

The Effect Of Elderly Exercise On Blood Pressure In Budi Luhur Clinic Of Cimahi

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Abstract: Elderly people worldwide currently estimated at more than 629 million people, and by 2025, the elderly will reach 1.2 billion, the elderly are very susceptible to various degenerative disease, a degenerative disease that has high level of morbidity and mortality are hypertension, Then towards the prevention of hypertension should be done, one of them can be addressed with non-pharmacological therapies such as gymnastics elderly as the exercise. The purpose of this study to determine the effect of elderly exercise on blood pressure in in Budi Luhur Clinic Cimahi. The method used in this study is the Pre-experimental design using t-test analysis. The number of respondents in this study as many as 58 people, sampling techniques in this study using total sampling. Data collection using observation sheet gymnastics and perform blood pressure measurements using spigmomanometer that has been calibrated.

1 INTRODUCTION

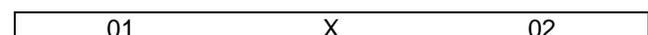
The number of elderly each year has increased. Currently, the worldwide number of elderly people is expected to reach 500 million, with an average age of 60 years, and is expected in 2025 will reach 1.2 billion. Based on the latest population data, the number of elderly people in Indonesia are now 16 million people (Sabdono, 2007). In 2025, Indonesia's population is projected to reach 273 million, and nearly a quarter of the total population, or about 62.4 million people belong to a group of elderly people. In fact, if using UN population projection model, the number of elderly people in Indonesia in 2050 to be doubled, or about 120 million people over (Surdjunani, 2007). Elderly people worldwide currently estimated at more than 629 million people (one out of 10 people aged over 60 years), and by 2025, the elderly will reach 1.2 billion (Nugroho, 2008). Population projections by the Central Bureau of Statistics shows that in 2005-2010 the number of elderly will be equal to the number of infants, which is about 19 million people or 8.5% of the total population (Mary et al, 2008). One measure of the progress of a nation is often seen on the life expectancy of the population. Likewise Indonesia as a developing country, with a fairly good development, the higher the life expectancy (Darmojo and Martono, 2006). As a result, the number of elderly people is increasing a lot, and even tended faster and rapidly (Nugroho, 2008). With increasing life expectancy, it can be estimated that the incidence of degenerative diseases will increase as well (Darmojo and Martono, 2006). Degenerative disease that affects the elderly, among others; hypertension, arteriosclerosis, diabetes mellitus, and cancer (Nugroho, 2008). One of the degenerative diseases that have a high rate of morbidity and mortality are hypertension (Darmojo and Martono, 2006). Hypertension, or more commonly known as high blood pressure is a condition where a person experiences an increase in blood pressure above normal, resulting in increased morbidity / mortality and the morbidity / mortality (Dalimartha et al, 2008). Hypertension is known as the silent killer or killers hidden because in many cases no symptoms until serious complications occur (Ananta, 2009). Results of Household Health Survey (Household) in 2010 were carried out in Indonesia, found the prevalence of hypertension by 15 million people but only 4% as controlled hypertension, the prevalence of hypertension of which 24% were aged over 60 years, or about 3.5 million people (Dana, 2013). Based on the profile of West Java province in 2010 the prevalence of hypertension in the elderly is 40.18% which means the number is larger and are the first of other diseases (West Java Health Office, 2010). Gymnastics is one of the elderly people

positive alternatives to improve their fitness levels and maintain fitness. According to (Sumintarsih. 2006) benefits from sport activities will help keep the body fit and fresh for training encourages the heart to work optimally and can improve blood circulation in the body. Physical activity is recommended for people with hypertension to reduce of blood pressure is a dynamic kind of sport cardiorespiratory exercise (walking, swimming, jogging, cycling, gymnastics), the frequency of 3-5 times a week, duration of 20-30 minutes, the importance of aerobic exercise because it does not require special skills , safe, easy, and can be done alone or jointly (Suroto, 2004). Based on data obtained from the Agency Budi Luhur Health Clinic in 2014, that the number of patients with hypertension as many as 31 people and hypertensive disease was ranked ninth out of a total of 43 diseases. The number indicates that the incidence of hypertension is very high and the need for an intervention that can reduce high blood pressure, especially for the elderly. Of the several types of gymnastics performed, gymnastic gymnastics elderly are most often performed in the Clinic Budi Luhur Cimahi. Therefore, elderly gymnastics required as non-pharmacological treatment for the elderly who have high blood pressure. And for the prevention of high blood pressure in older adults whose blood pressure is normal and reduce the risk of hypertension. See the above phenomenon, researchers are searching for the "The effect of the elderly exercise on blood pressure in Budi Luhur Clinic Cimahi".

