of the major health problems in public health in developed and developing countries because it is estimated that about 80% increase in cases of hypertension mainly occurs in developing countries. It is estimated that from 2000 to 2025, about 80% of cases of hypertension, especially in developing countries, increased from 639 million to 1.15 billion. Hypertension more attacked to 2.6% (7,224). Furthermore, in 2006 to 2007 again increased by 2.6% so that the total hypertension sufferers is 7,514 people. Hypertension in Indonesia averages 17% to 21% of the total adult population. It means that one of five adults suffers from hypertension, and hypertension is more prevalent in female, ie 37% than males, which is 28%. Hypertension in Indonesia shows that in rural areas there are still many hypertension sufferers that have not been reached by health services due to the absence of complaints from most of the patients (Ardiansyah, 2012 in Wardani 2015).

One of the treatment of hypertension disease is by doing non-pharmacological therapy. Lifestyle modification is one of the most important forms of non-pharmacological management to prevent blood pressure to hypertension of the next level. Relaxation techniques are one form of stress management in an effort to make lifestyle modifications. Psychological relaxation has health benefits that enable the delivery of energy for repair and recovery, and provides relaxation for habitual tension. This relaxation therapy has a variety - one of which is autogenic relaxation (Potter & Perry, 2006

Autogenic relaxation is a comprehensive and comprehensive relaxation technique (Saunders, 2007). Autogenic has its own regulatory significance, and it is one of relaxation techniques based on passive concentration and uses body perception (eg, heavy and warm hands) which facilitated by self-suggestion (Kanji et al, 2006). The passive procedure of relaxation is developed by training the individual to master the emergence of a vibrant emotion, so that the patient is no longer dependent on his therapist but patient can make changes in himself (Sutherland , et al., 2005). Furthermore, Mardiono (2016) adds that autogenic relaxation helps the individual to be able to control some body functions such as blood pressure, heart frequency and blood flow.

Research on autogenic relaxation has been widely practiced. Testing the effectiveness of autogenic relaxation in an effort to decrease anxiety in sleep problems and autogenic relaxation in decreased anxiety in nursing students (Kanji, et al., 2006; Bowden, et al., 2012), decrease pain (Ishinova, et al., 2009; Prato and Yucha, 2012), improved sleep by combining multi-modal and relaxation techniques (Simeit, et al., 2004), decreased headache (Zsombok, et al., 2003), increased Irritable bowel syndrome, and improved quality of life (Sutherland , et al., 2005). In Indonesia, autogenic relaxation research has also been conducted. Setyawati (2010) states that autogenic relaxation can reduce blood glucose levels and blood pressure in patients with diabetes mellitus and hypertension. The purpose of this study was to determine the effect of Aoutogenic relaxation on blood pressure reduction in elderly people with hypertension.

2. Methods

The method in this research is pre- experiment Design with pre and post, which is a design that gives treatment to the group, then observed before and after the implementation (Polit & Back, 2006). The design in this study to compare the results before and after the intervention (Notoatmodjo, 2010). This design also has no comparison group (control), but the first observation (Pretest) allows testing the changes that occurred after the experiment. The instrument used the assessment instrument sheet which refers to existing theories. The research instrument was in the form of a technical manual for implementing autogenic relaxation, quoted from (Martha, 1995), and adopted from previous research (Martalina, 2013). As for the biophysiological data measuring instrument used is a blood pressure meter with the brand Nova for observation of blood pressure.

3. Results And Discussion

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The result of this research is to find out whether autogenic relaxation has an effect on blood pressure drop in elderly, "then data is processed by using SPSS 21 for windows. Then the data is processed by statistical test. Before determining the test, it is first determined whether the data is normally distributed or not by using Kolmogorov Smirnov test, as in Table 1

Table 1

Kolmogorov-Smirnov Normality Test

One-Sample Kolmogorov-Smirnov Test			
		sistolpre hari 1	sistolpost hari 3
N		10	10
Normal Parameters[a,b]	Mean	163.00	146.00
	Std. Deviation	14.944	14.298
Most Extreme Differences	Absolute	.208	.168
	Positive	.208	.168
	Negative	-.180	-.136
Kolmogorov-Smirnov Z		.657	.533
Asymp. Sig. (2-tailed)		**.781**	**.939**

After the data was found with Kolmogorov-Smirnov Normality Test with p-value pre and post value was 0.781 and 0.939. The probability value shows that p-Value> 0,05, it can be concluded that the data in this study is normally distributed, then after the data is normally distributed the researchers do the T Test by using Paired t-test, to find whether there is a relationship between autogenic relaxation decreased blood pressure in elderly or parents of hypertensive patients. To see the results of T Test can be seen in table 2 below.

