

Decreased Blood Pressure of Elderly through the Elderly Gymnastic

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Decreased Blood Pressure of Elderly through the Elderly Gymnastic

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ABSTRACT

Blood pressure can increasing when one is aged 45-55 years old. The artery walls became thick to the collagen accumulation in the muscle layers. As a result, the blood vessels will gradually narrow and became rigid. Elderly gymnastics is a light exercise designed specifically for the elderly and has a positive impact on improving organ function. This study aimed to determined the effect of the elderly gymnastic on the blood pressure of the ederly.

This research is an experimental study with the One Group Pre and Post Test Design. The research sample of 40 total elderly people of Posyandu Lansia Mawar Desa Cerme. The independent variable is the elderly gymnastic exercise, while the dependent variable is blood pressure level of elderly. Data were taken using tension meter and observation sheet.

The results showed that 30 elderly people on average systolic blood preasure before being given elderly gymnastic exercise are 154.33 mmHg and systolic blood preasure after being given elderly gymnastic are 132.00 mmHg. On average diastolic blood preasure before being given elderly gymnastic is 154.33 mmHg and after being given elderly gymnastic is 132,00 mmHg. After being given elderly gymnastic decreased systolic blood preasure by 22,33 mmHg and diastolic by 15,33 mmHg.

Elderly gymnastics is very important for the health of elderly people, especially elderly people whom have hypertension, The more often do elderly gymnastics then the blood circulation more smoothly and blood pressure will decrease and can become normal. So that hypertension disease will decrease.

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I. INTRODUCTION

Blood pressure is one of the major health problems. Data from global studies shows that the number of patients with blood pressure (hypertension) among the elderly from year to year is increasing one of them in East Java Province, especially in the Grogol Health Center, Kediri District. From the East Java Health Office there are 10 patterns of disease and hypertension which are the first most common diseases. The causes of hypertension include genetic factors, age, an unhealthy lifestyle, not maintaining a diet so that it can cause high blood pressure. If there is no action taken then high blood pressure disease can cause death as well as health expenses can reach millions.

Blood pressure is a disease caused by psychology, one of which is excessive stress. So that blood pressure increases and also decreases due to irregular food patterns. Blood pressure is experienced by many elderly people (Maulana, Mirza, 2008).

In Indonesia it is estimated that the number of hypertension reached 14 million people in 2006, where only 50% are aware of hypertension and about 30% who come for treatment regularly (WHO, 2008). According Basic Health Research (Riskesdas) report at 2013, prevalence of hypertension in Indonesia is 1.5%. According to the results of research conducted in Indonesia, 47.2% have poor control of diet and lack of exercise. According Basic Health Research (Riskesdas) report at 2013, East Java Province is one of the regions in Indonesia with the prevalence of hypertensive patients at 2.1%. According to data from the Kediri District Health Office, the prevalence of hypertension at 2013 was

28% and increased in 2014 by 31.9%. Some prevention of hypertension has been carried out by the district government of Kediri, but the prevalence of hypertension continues to increase. The increase was caused by various factors such as lack of regular exercise, daily diet.

In the Posyandu Mawar, Desa Cerme in Kediri district were 40 elderly people, with 19 people with high blood pressure, 11 people with low blood pressure. And some of them have a history of other diseases such as 2 people with diabetes mellitus. Not all seniors routinely do elderly exercises every month (for reasons of illness).

Patients with blood pressure in the elderly can be seen from the changes that occur in the elderly, the physical changes occur cardiovascular changes, due to cardiovascular changes cause increased blood pressure or hypertension in the elderly (Maryam, 2008).

High blood pressure or hypertension in the elderly is a disease in which upper limit blood pressure (systole) is more than 140 mmHg and lower blood pressure (diastole) is more than 90 mmHg (Maryam, 2008). Many people assume that there are complaints and signs of hypertension in this case. Hypertension has no typical complaints and signs. Even facts prove that one in four sufferers do not know if they suffer from hypertension. Therefore this disease is quite life-threatening (Dewi & Familia, 2010).

