

Progressive Muscle Relaxation of Compelementary Therapy and Sirma's Dyeing tea for Decreasing Blood Pressure on the Hypertension

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Abstract:

Study Objective: Hypertension is a disease which gets the attentions of people because the number of victims increase continually. It needs the a good treatment beacuse of hypertension can be a risk of other diseases such as heart attack, kidney, nerve, and vascular diseases. This research aims to analyze the influences of progressive muscle relaxation of complementary therapy and SIRMA'S (mangosteen skin and the leaf of soursop) dyeing tea as the treatment for decreasing the blood pressure on hypertension's victims.

Method and Measurement: This research is a design with pre post test one group of experimental quasi. The place of research is in Posyandu Eldery, Sidorejo, Sukoharjo. Collecting sample is conducted by purposive sample for Eldery in Posyandu, Sidorejo that is about 20 respondents, data analysis uses Paired T-test.

Result: There is significantly influences in giving Progressive Muscle Relaxation and SIRMA Dyeing Tea therapy toward the hypertension level on Eldery with $p=0,000$.

Conclusion: Progressive Muscle Relaxation and SIRMA Dyeing Tea therapy has the significant influence toward the hypertension level on elderly, so this therapy can be recommended as one of the hypertension complementary therapies.

Keywords: hypertension, Progessive Muscle Relaxation, SIRMA (Sirsat Manggis).

I. Introduction

Hypertension is a health disturbance that often seen with a high prevelance rate so the evaluation of using drugs needs to be done. Hypertension has killed about 9,4 million people in the world every year. Nowadays, the percentage of hypertension victims mostly occurs in the growing countries. There are 40 % of growing countries have the hypertension victims, then the developing countries are just 35%.¹ In Asia, this disease has killed 1,5 million people every year. Men have stepped up of the amount of victims from 18% to 31 % and women have increased from 16 % to 29%.¹ The prevalency of hypertension in Indonesia on people who has > 18 years old are 29,8%. It can be found at 10 provinces of Indonesia from the highest to lower, such as Riau, Bangka Belitung, Central Java, DI Yogyakarta, East Java, NTB, Central of Kalimantan, South of Kalimantan, Central of Sulawesi, and West of Sulawesi.²

The cause factors of hypertension include age, stress, obesity, smoking, alcohol, kidney abnormalities, and others. The effects of hyperpressure can make the damage of organs such as the kidney, heart, liver, eyes until the disfunction of motion organs.³ Hypertension can be controlled by giving the hypertension healing, it is divided into two ways such as pharmacology healing and non pharmacology healing. The pharmacology healing aims to decrease the blood pressure by using anti-hypertension drugs, then the complementary healing non pharmacology hypertension is a pharmacology drug which completed by the non pharmacology healing such as relaxation, herbal, physical treatment, etc. Based on the background above, it formulates that "Are there the influences of giving SIRMA tea and Progressive Muscle Relaxation for decreasing the blood pressure on hypertension victims in Posyandu of Eldery people, Sidorejo, Bendosari, Sukoharjo?", then the purpose of this research is to analyze the influences of Progessive Muscle Relaxation of complementary therapy and SIRMA tea as an effort for decreasing the blood pressure on hypertension victims.

II. Material And Method

The research design is Quasi Experimen design with pre post test one group. The study conducted from 21-27 juny 2016 in Posyandu Sidorejo, Bendosari, Sukoharjo. The total of sample in this research is 20 respondents. The way of collecting sample is purposive sample. The inclusion criteria is elderly with hypertension and that joined at Posyandu, the elderly people are willing to be respondent. The exclusion criteria is the elderly people who consume the hypertension drug and they have not included the half of drug period and not willing to be respondent. Variable research is :

- a. Progressive Muscle Relaxation : the muscle relaxation treatment that consists of 7 motions, done at 2 times on a day, one hour after eating during one week.
- b. SIRMA tea: the SIRMA dyeing tea has served and provided by the factory, one sachet of tea contains 20 gram of mangosteen skin and the leaf of soursop, consumed for twice in a day, one hour before doing Progressive Muscle Relaxation treatment.
- c. Blood pressure : checking blood pressure conducted before given the therapy and after one week after conducted therapy.

