SLOW STROKE BACK MASSAGE THERAPY IN REDUCING BLOOD PRESSURE IN ELDERLY PATIENTS WITH HYPERTENSION; LITERATURE REVIEW

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Abstract. Hypertension is a condition where a person experiences an increase in blood pressure above normal which results in an increase in morbidity and mortality or mortality. Someone stated suffering from hypertension when blood pressure above 140/90 mmHg. Increasing age causes physiological function and endurance decreased due to degenerative processes (aging) so that the elderly often suffer from both infectious and non-communicable diseases, one of which is hypertension. The more you age, the higher the risk of hypertension. This is due to natural changes in the body that affect the heart, blood vessels and hormones. Efforts to reduce blood pressure in elderly people with hypertension with non-pharmacological therapy is by providing slow stroke back massage therapy. The purpose of this literature study is to know the description of literature studies on the application of slow stroke stroke back massage therapy to decrease blood pressure in the elderly with hypertension. The method of writing this literature study was carried out by collecting 3 research journals from Google Scholar published from 2010 to 2019. The results of the three journals show that the effect of slow stroke back massage therapy on blood pressure reduction in elderly people with hypertension.

Keywords: [*Slow Stroke Back Massage*, elderly and hypertension]

INTRODUCTION

Elderly is someone who has reached the age of 60 years and over. (Utomo Setyo, 2019) (Cahyanti et al., 2023) Elderly is the final stage of development in human life which starts from the age of 60 years to almost 120 or 125 years. (Festi, 2018) A person is said to be elderly if he is 65 years and over. (Muhith, 2016). The classification of the elderly according to the World Health Organization (WHO) in Muhith's book is divided into four boundaries, namely middle age (age 45 to 59 years), elderly (elderly) namely age 60 to 74 years, elderly (elderly) namely aged 75 to 90 years and very old, namely over 90 years. Old age according to Prof. Dr. Koesoemato Setyonegoro is divided into three age limits, namely young old (70-75 years), old (75-80 years) and very old (above 80 years). (Muhith, 2016) The elderly are also classified into five classifications according to the Indonesian Ministry of Health in 2016. 2013 in the Panji book, namely pre-elderly (presenilis) is someone between the ages of 45 to 59 years, the elderly is someone who is 60 years or more, high-risk elderly is someone who is 70 years or more or someone who is 60 years or more with health problems, potential elderly are elderly who are still able to do work and or activities that can produce goods or services. And the elderly are not potential, which are the elderly who are powerless to make a living, so their lives depend on the help of other people. (Pandji, 2012) Other sources state that there are four age groupings for the elderly, namely those aged 60 to 65 years are elderly, aged over 65 years to 75 years is junior old age, over 75 years to 90 years is formal old age, and ages over 90 years to 120 years is longevity old age. (Nugroho, 2015).

Increasing age causes physiological function and immune system to decrease due to degenerative processes (aging) so that the elderly often suffer from both infectious and non-communicable diseases. Several diseases that are often suffered by the elderly in Indonesia include respiratory disorders, cardiovascular diseases, digestive disorders, rheumatism and hypertension. (Ekasari Fatma, 2018) . Hypertension is a condition in which a person experiences an increase in blood pressure above normal which results in increased morbidity and mortality. (Triyanto, 2014) Hypertension can generally be defined as a systolic pressure of more than 140 mmHg and a diastolic pressure of more than 90 mmHg. (Manuntung, 2018) The definition of hypertension itself in the elderly is blood pressure equal to 140/90 mmHg, the average of 2 or more measurements from two or more visits. (S.Pikir, 2015)