Most of the elderly in Posyandu Mawar Desa Cerme only do elderly exercises once a month. Therefore, the influence of elderly gymnastics on blood pressure at the posyandu of elderly roses of Cerme village in the district of Grogol still needs to be proven.

Perform sports intermittently, during the training phase there is striking high blood pressure (Margatan, 2007). Decrease in blood pressure through this sport turned out to be more effective than efforts to decrease with drugs, especially elderly exercise. In addition, based on a trial study of 5 elderly people found that during the training phase there was a decrease in blood pressure 5-10 points in the elderly who had high blood pressure.

Based on the description above, the researcher wants to find out more about "The Effect of Elderly Gymnastics on Blood Pressure in the Posyandu Lansia Mawar, Desa Cerme.

II. METHOD

This research is an experimental study with the One Group Pre and Post Test Design. The research sample of 40 total elderly people of Posyandu Lansia Mawar Desa Cerme. The independent variable is the elderly gymnastic exercise, while the dependent variable is blood pressure level of elderly. Data were taken using tension meter and observation sheet. In this study, paired T Test was used to determine differences in blood pressure of the elderly before and after after the intervention of elderly exercise with blood pressure with a significance level of 5 percent (0.05).

III. RESULTS

The results showed that from a total of 30 respondents on average before elderly exercise systolic blood pressure in the elderly 154.33 mmHg and after doing elderly exercises systolic blood pressure in the elderly dropped to 132.00 mmHg. On average before elderly exercise diastolic blood pressure in the elderly 101.00 mmHg and after doing elderly exercise diastolic blood pressure in the elderly dropped to 85.67 mmHg. After doing gymnastics elderly systolic blood pressure decreased 22.33 mmHg and diastolic blood pressure decreased 15.33 mmHg.

IV. DISCUSSION

From the observations of the characteristics of respondents, there were 70% of female respondents and 30% of men. In the results of the study before exercising the elderly obtained an average before the elderly gymnastics systolic blood pressure in the elderly 154.33 mmHg and after doing elderly exercises systolic blood pressure in the elderly fell to 132.00 mmHg. On average before elderly exercise diastolic blood pressure in the elderly 101.00 mmHg and after doing elderly exercise diastolic blood pressure in the elderly dropped to 85.67 mmHg. After doing gymnastics elderly systolic blood pressure decreased 22.33 mmHg and diastolic blood pressure decreased 15.33 mmHg.

Clinically there is no significant difference in blood pressure in boys or girls. After puberty, men tend to have higher blood pressure, while after menopause women tend to have higher blood pressure than men at that age (Potter & Perry, 2005).

Theoretically, elderly people tend to experience an increase in blood pressure with age. Increased blood pressure in the elderly generally occurs due to decreased organ function in the cardiovascular system. The heart valve thickens and becomes stiff, and there is a decrease in elasticity of the aorta and other large arteries (Ismayadi, 2008). Other than that, there is an increase in peripheral vascular resistance when the left ventricle is pumping, so that systolic pressure and afterload increase (Gunawan, 2009).

Structural and functional changes in the peripheral vascular system are responsible for changes in blood pressure that occur in old age. These changes include atherosclerosis, loss of elasticity of the connective tissue, and a decrease in the relaxation of vascular smooth muscle, which in turn decreases the ability of distention and stretching of blood vessels. Consequently, the aorta and the large arteries are reduced in capacity to accommodate the volume of blood pumped by the heart (volume of stroke), resulting in decreased cardiac output and increased peripheral resistance (Smeltzer & Bare, 2005).

Slow, deep, and regular breathing can increase parasympathetic activity. Peningkatan aktivitas parasimpatis dapat menurunkan curah jantung dan resistensi perifer total, yang nantinya juga bisa menurunkan tekanan darah. The difference in changes in systolic and diastolic blood pressure before and after giving elderly exercise there was a decrease in the average blood pressure, namely systolic blood pressure decreased 22.33 mmHg and diastolic blood pressure decreased 15.33 mmHg.

