



QUALITY AND QUANTITY OF SLEEP THROUGH MASSAGE RELAXATION TECHNIQUES IN THE ELDERLY SUFFERING FROM HYPERTENSION

Nurul Hidayah¹, Agus Setyo Utomo², Kasiati³, Lucia Retnowati⁴

^{1,2,3,4} Nursing Department, Poltekkes Kemenkes Malang

Correspondence author's email (CA): nurul_hidayah@poltekkes-malang.ac.id

ABSTRACT

Hypertensive patients generally experience pain, besides that sufferers also get tired easily, feel uncomfortable, etc. These symptoms can interfere with a person's sleep. And one of the impacts of physical changes that are often experienced by the elderly is the occurrence of sleep disturbances. This study aims to identify the quality and quantity of sleep of the elderly with hypertension before and after neck massage relaxation therapy. The design used is a descriptive case study using the research subjects of two clients who have hypertension with problems with sleep quality and quantity. The results of this study were obtained in Subject I from a score of 14 bad interpretation to a score of 4 good interpretation, Subject II from a score of 18 bad interpretation to a score of 9 bad interpretation. Therefore, Massage nap is useful for increasing relaxation and reducing pain. A simple three-minute rubbing of the head can increase comfort and relaxation and improve the quality and quantity of sleep for the elderly who have high blood pressure (hypertension).

Keywords: Sleep quality and quantity, Elderly, Hypertension *nape massage*

INTRODUCTION

Aging or getting old is a state that absolutely occurs in the process of human life, the aging process does not occur immediately but gradually and is characterized by stages of decline in various organ functions, which is characterized by the increasing vulnerability of the body to various disease attacks that can cause death, for example in the cardiovascular system. One of the diseases of the cardiovascular system is Hypertension. High blood pressure is a multifactorial disease that is influenced by various factors, namely individual factors such as age, gender, genetic factors and environmental factors such as obesity, stress, sleep quality, salt intake, alcohol and others (Kaplan, 1993, in Albert 2012).

The number of elderly people (over 60 years) in 2000 was 11% of the entire world's population (\pm 605 million) (World Health Organization, 2012). The elderly population in Southeast Asia is 8% of 142 million people, and it is estimated that by 2050 the elderly population will increase 3 times (WHO). The percentage of elderly people in 2020 is expected to increase to 11.4% compared to 2000 of 7.4%.

And the prevalence of hypertension in Indonesia obtained through measurement at the age of ≥ 18 years in Central Java province is 26.4% (Ministry of Health of the Republic of Indonesia, 2013). And Dament et al. in 2005 in Amir, 2007 reported that every year it is estimated that about 20%-50% of adults report



sleep disorders, about 17% have serious sleep disorders. The prevalence of sleep disorders in the elderly is quite high, which is around 67%. (Amir, 2007)

The increasing number of the elderly is accompanied by health problems faced. Thus the elderly will progressively lose their resistance to infection and accumulate more and more metabolic and structural distortions called "degenerative diseases" such as hypertension. Hypertensive patients generally experience pain, besides that sufferers also get tired easily, feel uncomfortable, and have difficulty breathing. (Dalimartha et al., 2008). These symptoms can interfere with a person's sleep. And one of the impacts of physical changes that are often experienced by the elderly is the occurrence of sleep disturbances (Majid, 2014). Sleep disorders become more frequent. One of the physiological changes that occur is a decrease in sleep quality. Sleep is essential for improving health, and sleep disorders can also affect quality of life (Kang, et al., 2013).

Currently, there are non-pharmacological actions that can be taken by nurses independently to overcome these things that can reduce the consumption of drugs such as relaxation techniques, massage (massage). (Sinomwidodo et al., 2015). Massage head. Massage has many benefits on the human body system such as reducing muscle pain, can improve circulation and stimulate blood flow throughout the body, can also stimulate skin cell regeneration, as well as its effects on the nervous system. (Kushariyadi and Setyohadi, 2011). (Sinomwidodo et al., 2015).

The nape of the neck is useful for increasing relaxation and reducing pain. A simple three-minute head rub can increase the client's comfort and relaxation and apply hand pressure to soft tissues, usually muscles, tendons or ligaments without causing movement or a change in joint position to relieve pain, produce relaxation or improve circulation

The results of the study on November 27, 2023 were known that the coverage of the elderly with hypertension in November 2022 – October 2023 was 1,220 elderly people. As a result of interviews with 10 elderly patients with hypertension who examined themselves at the Dhanang Husada Sukoharjo Clinic, the patient said that his hypertension recurred because of a lot of mental overload, feeling dizzy, and often waking up when sleeping. Based on the background of the problem, the researcher is interested in conducting research on "Improving the quality and quantity of sleep in the elderly who are hypertensive with massage relaxation".

RESEARCH METHODS

The research design used in this study is a type of case study description research. A descriptive case study is a research that is analyzed in depth both in terms of the circumstances of the case, as well as the actions and reactions of the case to a treatment of a certain exposure. Although in this study which is only in the form of a single unit, it is analyzed in depth, covering a very wide aspect, as well as the use of various integrative techniques (Notoatmodjo, 2010) and is carried out with the aim of making an objective picture of a situation (Setiadi,



2013). This type of case study research uses participatory observation. Participatory observation is an activity carried out by observers to participate in activities in social contact that are being investigated (Notoatmodjo, 2010).