The prevalence of hypertension according to the World Health Organization (WHO) in 2013, was highest in the African region, both men and women had increased blood pressure by 46% and the

lowest was in the Americas. As for the Southeast Asia region, Indonesia is the country with the second prevalence after Myanmar. (Buntaa et al., n.d.) The highest prevalence of hypertension in Indonesia is in the province of West Kalimantan 44.1%, then the provinces of West Java, East Kalimantan and Central Java occupy the 6th position. 4 with a percentage of 36%, the province with the lowest prevalence of hypertension is in Papua with a percentage of 22.2%. (RISKESDAS, 2018) The highest prevalence of hypertension in Central Java Province is Batang district with 18.86% and the lowest is Grobogan Regency with 0 .49%, while Pati Regency with a prevalence of 1.57% occupies the 31st position. (Central Java Province Health Profile in 2018, n.d.) Non-communicable disease data in Pati Regency in 2018 states that high blood pressure or hypertension occurs as many as 48,326 or as much as 10.78% ranks first compared to other non-communicable diseases. (Pati District Health Office, 2018).

Data from WHO in 2015 showed an increase in the prevalence of hypertension sufferers, especially due to an increase in age or aging by 23% in the Asian region. (Zhou et al., 2017) The prevalence of elderly people with hypertension aged 65 years to 74 years in Indonesia is 63.22 % and those aged 75 years and over have a prevalence of 69.53%. (Ministry of Health RI, 2018) Elderly people with hypertension in Pati in 2018 had a prevalence of 10.78%. (Pati District Health Office, 2018). Hypertension has several management, namely pharmacological and non-pharmacological management. Pharmacological management of hypertension is by administering drugs, including beta-blockers and vasodilators. Pharmacological treatment has the advantage of having accurate dosage because it is made from active substances. (Yanti et al., 2019) Pharmacological treatment uses medical drugs which not only have beneficial effects but also have side effects such as bronchospasm when using beta blockers. and the occurrence of nausea, vomiting and dizziness with the use of vasodilators. (Afrila et al., 2015) The right alternative to reduce blood pressure without drug dependence and side effects is to use non-pharmacological treatment. Non-pharmacological management is treatment that does not use drugs with chemicals. This non-pharmacological treatment is like complementary medicine. Complementary medicine is therapeutic, natural treatment without the use of chemical drugs. Some complementary therapies that are often used to lower blood pressure include laughter therapy, music therapy, progressive relaxation, yoga, hypnotherapy, guild imagery. One of the other complementary therapies that can reduce blood pressure is slow stroke back massage therapy.

Slow stroke back massage is an action with slow and rhythmic strokes on the back area. (Ayu et al., 2016) Slow stroke back massage with massage techniques in the form of alternating hand intervals, squeezing, friction, rubbing (efluration), massage (petriation) and brushing pressure on the back area. Slow stroke back massage is done on the back area starting from the head to the coccyx. (Zuccarini, 2014) Slow-stroke back massage is one of the therapies that is done 12-15 times in one minute for 3 to 10 minutes. (Oliver , 2013) Providing slow stroke back massage for 10 minutes in seven consecutive days showed positive changes in systolic and diastolic blood pressure in the elderly with hypertension. (Andjani, 2016). Slow stroke back massage has several advantages compared to other massage therapies, including that relaxation therapy is easier, safer to do, simple and inexpensive. This therapy can be carried out by nurses and taught to families without the need for special training. (Oliver, 2013) The workings of slow stroke back massage is to stimulate the release of endorphins. The release of endorphins can cause systemic vasodilatation and decreased contractility that occurs due to increased activity of the parasympathetic nervous system which releases the neurotransmitter acetylcholine which can inhibit depolarization of the SA node and AV node which results in decreased activity of the sympathetic nervous system resulting in a decrease in heart rate, cardiac output and stroke volume resulting in a decrease in blood pressure. (Kusumoningtyas & Ratnawati, 2018) Besides being cheap, this slow stroke back massage also does not cause side effects.

Several research journals show the results of research on the effectiveness of slow stroke back massage therapy for reducing blood pressure in elderly people with hypertension. The research journal by Dwinta Nuke Kusumoningtyas and Diah Ratnawati shows the results of a study of 15 hypertensive elderly respondents in the intervention group with slow stroke back massage therapy 12 times for 3 weeks managed to experience a significant decrease in blood pressure compared to the control group. These results are shown in the average change in systolic and diastolic blood pressure of respondents in the intervention group and control group. the results of hypertension classification decreased after patients received slow stroke back massage therapy. Significant MAP compared to before therapy.