V. CONCLUSIONS AND RECOMMENDATIONS

Providing elderly gymnastics has a significant effect on blood pressure reduction both systolic and diastolic. By knowing the effect of elderly gymnastics on blood pressure reduction in the elderly, it is expected to provide and recommend intervention for elderly exercise 3 times a week in minimizing the risk of hypertension complications.

VI. REFERENCE

- [1] Arikunto, Suharsimi. (2010). (*Prosedur Penelitian Suatu Pendekatan Praktek*) Yogyakarta.PT.Rieneka Cipta.
- [2] Azizah, Lilik. (2011). *Keperawatan Lanjut Usia Yogyakarta*.Graha Ilmu
- [3] Dalimartha, Setiawan dkk. *Care Your Self Hipertensi*. Jogjakarta : Penebar
- [4] Depsos. 2007. *Penduduk Lanjut Usia Di Indonesia dan Masalah Kesejahteraannya: <http://www.depsos.go.id> diakses 17 oktober 2010.21.00*. Jakarta.
- [5] Dewi dan familia, 2010. *Hidup Bahagia Dengan Hipertensi*. Jogjakarta: A*plus Books.
- [6] Gunawan, D. 2009. Perubahan Anatomik Organ Tubuh Pada Penuaan, (online),(<http://pustaka.uns.ac.id/?opt=1001&menu=news&option=detail&nid=122>, diakses 24 Februari 2017).
- [7] Hariono.(2007). Pengaruh Senam Lansia Terhadap Tekanan Darah Pada Lansia Di Karang Werdha Budi Luhur Kelurahan Ngadirejo Dan Karang Werdha Gatot Kaca Kelurahan Sentul Kecamatan Kepanjen Kidul Kota Blitar.Blitar.
- [8] Iskandar, Primana, Tilarso, Moeloek. (2006). *Panduan Teknis Dan Latihan Kesegaran Jasmani*. Jakarta : Kantor Menpora.

- [9] Ismayadi. 2004. Proses Menua (Aging Proses), (online), Skripsi. Medan: Program Studi Ilmu Keperawatan Fakultas Kedokteran Universitas Sumatera Utara. (<http://repository.usu.ac.id/bitstream/123456789/3595/1/keperawatanismayadi.pdf>, diakses 4 Agustus 2017).
- [10] Notoamodjo, Soekidjo. (2005). *Metode Penelitian Kesehatan*. Jakarta PT.Rieneka Cipta.
- [11] Nugroho, Wahyudi.(2008). *Keperawatan Gerotik dan Geriatrik Edisi 3 Jakarta* : EGC.
- [12] Maryam, R. Siti, K. 2008. *Mengenal Usia lanjut dan Perawatannya*. Jakarta :Salemba Medika.
- [13] Maulana, Mirza. 2008. *Penyakit Jantung*. Jogjakarta: Katahati.Pedoman Penyusunan Usulan Penelitian dan Skripsi Sekolah Tinggi Ilmu KesehatanSurya Mitra Husada.2016. Kediri.
- [14] Potter, P.A, Perry, A.G. 2009. *Buku Ajar Fundamental Keperawatan*. Edisi 7.vol 1. Alih Bahasa : Renata Komlasari. Jakarta: EGC
- [15] Smeltzer and Bare. 2005. *Buku Ajar Keperawatan Medikal Bedah, Edisi 8, Volume 2*, Jakarta: EGC
- [16] Subagio. 2008. *Melangit Di Langit Perempuan*. prempuan.com/2008/09/antisipasi_ledakan_penduduk_lansia_di_indonesia/diakses_14_oktober_2010.20.00. Jakarta.
- [17] Stanley dan Baere. 2008. *Buku Ajar Keperawatan Gerotik Edisi 2*. Jakarta : EGC.

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