Tabel 2

Effect of Autogenic Relaxation on Blood Pressure Reduction in Elderly Patients with Hypertension using independent t-test (N=10)

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
Day	Intervention	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
1	Sisto pre/sitol post	17,00000	9,48683	3,00000	10,21353	23,78647	5,667	9	,000
	Distol pre-diastol post	3,50000	4,74342	1,50000	,10676	6,89324	2,333	9	,045
2	Sisto pre/sitol post	16,00000	9,66092	3,05505	9,08900	22,91100	5,237	9	,001
	Distol pre-diastol post	7,00000	6,74949	2,13437	2,17171	11,82829	3,280	9	,010
3	Sisto pre/sitol post	19,00000	5,67646	1,79505	14,93930	23,06070	10,585	9	,000
	Distol pre-diastol post	9,00000	7,37865	2,33333	3,72163	14,27837	3,857	9	,004

Tabel 3.

Effect of Autogenic Relaxation on Blood Pressure Reduction in Elderly Patients with Hypertension using independent t-test (N=10) from the first day until to third day

					95% Confidence Interval of the Difference		
Day	Intervention	N	Sig.(2-tailed)	Mean Difference	Lower	Upper	df
1	Sistol	10	,000	163,000	152,31	173,69	
	Distol	10	,000	90,000	83,26	95,74	9
3	Sistol	10	,000	146,000	135,7715	156,2285	9
	Distol	10	,000	86,500	79,7450	93,2550	9

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Tabel 3 shows that there was a significant difference in Effect of Autogenic Relaxation before and after given intervension from the first until the third day, with p-value= 0,00 (<0.05). The mean of Blood Pressure Reduction Elderly levels on third day before intervension was 163/90mmHgAnd after intervension was 146/86mmHg.

From the data, it was found that blood pressure before intervention was obtained an average value of 163/90 mmHg. Meanwhile, after the intervention obtained the average value decreased with a value of 146/86 mmHg. Based on the result of paired sample test that analyzed through SPSS that significant value of systole (pValue) = 0,00 under 0,05 and significant value of diastole (pValue) = 0,00 below 0,05. So it can be concluded that there is a significant effect of autogenic relaxation on blood pressure decrease in the elderly or elderly people with hypertension in Dusun Lorong Baja, Jalan Rakutt Sembiring, Pematangsiantar. The result is supported by previous researcher theory, To know the meaning of the research result can be done by comparing the p value and it obtained 0,00 ≤ p <0,05, so the result is meaningful and next theory stated by Mardiono (2016) that relaxation Autogenic helps the individual to be able to control some body functions such as blood pressure, heart frequency and blood flow. Furthermore Setyawati (2010) states that autogenic relaxation can lower blood glucose levels and blood pressure in patients with diabetes mellitus and hypertension.

Furthermore to know how the response of hypertensive patients after autogenic relaxation obtained data from the results of interviews conducted by researchers to hypertensive respondents obtained subjective data stating that after doing relaxation autogenik heart frequency becomes relaxed that makes the feelings of respondents to be peaceful and calm, tension stress respondents become can be controlled, the body feels warm, which is the result of peripheral arteries that undergo vasodilation and all that causes the feelings of respondents to be more calm. It is supported by a theory by previous researchers that autogenic relaxation is self-sustaining relaxation in the form of words or short sentences or thoughts can make the mind calm (Greenbarg, 2002 in Setyawati 2010) and the autogenic term implies that we have the ability to control various body functions, such as the heart frequency of blood flow and blood pressure.

4. Conclusion

After the researchers completed the research in Lorong Baja, Pematangsiantar, the researchers can draw conclusions and suggestions that build and beneficial to improve the quality of nursing, especially improve the health of parents and the elderly. The conclusion can be obtained from the results of research that has been done that, there is the difference between the average blood pressure before and after autogenic relaxation and it proves that the effect of autogenic relaxation on blood pressure decrease in elderly or elderly who suffer from hypertension, with significant sistole (pValue) = 0,04 below 0,05 and significant value of diastole (pValue) = 0,01 below 0,05, then result of observation done by researchers that after respondent do autogenic relaxation, responder feel comfort, calm, relax, and also controlled breathing, heart rate and body temperature.

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