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THE EFFECT OF FOOT REFLECTION MASSAGE ON HYPERTENSION IN ELDERLY OF BATAM CITY

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ABSTRACT

The results of the report on the health recording system for the elderly in Batam City in 2018 with the most hypertension sufferers are in the Sei Langkai Health Center area with a total of 4,863 people. This study was to determine whether there was an effect of foot reflexology therapy in the elderly with The type of design in this study was the Quasi Experimental method using the Onegroup Pretest-Postest Design. The sample used in this study amounted to 15 elderly people who have hypertension. The sampling technique used purposive sampling. This research was conducted on 20 June August 2020 in the Sei Langkai Community Health Center, Batam City. The research results were analyzed using paired t-test. The result showed that the systolic and diastolic blood pressure pre test and post test obtained a value of 0.000 (<0,05) based on this it can be concluded that there is a significant effect on Foot Reflexology on reducing blood pressure in the elderly. It is hoped that the elderly can maintain a healthy lifestyle and do light exercise to avoid an increase in blood pressure.

Keywords: blood pressure; elderly; foot reflexology

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INTRODUCTION

Elderly or aging is a condition that occurs in human life. Getting old is a natural process, which means that a person has gone through three stages of life, namely children, adults and old people. These three stages are different both biologically and psychologically. Entering old age means experiencing setbacks, such as physical deterioration, which is characterized by sagging skin, gray hair, tooth loss, hearing loss, deteriorating vision, slow movement and disproportionate body figures. According to WHO (2018) around the world around 972 million people or 26.4% of people worldwide have hypertension. In Indonesia, the incidence of hypertension in the elderly is projected to be 14,142 people (Kemenkes RI, 2018). Based on the data above, it was found that the highest number of elderly people with hypertension was in the Sei Langkai health center area with a total of 13,682 people 76% (Profile of Batam City Health Office, 2018). Hypertension or high blood pressure is a condition when blood pressure is at a value above 130/80 mmHg or more. Factors that influence the occurrence of hypertension are genetics, gender, age, obesity, consuming excessive salt and drinking alcohol. This condition can be dangerous, because the heart is forced to pump blood harder throughout the body (Aspiani, 2014). This study aims to determine

the effect of foot reflexology in the work area of Puskesmas Seilangkai Kota Batam in 2020.

METHOD

The type of design in this study is the Quasi Experiment method using the Onegroup Pretest-Postest Design. The selection of research subjects was not done randomly, namely by using inclusion and exclusion criteria. Before being given treatment to the group, an initial measurement (prestest) was carried out to determine the ability or initial value of the respondent before being given treatment, then the experimental group was intervened. After some time, a posttest was carried out in the group (Setiadi, 2007). The sample used in this study amounted to 15 elderly people who have hypertension. The sampling technique used purposive sampling. This research was conducted on 20 June August 2020 in the Sei Langkai Community Health Center, Batam City. The research results were analyzed using paired t-test.

RESULTS

Table 1.

Frequency Distribution of Elderly Characteristics based on gender of respondents in the work area of Puskesmas Sei Langkai Batam City in 2020

Age	n	Frekuensi (%)
Male	4	26,7
Female	11	73,3
Total	15	100,0

Based on

table 4.1, it is known that the elderly in the work area of the Sei Langkai Community Health Center are mostly female, amounting to 11 people (73.3%).

distribution of the frequency of smoking in the elderly

Table 4.2

Frequency Distribution of Elderly Characteristics based on smoking habits of respondents in the working area of the Puskesmas

Smoking habits	n	Frekuensi(%)
Smoking	3	20,0
No smoking	12	80,0

Sei	Total	15	100,0
			,

Langkai Batam City in 2020

Based on table 4.2, it is known that the elderly in the work area of the Sei Langkai Community Health Center mostly do not have a smoking habit as many as 12 people (80.0%).

Distribution of the frequency of exercise habits among the elderly

Table 4.3

Frequency Distribution of Elderly Characteristics based on the respondents' exercise habits in the work area of the Sei Langkai Health Center, Batam City in 2020

Exercise habits	n	Frekuensi(%)	
Yes	4	26,7	
No	11	73,3	
Total	15	100,0	

Based on table 4.3 it is known that the elderly in the work area of the Sei Langkai Community Health Center mostly do not have the habit of exercising as many as 11 people (73.3%)

4.3.1 Univariate Analysis

Table 4.4

Distribution of blood pressure characteristics foot reflection in the elderly in the work area of the Sei Langkai Health Center, Batam City in 2020

	blood presure	Frequency (%)	Valid percent	Cumulative percent
Based on table	Blood pressure does not drop	3	20,0	38,4
4.4 before	Blood pressure drops	12	80,0	61,6

being given the foot reflexology intervention, it can be seen that the elderly who experience blood pressure drops by 12 people (80,0)%.

table 4.7

The mean value of blood pressure levels in the elderly before and after giving foot reflexology (post-test) in the elderlyin the working area of the Sei Langkai City Health Center Batam in 2020

Blood presure	Mean	N	Std.deviation	
TD sistol pre	163,78	15	14,939	Base
1D sistor pre	103,76	13	14,737	d on
TD sistol post	158,70	15	12,270	table
	04.44	4=	0.200	4.7
TD diastol pre	91,41	15	8,390	befor
TD diastol post	88,96	15	6,019	e
12 diastor post	00,50	10	0,019	givin

g foot reflexology the average value of blood pressure in the elderly is the mean value of systole before 163.78 with a std.deviation of 14.939 after the intervention, the mean value of systole is 158.70 with an average std.deviation of 12.270. -The mean diastole before 91.41 with std.deviation 8.390 and the mean diastole after being 88.96 with std.deviation 6.019.

