

Case Report

Finger grip relaxation as therapeutic for reducing headache scale in hypertension cases

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ABSTRACT

The purpose of this case study is to see the extent to which the application of finger grip relaxation in reducing headache in clients who have hypertension problems. The research design used is descriptive research with case study method. Participants in this study used two clients who had the same nursing problems and medical problems, namely hypertension with headache problems. The action was carried out for 8 visits. After the finger grip relaxation was carried out on both subjects, there was a decrease in the pain scale and blood pressure. Complaints of difficulty sleeping can also be controlled. This finger grip relaxation therapy can reduce blood pressure, pain scale, and relieve symptoms experienced by people with hypertension. Finger grip reflexes will work effectively if the emphasis on the indicated point is appropriate, the time is consistent, and there is cooperation between the two when applying finger grip relaxation therapy.

Keywords: Hypertension, Finger grip, Blood pressure, Pain, Headache

INTRODUCTION

The increase in the prevalence of non-communicable diseases due to an unhealthy lifestyle is triggered by modernization and globalization, a number of unhealthy behaviors such as irregular eating patterns greatly affect a person's health plus consuming excessive salt and lack of time to rest has an impact on increasing blood pressure.³ Factors that trigger high blood pressure such as smoking, drinking coffee, foods that contain a lot of fat, one of which is often found in the community, stress factors, which cause cardiovascular system health problems, namely hypertension.⁹

Hypertension is one of the most common cardiovascular diseases. This can be prevented by controlling risky behaviors such as; smoking, unhealthy diets such as a lack of consuming vegetables and fruits as well as excessive consumption of sugar, salt and fat, obesity, lack of physical activity, excessive alcohol consumption, and stress.³

The government in Indonesia plays a role in the triggering factors for hypertension through prevention, control, and improving behavior through CERDIK (regular health checks, get rid of cigarette smoke, diligent physical activity, healthy diet with balanced calories, adequate rest, manage stress), PATUH (health checks) routinely, overcome disease with regular treatment, keep a healthy diet with balanced nutrition, efforts to do physical activity with balanced nutrition, efforts to do physical activities safely, avoid cigarette smoke, alcohol, and carcinogenic substances), KIE (education information communication).³

Data from the World Health Organization (WHO) in 2015 about 1.13 billion in the world who suffer from hypertension, the number of people with hypertension in the world will continue to increase every year based on the main causes of premature death worldwide, one of the global targets for non-communicable diseases is to reduce the prevalence of hypertension. 25% in 2025 will increase

to 1.5 million annually. Based on the measurement of the Indonesian population at the age of 18 years, Indonesia shows more than 63 million and is divided based on age groups, namely in the age group 31-44 years (31.6%), 45-54 years (45.3%), 55-64 years (55.2%), 65-74 years (63.2%), 75 years (69%).³ Meanwhile, according to the Health Office in the North Jakarta area in 2019, there were 12,849 cases, with the most sufferers aged 60-69 years, namely 33.3%).

Hypertension if not treated quickly will cause various kinds of complications including stroke, heart failure, and kidney failure. Efforts from the family are very much needed in overcoming the problem of hypertension, including maintaining a healthy diet, doing physical activities such as exercising regularly, and consulting about hypertension, preventing risk factors for hypertension, and doing routine check-ups once a month.⁴

The role of nurses is needed in overcoming this problem, as an educator, namely nurses assist patients and families in increasing education about the problem of hypertension that is being experienced by patients starting from definition, types, signs of symptoms, causes, consequences if left untreated, how to care for relaxation therapy finger grips to help improve blood circulation and reduce headaches.

Another role of care as an advocate, namely to provide various information and provide services or information, especially in taking approval or nursing actions for finger grip relaxation therapy that will be given to families to use to maintain and protect family rights. The role as a facilitator, which is to help families find solutions to overcome problems by doing finger grip relaxation therapy for family members.

One of the non-pharmacological actions that nurses can take is finger grip relaxation which aims to improve blood circulation, increase oxygen absorption into nervous tissue, can reduce pain, provide a relaxing effect, and increase the ability to move the limbs. Every 1 cycle time 2-3 minutes by using coconut oil or balm. Massage to the point of the heart, the core of the heart, and the tips of the fingers on the left hand as much as 30 times. After holding the finger, the subject was asked to relax deeply before taking blood pressure measurements and measuring the pain scale after the procedure.⁵

The purpose of this study is to analyze the application of finger grip relaxation to reduce pain headache scale in clients who have hypertension problems.