RESEARCH SUBJECT

This case study uses two elderly clients who have sleep disorders because they have a history of hypertension as subjects in the study or subjects who are the center of attention or the target of the study (Arikunto, 2006) with the following inclusion criteria:

1. Elderly who often complain of headaches or dizziness
2. Elderly who are female or male
3. Elderly who have sleep disorders
4. Patients who are cooperative in the research process.

RESEARCH LOCATION

The research has been conducted in the home of the subjects. Subject I's house is located in Sentul Village Housing, Purwodadi District, Pasuruan Regency, which has been carried out in the period of December 26, 2023 – January 20, 2023 and June 26, 2023 – July 01, 2023.

DATA COLLECTION TECHNIQUES

Data collection is a process of approaching and collecting research subjects in accordance with the characteristics specified in the research (Nursalam, 2008). The data collection process in this study is by using a PSQI questionnaire. The results of the data in this study are presented in a narrative manner or in the form of sentence descriptions, tables. The results obtained outline how massage can improve sleep quality in the elderly suffering from hypertension.

In this study, data collection was carried out using interview techniques and the type of interview used was a free guided interview. Although there is an element of freedom, there is a clear and directional direction of the conversation (Notoatmodjo, 2010).

Observation is a planned and structured procedure that includes seeing, hearing, and recording a certain number and level of activity or a certain situation related to the problem being studied. Participatory observation is an activity carried out by observers to participate in activities in social contact that are being investigated (Notoadmojo, 2010).

The research instrument in this study used interview sheets, observation sheets, and questionnaire sheets (PSQI) *The Pittsburgh Sleep Quality Index* This study was conducted for 1 month, in a week the researchers came to the patient's home 2 times for @20 minutes to monitor the progress in the quantity and quality of sleep of the elderly who suffered from hypertension before and after the relaxation of the nape massage.



DATA PROCESSING

The data obtained from the results of the research will be analyzed and presented in textual form, namely data from case studies in the form of writing or narratives (Notoatmodjo, 2010).. Data In this study, a structured interview method was used with a type of participatory observation. The structured (guided) interview method is a method that is carried out based on guidelines in the form of questionnaires that have been prepared in advance (Notoadmojo, 2010). Participatory observation is an activity carried out by observers to participate in activities in social contact that are being investigated (Notoatmodjo, 2010).

RESEARCH RESULTS AND DISCUSSION

The results of observation before the nape massage and psqi scoring measurements on (Mrs.S) aged 58 years before the relaxation of the nape massage showed a blood pressure value of 170/90 mmHg and a psqi score of 14, often complaining of difficulty falling asleep and often waking up in the middle of the night to urinate (BAK) because before going to bed she took anti-hypertensive drugs and said that she often felt dizzy and blurred vision. Subject II (Mrs. E) was 53 years old before the relaxation of the nape massage showed a blood pressure value of 200/100 mmHg and a psqi score of 18 often complained of difficulty sleeping due to vertigo which was often felt and the body felt fatigue and discomfort in the neck. The subject has also experienced heart disease.

Based on the results of the study, Subject I showed signs of cardiovascular diseases such as dizziness and difficulty sleeping and observation of blood pressure measurements including hypertension. Subject II also showed signs of cardiovascular disease such as often feeling vertigo and making it difficult to fall asleep. Observation of blood pressure measurements that include hypertension. This is in accordance with the theory of change in the elderly according to Mujahidullah (2012) and Wallace (2007) who state that the elderly experience a decrease in the function of the cardiovascular system, cardiovascular disorders cause the elderly to experience a decreased blood pump, an overall decrease in heart size, a decreased heart rate, and a thicker heart valve in the elderly. Diastolic blood pressure remains the same or increases. Systolic blood pressure increases in the elderly due to loss of distensibility. Symptoms will vary from person to person, but common signs and symptoms include frequent headaches, fatigue, sleep disturbances and blood pressure measurements that have relatively high values.

According to the researcher, it can be concluded that subjects I and II experience cardiovascular function, namely relatively high blood pressure measurements as well as headaches and easily feeling fatigue. According to researchers, hypertension can also interfere with physical conditions and sleep disorders. Subject I complained of frequent dizziness and difficulty feeling sleep disturbances. Subject II complained of frequent feeling of vertigo and difficulty falling asleep, discomfort in the neck.



According to researchers, one of the therapies that can be given to the elderly with hypertension is massage (Harris & Richards, 2010). Massage is one of the alternative therapies that are non-pharmacological in nature that can be given to the elderly to provide comfort (Moyle et al, 2012). Massage is very useful in providing relaxation so that it lowers blood pressure through a decrease in the secretion of the stress hormone cortisol measured from the saliva and urine of respondents based on research conducted by Hernandez et al. (2000).