2 METHODS OF THE STUDY

The study design was used to examine the effect of exercise on blood pressure in elderly respondents who execute gymnastic elderly in Clinic Budi Luhur Cimahi. In the design of this study, researchers used a method Pre-experimental study with one group pretest posttest design. Pre-experiment called for experiments of this type have not or do not have the characteristics of previous experiments (Notoatmojo, 2010). This draft does not have a comparison group (control), but at least it made the first observation (pretest), which allows to test the changes that occurred after the experiment (Notoatmojo, 2013). The shape of this design are as follows:

Chart 4.1 The scheme would study one group pretest posttest



The weakness of this design is no guarantee that the changes that occur between the pre and post on the dependent

variable due to the intervention or treatment (Notoatmojo, 2013). So to overcome this, or posttest evaluation conducted after the intervention on the same day. This is done to minimize bias.

3 RESULT

Based on the results of research subjects elderly in Budi Luhur Clinic who follow elderly exercise are as follows:

Table 5.1 Distribution of Frequency of Blood Pressure Systole Before Exercise

Sistol Pre	Frequency	Percent
100	2	3.4
110	6	10.3
120	9	15.5
130	20	34.5
140	11	19.0
150	5	8.6
160	3	5.2
180	1	1.7
190	1	1.7
Total	58	100.0

Based on the table the highest frequency obtained 5.1 systolic blood pressure before exercise is 130 with 20 (34.5%).

Table 5.2 Distribution of the frequency of blood pressure Systole After Exercise

Sistol Post	Frequency	Percent
100	1	1.7
110	8	13.8
120	21	36.2
130	16	27.6
139	1	1.7
140	9	15.5
170	1	1.7
180	1	1.7
Total	58	100.0

Based on the table the highest frequency obtained 5.2 systolic blood pressure after doing exercise is 120 with 21 (36.2%).

Table 5.3 Distribution Frequency diastolic Blood Pressure Before Exercise

Diastol Pre	Frequency	Percent
70	3	5.2
80	43	74.1
90	4	6.9
100	7	12.1
130	1	1.7
Total	58	100.0

Based on Table 5.3, the frequency of the highest diastolic blood pressure before doing exercise is 80 with 43 (74.1%).

Table 5.4 Distribution Frequency Blood Pressure diastole After Exercise

Diastol Post	Frequency	Percent
70	4	6.9
80	47	81.0
90	5	8.6
100	2	3.4
Total	58	100.0

Based on Table 5.3, the highest frequency obtained diastolic blood pressure after doing exercise is 80 with 47 (81%). Test Results Statistics Table 5.5 Effect of elderly exercise on Systole Blood Pressure Before and After Doing Gymnastics.

Test Statistics ^b	
	SistolPos – SistoPree
Z	-4.095 ^a
Asymp. Sig. (2-tailed)	.000

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

The results obtained by analysis of the value of $P(0.00) < \alpha(0.05)$, then H_0 is rejected, thus concluded there are significant systolic blood pressure of respondents after being given treatment / gymnastics. Test Results Statistics Table 5.5 Effect of Elderly Exercise on diastolic Blood Pressure Before and After Doing Gymnastics

	Sig. (2-tailed)
DIASTOL_PRE	.000
DIASTOL_POST	.000

The results obtained by analysis of the value of $P(0.00) < \alpha(0.05)$, then H_0 is rejected, thus concluded there are significant respondents diastolic blood pressure after being given treatment / exercise.

4 CONCLUSION

1. The frequency of the highest systolic blood pressure before exercise is 130 with 20 (34.5%).
2. Frequency highest systolic blood pressure after doing exercise is 120 with 21 (36.2%).
3. The highest frequency of diastolic blood pressure before doing exercise is 80 with 43 (74.1%).
4. Frequency highest diastolic blood pressure after doing exercise is 80 with 47 (81%).
5. The results of the analysis obtained by value of $P(0.00) < \alpha(0.05)$, then H_0 is rejected, thus concluded there are significant systolic blood pressure of respondents after being given treatment / exercise.
6. Results obtained by analysis of the value of $P(0.00) < \alpha(0.05)$, then H_0 is rejected, thus concluded there are significant respondents diastolic blood pressure after being given treatment / exercise.

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