CASE REPORT

The research design used is a descriptive study with a case study method that uses two hypertension subjects. The case study was carried out from 13 January until to 30 January 2020. Before the action was taken, each participant subject was given an explanation starting from the purpose of the activity, the procedure for the activity, the implementation time, and the signature of the approval for the action. Participants in this case study consisted of two hypertension clients (male and female), age (45-59 years) with the main complaint of headache, range pain scale 5-6. The clients were not on a salt diet and both were still undergoing medical treatment for hypertension. Finger clasps are performed on hypertensive clients with headache problems. Finger grasping was carried out for 8 visits. Before and after the finger gripping procedure, pain scale measurements and blood pressure measurements were taken. Each visit, finger grip relaxation lasted for 30 minutes.

Table 1: Demographic data, blood pressure (BP), pain scale and complaints.

S. no.	Name	Age (years)	Sex	BP (mmHg)	Pain scale	Complaints
1	Subject 1	50	F	140/90	5	Headache, difficult to sleep
2	Subject 2	55	M	140/90	6	Headache, difficult to sleep

Table 2: Monitoring pain scale and blood pressure (BP).

Visit to	Indicator	Monitoring result			
		Subject I		Subject II	
		Pre	Post	Pre	Post
I	Pain scale	Scale: 5	Scale: 4	Scale: 6	Scale: 5
	6-4 (moderate) ↓				
	3-1 (mild)				
	Hypertension stage I (140-159/89-99) ↓	BP: 140/90 mmHg	BP: 130/90 mmHg	BP: 140/100 mmHg	BP: 140/90 mmHg
	Pre hypertension (120-139/85-89) ↓				

Continued.

Visit to	Indicator	Monitoring result			
		Subject I		Subject II	
		Pre	Post	Pre	Post
	Normal (120–129/80–84)				
II	Pain scale	Scale: 3	Scale 3	Scale 6	Scale: 5
	6–4 (moderate) ↓				
	3–1 (mild)				
	Hypertension stage I (140–159/89–99) ↓	BP: 140/90 mmHg	BP: 130/90 mmHg	BP: 130/90 mmHg	BP: 130/90 mmHg
	Pre hypertension (120–139/85–89) ↓				
	Normal (120–129/80–84)				
III	Pain scale	Scale: 3	Scale: 3	Scale: 5	Scale: 4
	6–4 (moderate) ↓				
	3–1 (mild)				
	Pre hypertension (120–139/85–89) ↓	BP: 135/90 mmHg	BP: 125/90 mmHg	BP: 140/90 mmHg	BP: 130/90 mmHg
	Normal (120–129/80–84)				
IV	Pain scale	Scale 2	Scale 2	Scale 4	Scale 3
	6–4 (moderate) ↓				
	3–1 (mild)				
	Pre hypertension (120–139/85–89) ↓	BP: 135/90 mmHg	BP: 120/90 mmHg	BP: 145/100 mmHg	BP: 135/90 mmHg
	Normal (120–129/80–84)				
V	Pain scale	Scale 3	Scale 2	Scale 4	Scale 4
	3–1 (mild)				
	Pre hypertension (120–139/85–89) ↓	BP: 130/90 mmHg	BP: 120/90 mmHg	BP: 150/100 mmHg	BP: 145/90 mmHg
	Normal (120–129/80–84)				
	VI	Pain scale	Scale 1	Scale (-)	Scale 3
3–1 (mild)				BP: 135/90 mmHg	
Pre hypertension (120–139/85–89) ↓		BP: 130/90 mmHg	BP: 120/80 mmHg		BP: 130/90 mmHg
Normal (120–129/80–84)					

Continued.

Visit to	Indicator	Monitoring result			
		Subject I		Subject II	
		Pre	Post	Pre	Post
VII	Pain scale	Scale (-)	Scale (-)	Scale 3	Scale 2
	3-1 (mild)				
	Pre hypertension (120-139/85-89) ↓ Normal (120-129/80-84)	BP: 120/90 mmHg	BP: 120/80 mmHg	BP: 135/90 mmHg	BP: 130/90 mmHg
VIII	Normal	Pain (-)	Pain (-)	Pain 1	Pain (-)
	(120-129/80-84)				
		BP: 120/80 mmHg	BP: 110/80 mmHg	BP: 130/90 mmHg	BP: 120/90 mmHg

DISCUSSION

The application of finger grip relaxation therapy for both subjects with headaches and a diagnosis of hypertension resulted in a decrease in pain scale and a decrease in blood pressure. Before the action, subject I blood pressure is 140/90 mmHg with a pain scale of 5, after the action TD 130/90 mmHg, pain scale 4. Subject II before the action blood pressure 140/100 mmHg, pain scale 6 and after the action 140 /90 mmHg, pain scale 5.

Subject I and subject II had their blood pressure checked on the first day of the study, subject I had blood pressure of 140/90 mmHg while subject II was 140/100 mmHg. This is in accordance with the theory that both are categorized as stage 1 hypertension and essential hypertension.

Subject I causes hypertension, namely genetics and nutritional patterns, while subject II causes factors that are nutritional patterns. Irregular foods and foods containing excessive salt can increase blood pressure. This is because excessive sodium content can cause resistance to water which has an impact on increasing blood pressure.²

In both subjects, they often experience headaches with different characters every day, blurred vision so that it fits the problem raised, namely headaches.