3.2.1.1 Normality test

Table 4.8

Wilxocon blood pressure test results before and after the foot reflexology intervention to decrease blood pressure in the work area of the Sei Langkai Health Center, Batam City in 2020

(p-value < 0.05)

	Blood presure	Z	P-	_
Based		hitung	Value	Ol
table	Sistol diastol pre test dan	-3,508	0,00	4.8 a
a it can	post test			whole b
seen -				- tha

the pretest and posttest systolic and diastolic blood pressure shows a p-value> 0.05, it can be concluded that the data is normally distributed.

Table 4.9

Overview of blood pressure before and after the Foot Reflexology intervention to reduce blood pressure in the work area of the Sei Langkai Health Center Batam

City in 2020

(n = 15 p value < 0.05)

Blood preasure	Mean	Selisih	P value	r	\mathbf{r}^2
Blood preasure pre	163,78	5,08			
Blood preasure post	158,70	2,45	,000	61,6	379

Based on table 4.9 there is a significant difference between before and after the intervention on foot reflexology with the difference in mean pre 5.08 and post 2.45. With a significance p value 000 (<0.05).

The table above shows the correlation level of 61.6, meaning that the foot reflexology intervention contributed to the effect of 61.6.

DISCUSSION

Based on the results of this study, it is evident that the effect of foot reflexology on the reduction of blood pressure is significant, there is a significant difference between before and after the intervention on foot reflexology with the difference in the mean pre

5.08 and post 2.45. With a significance p value, 000 (<0.05). shows a correlation level of 61.6 means that the foot reflexology intervention contributes to the effect of 61.6 Based on the research results, it can be seen that the bivariate test results using the t-test obtained a p-value of 0.00, which means that if the p value is> 0.05, the data is normally distributed. Based on this, it can be concluded that there is a significant effect on Foot Reflexology on reducing blood pressure in the elderly.

According to theory, the description of the average value of blood pressure after being given foot reflexology therapy intervention in the elderly experienced a decrease in blood pressure on the second day, from 153.3 mmHg to 143.3 mmHg (*Aspiana N*, 2015).

The reflexology activity carried out by researchers regularly for 3 times a week for 3 weeks with a minimum duration of 10 minutes showed a decrease in systolic and diastolic blood pressure on the third day after the intervention, from 170/110 mmHg to 160/90 mmHg.

The results of this study are the same as that of *Sari* (2012) entitled The Effectiveness of Foot Massage on Lowering Blood Pressure in Hypertension Patients in XI Hamlet, Buntu Bedimbar Village, Tanjung Morawa District, Deli Serdang Regency before the blood pressure treatment was 173 mmHg and after treatment 148 mmHg with a value <0,00 which means this indicates that there is a significant effect on reducing blood pressure in the elderly.

The results of the study are in line with that carried out by *Maulana* (2010) with the results of the study showing that there is an effect on foot massage with the incidence of hypertension in the Guntur Health Center, Demak Regency. The mean value of systolic blood pressure before 147.07 and after intervention was 136.00. The mean diastolic blood pressure before 88.67 and after the intervention was 84.27. The paired T test results showed that the value of P value = 0.00001 indicates that there is a significant effect on reducing blood pressure in the elderly.

The factors that cause high blood pressure sufferers in the Puskesmas Sei langkai are consuming foods that contain salt and rarely exercising.

Hypertension is a disease whose symptoms are not obvious and must be watched out for and need to be treated as early as possible. Handling of hypertension can be done by pharmacological and non-pharmacological ways, one of which is the Foot Reflexology massage therapy (Schimd, 2015.) Reflexology is a method of massaging certain points on the feet. Reflexology has basic techniques that are often used, namely: the technique of propagating the thumb, rotating the hands and feet at one point, and doing pressing and holding techniques. The stimuli that are given in the form of pressure on the hands and feet can send waves of relaxation throughout the body. Several studies have proven that non-pharmacological treatment is an alternative intervention that does not cause any risk or prolonged side effects (*Gunawan*, 2015).

According to theory, foot reflexology is very influential in decreasing blood pressure in the elderly, after the massage was carried out in the elderly, in addition to decreasing blood pressure, almost all respondents said they felt soundly while sleeping this was because the stimulation provided was able to increase blood flow and body fluids, the result was circulation. distribution of nutrients and oxygen to body cells becomes smooth without any obstacles. Smooth blood circulation will provide a relaxing and refreshing effect on the body, so that the body experiences a balanced condition (*Wijaya Kusuma*, 2006).

In addition to Foot Reflexology therapy, the treatment that can be given to elderly people with hypertension in order to maintain fitness and be able to carry out daily activities, the elderly need to do physical exercise such as sports. Physical activity training is very important for the elderly to maintain health, maintain the ability to do ADL, and improve the quality of life (Sonza, et al.2020) and avoiding smoking are things that can be done to reduce high blood pressure. Some of the sources of information above, the researchers concluded that reflexology techniques had a big effect on reducing blood pressure in elderly people with hypertension.

CONCLUSION

There is a significant difference between before and after the intervention on foot reflexology with the difference in the mean pre 5.08 and post 2.45. With a significance p value, 000 (<0.05). shows a correlation level of 61.6 means that the foot reflexology intervention contributes to the effect of 61.6.

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