(Jayawardhana, 1929) The three journals showed the results of the effectiveness of slow stroke back massage in reducing blood pressure in hypertensive patients with different assessment methods.
The description above shows that from year to year there is an increase in the prevalence of elderly people with hypertension. The advantages of slow stroke back massage therapy which can reduce blood pressure in elderly hypertensives, made researchers interested in exploring literature studies on slow stroke back massage on reducing blood pressure in elderly people with hypertension.

METHODS

The method of writing this literature study is that the writer collects, compiles, analyzes secondary data obtained from several research journal articles published through electronic data bases. The electronic database used is Google Scholar. Journal searches were carried out by collecting holistic nursing themes. The keywords used are Slow Stroke Back Massage, Elderly and Hypertension. The limitation of the search process is not only related to the theme, but also the year the journal was published. The year of publication of the journal used to carry out literature studies is from 2010 to 2019.

RESULTS AND DISCUSSION

Based on the results of the three journals that I got, it shows the effectiveness of slow stroke back massage therapy for reducing blood pressure in elderly people with hypertension. The first journal is a research journal conducted by Dwinta Nuke Kusumoningtyas and Diah Ratnawati entitled "Effectiveness of Slow Stroke Back Massage Therapy on Blood Pressure in the Elderly in RW 001 Jombang Village, Ciputat District, South Tangerang City" in 2018. This research used the Quasi Experimental Pre and Post Test with Control Group with Slow Stroke Back Massage intervention. This study compared the intervention group and the control group in the elderly with hypertension with a total of 30 respondents. The sample was divided into 2 groups, each group consisting of 15 respondents. This study conducted univariate analysis to determine the distribution of characteristics (age, gender, education, occupation and marital status) and distribution of blood pressure before and after slow stroke back massage therapy and used bivariate analysis to analyze the effectiveness of slow stroke back massage therapy on blood pressure. elderly with hypertension. The therapy was given for 12 meetings within 3 weeks for 10 minutes at each meeting. The intervention group was given an explanation and their families were given examples of slow stroke back massage movements.

There are 6 movements that are exemplified with each movement being carried out 10 times in 1 minute 40 seconds. Blood pressure checks were carried out before and after slow stoke back massage was carried out in the intervention group. Blood pressure was checked before and after slow stroke back massage using a sphygmomanometer in the intervention group. The average pre systolic blood pressure in the intervention group was 154.60 mmHg and in the control group was 166.13 mmHg. The average pre-diastolic blood pressure in the intervention group was 93.27 mmHg and in the control group was 92.60 mmHg. After being given slow stroke back massage therapy, there was a change in the blood pressure of each group. The average post systolic blood pressure in the intervention group was 149.33 mmHg and in the control group the average post systolic was 161.73 mmHg. While the average post diastolic in the intervention group was 88.0 mmHg and in the control group was 93.00 mmHg.

The results obtained in the intervention group showed p values at pre and post systole and diastolic $p = 0.000$. The results of the p value indicate that there is a significant effect of slow stroke back massage on blood pressure changes in elderly patients with hypertension because $p < 0.05$. While the results of the control group showed that the p value at pre and post systole was 0.197 and the p value at pre and post diastole was 0.334. The results of the p value indicate that there is a change in blood pressure but not significant. The weakness of this journal is that this research journal does not explain whether or not there are obstacles experienced when applying slow stroke back massage therapy. While the advantages of this journal explain in detail how the procedure for slow stroke back massage therapy and the time of action are explained in detail. (Kusumoningtyas & Ratnawati, 2018) The second journal is a research journal conducted by Andi Jayawardhana with the title "Effectiveness of Slow Stroke Back Massage for Elderly with Hypertension" in 2017.