The analyzing data in this research uses paired T-test.

The respondents' distributions is:

Table 1. Distribution respondents characteristics based on age

No	Age	Frequency	Percentage (%)
1.	60-69	17	56,67
2.	70-79	10	33,33
3.	80-89	3	10
	Total	30	100

The frequency distribution of respondent level before and after given the Progressive Muscle Relaxation Therapy and SIRMA tea in Posyandu III

Table 2. Distribution on hypertension respondent level before given the Progressive Muscle Relaxation Therapy and SIRMA tea in Posyandu III

No	Hypertension Level	Category	Frequency	Percentage (%)
1.	No hypertension Basic	<130 130-139	0 0	0 0
2.	Hypertension level 1	140-159	8	26,67
3.	Hypertension level 2	160-179	16	53,33
4.	Hypertension level 3	≥180	6	20
	Total		30	100

Table 3. Distribution on hypertension respondent level after given the Progressive Muscle Relaxation Therapy and SIRMA tea in Posyandu III

No	Hypertension Level	Category	Frequency	Percentage (%)
1.	No hypertension Basic	<130 130-139	1 2	3,33 6,67
2.	Hypertension level 1	140-159	13	43,33
3.	Hypertension level 2	160-179	12	40
4.	Hypertension level 3	≥180	2	6,67
	Total		30	100

Table 4. Analysis different level hypertension on the elderly people before and after given progressive muscle relaxation therapy and SIRMA tea in Posyandu III.

The level of hypertension on elderly people	N	Mean	Median	SD	Min-max	p-value
Before therapy	30	162,83	160	13,04	140-180	0,000
After therapy	30	144,83	140	11,48	120-165	

Result given progressive muscle relaxation therapy and SIRMA tea in Posyandu III analysis on the level hypertension before and after intervention is:

Table 5. Analysis test result of level progressive muscle relaxation therapy and SIRMA tea on the hypertension level.

Variable	N	Mean	SD	CI	p-value
Hypertention level	30	18	10,39	14,12-21,88	0,000

III. Discussion

a. Age

Age is one of risk factor which happened hypertension. By increasing the age so the risk of getting hypertension will be twice. This case caused of at the time, there are many self changing of human. This change in physics, psychological condition, economics, social, and spiritual which influence the life quality of a elderly one.⁴ According to LeMone & Burke said that the essential (primary) hypertension influences the middle age and mature until elder.⁵ The patients who are more than 60 years old, 50-60% have the higher blood pressure or 140/90 mmHg. This case is a influence of degeneration which happens on people who are old by the time.⁶

b. The Level of Hypertension before and after given Progressive Muscle Relaxation Therapy and SIRMA Tea

The technique of Progressive Muscle Relaxation is a technique of muscle relaxation which does not need imagination, application or suggestion. One of this technique is combining the deep breathing treatment and a set of relaxation and contraction on certain muscles. Technique of progressive muscle relaxation may allow the patients to control their body response.⁷ The changes happen on relaxation or after that which can influence the work of emotion otonom nerve and the effect of relaxation can be appeared by this relaxation which can change the sympatic of dominant psychology to be a parasympatic of dominant system. In this situation, hypersecretion of catecholamine and chortisole are dropped and increasing the parasympatic hormone then neurotransmitter such as DHEA (Dehidroepinandrosteron) and dopamine or endorphin. The regulation system of Parasympatics finally can appear a relax effect.⁸ So that the relaxation that produced from progressive muscle relaxation can be useful for decreasing hypertension. According to Murti this relax condition can stimulate the body to produce a molecule which called nitrat oxidation (NO). This molecule works on artery tonus so it can drop the blood pressure.⁹

c. The Influence of Giving Progressive Muscle Relaxation Theraphy and SIRMA Tea for Decreasing the Blood Pressure