According to Ardiansyah, headaches are felt due to an increase in intracranial blood pressure and blurred vision due to retinal damage from high blood pressure, but individuals with hypertension sometimes do not show symptoms for years, but other symptoms if present show vascular damage with typical manifestations.¹ According to the organ system that is vascularized by the blood vessels concerned due to pathological changes in the kidneys can be manifested as nocturia and azetonia (increased blood urea nitrogen (BUN) and creatinine). The second symptom experienced is based on the theory according to Manurung that blood flows faster in the blood vessels so that the work of the brain to meet oxygen needs

will also be greater and the blood vessels around the neck will experience periodic constriction, resulting in contraction of the neck muscles. as well as blood vessels.⁴ After finger grip relaxation therapy was performed on both subjects, the symptoms experienced were less than before.

Pharmacological management carried out by the two subjects was in accordance with the doctor's instructions, namely taking 10 mg of amlodipine, taken once a day. Non-pharmacologically, when the action was applied, subject I was no longer consuming traditional medicine. Meanwhile, subject II had done treatment for hypertension, one of which was soaking the feet with warm water aimed at lowering blood pressure but was never done again by the family of subject II.

The author performs finger grip relaxation therapy based on the theory according to Yuliasuti that the application of finger grip relaxation is a relaxation technique or simple reflection with a touch of the hand that involves breathing to balance the energy in the body and be able to control pain and emotions that can make the body relax, improve blood flow, lower blood pressure and reduce muscle tension.⁶

The nutritional pattern of the two-family subjects is the same, namely they tend to consume salty food as evidenced by consuming salted fish. Based on the theory according to Wijaya that excessive gram consumption will increase the amount of sodium in the cells and disrupt the fluid balance in the body which makes the diameter of the arteries smaller so that the heart has to work harder to pump blood more strongly which results in increased blood pressure.¹⁰ According to the results obtained, subject I was categorized as obesity grade I and subject II was categorized as obesity grade II, so based on the theory that maintaining an ideal body weight according to body mass index (BMI) is very important for treating hypertension, where this is directly correlated with blood pressure, especially systolic blood pressure, the greater the body mass, the more blood supply is needed to supply oxygen

and nutrients to body tissues, resulting in an increase in blood volume and greater arterial wall pressure.¹⁰

Sleep activity pattern in subject I sleep activity is difficult to do due to restlessness, difficulty sleeping and dense population in the surrounding environment as evidenced by high emotions and increased blood pressure. insufficient sleep patterns can lead to problems in sleep quality which can lead to metabolic and endocrine disorders that cause cardiovascular disorders.⁷ Another pattern related to hypertension in both subjects is family history, where subject I has a history of hypertension due to heredity from the father and has only been taking treatment for 5 years, while subject II has a history of hypertension from the mother and has only been on treatment for 8 years. Heredity has been proven a person will have a history of disease, it may be greater if parents have a history of hypertension in their youth.⁷

At this stage the two subjects were given the same action, namely doing finger grip relaxation therapy which had been planned for 2 weeks in order to monitor blood pressure, pain scale before and after the application of finger grip relaxation therapy. The results of this study indicate that systolic and diastolic blood pressure showed a significant decrease before and after being given handheld relaxation therapy finger and deep breath where p value systole of 0.000 and p value diastole of 0.001. The results of this study <0.05 so it can be. It was concluded that there was an effect of finger grip relaxation therapy and deep breathing on lowering blood pressure in patients with hypertension.¹¹ The value of the decrease in blood pressure by the two subjects was different in the pattern of activity and lifestyle.

It was found that the consumption of foods that are high in sodium (high in salt) and a sedentary lifestyle is associated with an increase in blood pressure.²

Finger grip relaxation therapy is part of the Jyutsu technique, namely acupressure or Japanese reflection in the form of art using a touch of the hand and breathing to balance the energy in the body, hands (fingers and palms) are simple and powerful tools to complete that bring the body into balance and related to everyday behavior.⁵

There are no limitations in this study, due to cooperative participants and time commitment in implementing the action.

CONCLUSION

Finger grip relaxation therapy was carried out for 8 visits, it was proven that it was effective in reducing pressure, pain scale and symptoms experienced by performing non-pharmacological nursing actions, as evidenced by the results obtained by both subjects after the application of

finger grip relaxation therapy. Subject I blood pressure became 110/80 mmHg, no pain scale. Subject II 120/90 mmHg, no pain scale.

Finger grip reflexes will work effectively if the emphasis on the indicated point is appropriate, the time is consistent, and there is cooperation between the two when applying finger grip relaxation therapy. This finger grip relaxation therapy can reduce blood pressure, pain scale, and relieve symptoms experienced by people with hypertension.

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