This research used the Quasy Experiment method with Non Equivalent Control Design. The number of respondents was 30 elderly people with hypertension which were divided into 2 groups, namely the treatment group and the control group, each consisting of 15 people. The characteristics of the respondents taken were based on age, gender, level of education, occupation, long suffering from hypertension and how to deal with hypertension. This study compared the experimental group whose sample was observed before being given treatment and then after being given treatment, the sample was re-observed with the control group whose sample was observed before and after without being given treatment. The research was conducted from May 15 2017 to May 30 2017 at UPTD Griya Werdha Jambangan Surabaya. Data collection instruments used sphygmomanometer, ballpoint, notebook, stopwatch, mattress, paper and stethoscope. After being given slow stroke back massage therapy, it was found that the respondent experienced a decrease in the MAP (Mean Arterial Pressure) value. Then in the statistical test using the Paired t-Test with a significance level of 0.05 and the result is p = 0.000 so that p <0.05, which means there is effectiveness of slow stroke back massage on reducing blood pressure in the elderly with hypertension. In this research journal, it is also explained that there are factors that cause the lack of effectiveness of slow stroke back massage on the 11th, 13th, 14th and 15th MAP days, namely respondents consuming foods that can increase blood pressure. In conclusion, most of the MAP values decreased after being given slow stroke back massage therapy compared to before being given slow stroke back massage therapy. The weakness of this journal is that this research journal does not explain in detail the frequency of the number of times the application of slow stroke back massage therapy, does not describe the average initial and final blood pressure after the application of therapy in each group and does not describe the MAP value in each group. each group. In addition, it is also not explained how the procedure for applying slow stroke back massage therapy. The advantage of this journal is that it describes in detail the obstacles experienced during the implementation of therapy. (Jayawardhana, 1929).

The third journal is a research journal conducted by Anastasi Widyo Retno and Dian Prawesti entitled "Actions of Slow Stroke Back Massage in Lowering Blood Pressure in Hypertension Sufferers" in 2012. This study used a pre-experimental research design (One Group Pre-test-posttest Design). The population taken was all patients with a diagnosis of hypertension at the Blabak Sub-Health Center in the Working Area of the Islamic Boarding School 1 Health Center, Kediri City. The sampling technique used is purposive sampling. The number of respondents in this study were 24 people with the characteristics of gender, age and family history of hypertension. Classification of respondents with hypertension before slow stroke back massage was carried out, including 13 respondents with stage 2 hypertension, 11 people with stage 1 hypertension. stage 2 hypertension. As for diastolic blood pressure, 7 people had pre-hypertension, 12 people had stage 1 hypertension and 5 people had stage 2 hypertension. The test results of the effect of slow stroke back massage on changes in systolic and diastolic blood pressure were carried out by the Wilcoxon α statistical test <0.05 and the results of ρ systolic = 0.001 and ρ diastolic = 0.007. So that ρ <α, which means there is an effect of slow stroke back massage on reducing blood pressure in people with hypertension. The weakness of this journal is that this research journal does not explain the frequency of application of therapy in detail, does not explain the procedure for applying slow stroke back massage therapy and does not describe the average blood pressure of respondents before and after being given slow stroke back massage therapy. The advantage of this journal is that it describes the obstacles experienced in research. (Prawesti, 2012),(Benn et al., 2018).

According to WHO, normal blood pressure is 120-140 mmHg systolic pressure and 80-90 mmHg diastolic pressure. (Rochlani et al., 2017) A person is declared to have hypertension if his blood pressure is above 140/90 mmHg. (Manuntung, 2018) Hypertension in the elderly is blood pressure equal to or equal to 140/90 mmHg, the average of 2 or more measurements of two or more visits. (S.Pikir, 2015), The older you get, the higher the risk of hypertension. (Fox et al., 2007) This is due to natural changes in the body that affect the heart, blood vessels and hormones. (Triyanto, 2014) Thickening and stiffness of the arterial walls occurs due to elderly. The large arteries lose their flexibility and become stiff, so they cannot expand so that blood through the blood vessels is narrower than usual and causes an increase in blood pressure. (Manuntung, 2018).