The difference of influence in giving progressive muscle relaxation therapy and SIRMA dyeing tea for decreasing the level of hypertension can be known through p-value (0.000) with CI 95%. In this research, it can be concluded that there are the influence of giving progressive muscle relaxation therapy and SIRMA tea with the level of hypertension on elderly people in Posyandu III Sidorejo, Health Center Area Bendosari, Sukoharjo. This research is appropriate with the result of previous research conducted by Tyani. E.S et all which found that giving progressive muscle relaxation was effective to drop the blood pressure on essential hypertension victims.¹⁰ Then, this research are also deal with Chen research which shows that hypertension victims who treatment the physical practice get a decreasing of the systolic blood pressure and decreasing the dyastolic blood pressure.¹¹ Sulistiyarini tells that relaxation can drop the systolic blood pressure or systolic on hypertension victims.¹²

The result of this research also supported by the statement of Varvogli dan Darwin which say that the various of technique and relaxation can drop the blood pressure on hypertension victims.¹³ Shinde N. et.all. also support the result of this research is the significance of Jacobson's progressive muscular relaxation is effective to decrease the blood pressure on hypertension victims.¹⁴ The progressive muscle relaxation is a motion of muscle realxation which can slow down tension between muscle and nerve. Hypertension can effect the tension on muscle which send stimulant to the brain and make a way to feed back. When there is a hypertension part from the way to feed back, the body will be closed between muscles and mind. The progressive muscle relaxation will obstruct its way by activating the system of parasympatic nerve and manipulate hypotalamus through centering mind to get the positive thing so the stress stimulant is drop for hypotalamus. The progressive muscle relaxation is an intervention treatment to get the comfortness physically. Relaxation is a form of mind-body therapy in alternative and complementary therapies.¹⁵

According to Maghfirah. et. al relaxation only happens when the mind and body are relax, then when brain ritme changed form beta to alpha.¹⁶ This condition causes a dropped anxiety and blood current to muscle also drop down, contrastly the blood goes to brain and skin so it gives a harmful and relax feeling. The research done by Khumuta, Aruna, Poongodi show that the technique of progressive muscle relaxation is effective to decrease the stress and blood pressure. The work of progressive muscle relaxation is by activating the system of parasympatic nerve and stopping the work system of sympatic nerve. If the sympatic system is ostructed so this process will be down so the chortisol is also dropped. Then if a client conducts this relaxation continually so he will get more comfort in thinking and he also can manage his stress and his breathing.¹⁷

The other non pharmacology therapy which can decrease hypertension is herbal way. There are some herbal plants which can be used for decreasing blood pressure such as star fruit, mellon, celedry, and cucumber.¹⁸ SIRMA tea is a combination between soursop leaves and mangosteen skin which processed to be a dyeing tea. One of the special benefit of this tea is that it can decrease the blood pressure with consuming tea twice in a day during one week. The research conducted by Pugar gets the result of tea which processed from soursop leaves has the effect to decrease the blood pressure in normal systolic and dyastolic for men in adult.¹⁹ The other research conducted by Sriyono and Jujul, show that there are the difference between the tension of systolic and dyastlic before and after given green tea.²⁰ Then cholesterol amount before and after given green tea shows that there is no difference in a meaning. Research conducted by Nwokocha et.al show that giving muricata (soursop leaves) 9.17 – 48,5 mg/kg significantly can decrease the blood pressure and heart rate.²¹ The amount of soursop leaves which is predicted it can decrease the blood pressure is Potassium.²² Potassium Ion in extracell liquid will effect the heart to be relax and makes the fruquency of heart beat to be slow. Potassium also manages the balance of the body liquid with natrium, then it obstructs renin outcome, it has the role in arteriol

vasodilatation and detracts the response of endogen vasoconstriction, so the blood pressure will be dropped down.²³ Research conducted by Tanjung gets the result that consuming skin mangosteen juice significantly can decrease the blood pressure on hypertension victims.²⁴ This case is appropriate with the research conducted by Jung et.al which shows that there are five anti-oxida in mangosteen skin such as α -mangostin, β -mengaostin, γ -mengostin, mangostinone, garcinon E which can obstruct the forming of lump blood so the stroke risk is minimized.²⁵ The other result shows that some xanthan derivative compounds is proved antihypertensively then it has the effect to decrease the blood pressure in artery.²⁶

IV. Conclusion

Progressive Muscle Relaxation and SIRMA Dyeing Tea therapy has the significant influence toward the hypertension level on elderly, so this therapy can be recommended as one of the hypertension complementary therapies. Recommendation conducts the research with RCT design.

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