After the Neck Massage intervention, Observation was carried out at the first meeting (Day II) on June 26, 2023. Subject I (Mrs. S) experienced a change in blood pressure decrease and psqi scoring measurement with blood pressure measurement results of 160/80 and psqi score 12. Mrs. S said that last night the sleep duration remained 5 to 6 hours, said that she still often felt dizzy, even though she had taken anti-hypertensive drugs before going to bed, at night she still often had diarrhea 3 to 4 times. sleep at approximately 23.00 WIB according to the theory (Anggraini, et al., 2009). Hypertension can occur due to several risk factors, namely family history, poor lifestyle habits, poor diet patterns and sleep duration or quality.

According to the researcher, the change in the subject's blood pressure was marked by a decrease in the results of the psqi score and blood pressure measurement due to several factors. Factors that can affect blood pressure in the elderly such as age, obesity, lack of knowledge about the hypertension diet.

Observation results at the second meeting (Day III) The blood pressure results of the subject I were 150/80 mmHg with a psqi score of 11. The subject said that he slept poorly last night because he felt a little dizzy and 2-3 went to the bathroom to urinate (BAK) even though he had taken anti-hypertensive drugs before going to bed. Subject II had a blood pressure of 170/80 mmHg with a psqi score of 11. The subject said that he slept last night, felt uncomfortable in the neck, felt sluggish, accompanied by dizziness, and had taken medicine, usually taken when he felt like that. In accordance with the theory (Risksdas, 2013) It is defined as hypertension if you have been diagnosed with hypertension/high blood pressure by health workers (doctors/nurses/midwives) or have never been diagnosed with hypertension but when interviewed are taking medical medication for high blood pressure (Risksdas, 2018).

Results at the third meeting (Day IV) Blood pressure results of subject I (Mrs.S) 140/80 mmHg with a psqi score of 10, the subject said that he felt tired, took care of his grandson and took care of his shop, making his daily routine not enough to sleep. Subject II with blood pressure measurement results of 170/90 mmHg with a psqi score of 10. Mrs. E said that the activities at her school were busy taking care of incoming students and Mrs. E's habit of being able to take a nap became unable to take a nap. In accordance with the Maslow pyramid theory, this need is included in the first level of needs which include two elements of fulfillment, both in terms of quality and quantity of sleep.

The results of the fourth meeting (Day V) The blood pressure results of subject I (Mrs.S) 130/80 mmHg with a psqi score of 5 subjects said that their sleep was quite improved and the dizziness felt was not too much, it was just to be able



to sleep immediately for a long time. Subject II with a blood pressure measurement of 150/90 mmHg with a psqi score of 9 subjects said that they were not very dizzy and their sleep quality was a little lacking. According to the theory (Potter & Perry, 2005) This can be influenced by the age factor. In the elderly, there are changes in the structure and function of blood vessels, namely the elasticity of blood vessels is reduced and stiffness occurs in the walls of arteries, so that the development of blood vessels is disturbed.

Results of the fifth meeting (Day VI) Results Blood pressure results of subject I (Mrs.S) 130/90 mmHg with psqi score 4 subjects said that while sleeping they still felt shadowed by their late husband and it was still difficult to fall asleep immediately after going to the bathroom to urinate. Subject II had a blood pressure measurement of 140/90 mmHg with a psqi score of 6, the subject said that he did not feel comfortable when sleeping in his neck, felt sluggish and still felt a little dizzy. In accordance with the theory (Ridwan, 2008). Hypertension that has occurred at a severe or chronic level and is not treated, can cause several symptoms, including headache, fatigue, nausea, vomiting, shortness of breath, restlessness, blurred vision that occurs due to damage to the brain, eyes, heart and kidneys. Patients with severe hypertension sometimes also experience a decrease in consciousness until a coma can occur due to brain swelling. This is called hypertensive encephalopathy and if this happens, it must be treated immediately

According to researchers, Massage is a technique that can facilitate blood circulation, provide a sense of relaxation to the body, relieve stress, relieve fatigue and fatigue, by applying pressure at a certain point. When muscle tissue contracts during massage, it will make the nervous system around the area of massage also depressed and muscle tissue relaxed, the nerves will also be stretched, thereby increasing parasympathetic activity to release neurotransmitters such as endorphins, serotonin, aceticlin. Through the response produced by the brain, increased serotonin levels can reduce the psychological effects of stress. sequencing and massage that stimulates blood circulation and metabolism in tissues (Kusyati, 2006).

CONCLUSION

Sleep quality before neck massage was obtained, a sleep quality score was obtained in subject I, which was 1, 4 scores with a bad category, and in subject II, which was 1, 8 scores with a bad category, this was influenced by several factors. Subject 1 has a lot of dizzy habits, which can affect his sleep quality is also poor, while subject II is too anxious thinking about his nephew who is gone, and his busyness in addition to being a kindergarten teacher, being a housewife for his family and accompanied by vertigo that is often experienced which makes it difficult to start sleep. Both subjects had never experienced a neck massage, only subject 2 had indeed done it once but did not know more details at that time. After doing a neck massage with a frequency every day of the week



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