Clinical symptoms experienced by people with hypertension are usually in the form of dizziness, irritability, ringing in the ears, difficulty sleeping, shortness of breath, feeling of heaviness in the back of the neck, fatigue, lightheaded eyes, and nosebleeds. Individuals suffering from hypertension

sometimes do not show symptoms for years. (Triyanto, 2014) The third journal also reveals that symptoms that may be felt in patients with hypertension are headaches accompanied by nausea and vomiting, blurred vision, urinating at night and sometimes no symptoms are felt. to cause damage to other organs. (Prawesti, 2012) This is in line with the explanation from the second journal which states that hypertension is known as a silent killer because it occurs without signs and symptoms, so that sufferers do not know if they have hypertension. (Kusumoningtyas & Ratnawati, 2018).

Treatment of hypertension can be done in two ways, namely by pharmacological therapy and non-pharmacological therapy. (Al-Lawati & Jousilahti, 2008) Pharmacological therapy is a treatment therapy for hypertension using drugs. Non-pharmacological management is treatment that does not use drugs with chemicals. This non-pharmacological treatment is like complementary medicine. Complementary medicine is therapeutic, natural treatment without the use of chemical drugs. Another complementary therapy that can reduce blood pressure is slow stroke back massage therapy. (Ayu et al., 2016). Slow stroke back massage is massage with mechanical hand movements against the human body using various forms of grip or techniques. (Septiari & Restuning, n.d.) Slow-stroke back massage is one of the therapies that is performed 12-15 times deep massage one minute in 3 to 10 minutes. (Oliver, 2013).

Slow stroke back massage can cause vasodilatation of blood vessels and lymph and increase the baroreceptor reflex response which affects the decrease in the activity of the sympathetic nervous system and increases the activity of the parasympathetic nervous system. This mechanism causes systemic vasodilatation and decreased cardiac muscle contractility, which in turn affects the decrease in heart rate, cardiac output and stroke volume which will ultimately affect blood pressure. The combination of vasodilatation and decreased cardiac output will result in a decrease in blood pressure. Conversely, when blood pressure drops, the response is fast to carry out the homeostatic process of blood pressure so that it is within the normal range. The way this massage therapy works is by stimulating the nerves on the surface of the skin which will then be channeled to the brain in the hypothalamus, so that the patient can perceive the touch as a relaxation response and cause a decrease in blood pressure. (Septiari & Restuning, n.d.).

This is in line with the results of research from the three journals which showed a significant reduction in blood pressure in elderly people with hypertension. So it can be concluded that there is the effectiveness of slow stroke back massage therapy for reducing blood pressure in elderly people with hypertension.

CONCLUSION

Based on the results of the management of the literature study, it can be concluded that there is an effect of slow stroke back massage therapy on reducing blood pressure in elderly people with hypertension. The mechanism of action of slow stroke back massage which creates a relaxing effect on the body, so that it can significantly reduce blood pressure. Slow stroke back massage therapy which is carried out for 10 minutes in 12 meetings within 3 weeks is proven to be able to reduce blood pressure in elderly hypertensives. Blood pressure measurements were carried out before and after slow stroke back massage therapy. In implementing this therapy, there are obstacles, namely respondents who consume foods that can trigger an increase in blood pressure so that several times the application of therapy does not occur a significant decrease in blood pressure. Slow stroke back massage therapy is very easy to do, so it can be applied by elderly families themselves.

Suggestions

1. For the community It is hoped that people can use the Slow Stroke Back Massage technique to help lower blood pressure in elderly people with hypertension.
2. For health workers It is hoped that health workers can apply non-pharmacological techniques to help lower blood pressure in elderly hypertensives, one of which is the Slow Stroke Back Massage technique.
3. For further research It is hoped that future researchers can develop more by increasing the subject of literature studies and using different data collection techniques.

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