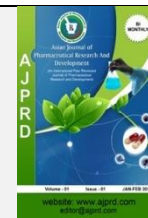


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Case Study

Application of Yoga Gymnasticson Clients with Hypertension as an Effort to Lower Blood Pressure: A Case Study

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ABSTRACT

Background: hypertension is an increase in abnormal arterial blood pressure, namely blood pressure more than 140/90mmHg. Hypertension, a silent killer or "silent killer". That is a familiar nickname for hypertension or high blood pressure. Every year there is an increase in hypertension sufferers from year to year, this is due in large part to the lack of knowledge of how to treat and causes of hypertension, Broadly speaking, therapy or management of hypertension can be done in two ways, namely pharmacological management (with drugs) and non-pharmacological (without drugs), one of which is the application of yoga exercises to lower blood pressure. Objectives: To determine the effectiveness of the application of yoga exercises to clients with hypertension to reduce blood pressure. Methods: This research design uses a case study method that implements the application of yoga exercises to clients with hypertension to reduce blood pressure. Results: Researchers found that there was an effect of the application of yoga exercises on hypertensive clients on lowering blood pressure. Conclusion: After applying Yoga Gymnastics to patients with hypertension in the work area of the Tanjung Agung Health Center, the researchers concluded that the Effective Yoga Exercise helps reduce blood pressure. Suggestion: Further researchers are advised to increase the number of respondents so that they can reduce blood pressure more from this study.

Key words: Yoga Gymnastics, Hypertention

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INTRODUCTION

World Health Organization (WHO) states that hypertension affects 22% of the world's population and the incidence in Southeast Asia is 36%. Hypertension is also a cause of death with 23.7% of the total 1.7 million deaths in Indonesia in 2016. Basic Health Research conducted by the Ministry of Health in 2018 resulted in an increase in the incidence of hypertension, in 2018 the prevalence of hypertension was 34.1%, while in 2013 the prevalence of hypertension was 25.8%.¹⁻⁴

Patients with hypertension in South Sumatra Province aged > 15 years were more than 5,572,379 million people. The city of Palembang contributed the highest number, which was more than 1,130,254 million people with hypertension,

from 5,572,379 people with hypertension only 137,299 (2.5%) patients who received health services according to standards. Data from the Ogan Komering Ulu District Health Office for Hypertension in 2018 recorded 6,250 residents suffering from hypertension or high blood pressure.

Hypertension according to WHO is an abnormal increase in arterial blood pressure, namely blood pressure of more than 140/90 mmHg. Hypertension, a silent killer or "silent killer" that's a familiar nickname for hypertension or high blood pressure. This is because most cases do not show any symptoms or signs, but this disease is a risk factor that triggers several diseases, such as heart disease, kidney failure, and even stroke.⁵⁻⁷

Therapy or management of hypertension can be done in two ways, namely pharmacological management (with drugs) and non-pharmacological (without drugs). One of the non-pharmacological techniques that can be used is doing yoga. Yoga is a combination therapy of structured physical exercise, breathing techniques, and meditation. The yoga movement that is taught aims to relieve symptoms that have appeared or anticipate so that hypertension symptoms do not arise.⁸⁻¹⁰

Based on a preliminary study at the Tanjung Agung Health Center, Baturaja Barat District, Ogan Komering Ulu Regency, it was found that the highest case that occupied the top position was hypertension. In 2021 there were 191 hypertension cases from early January-March, 101 men and 90 women.

METHODS

The case study design used in this research is a Nursing Study with the application of yoga gymnastics to hypertensive clients to reduce blood pressure which includes the assessment process, nursing diagnosis, planning, implementation and evaluation.

Implementation of the intervention in the form of the application of yoga gymnastics on clients 1 and 2 for 15-30 minutes with a frequency of 3-4 times a week. Analysis by comparing the results between the pretest and posttest

CASE REPORT

Assessment

Data obtained from the study on Case 1 Mrs. Y, 41 years old with the main complaint of pain in the head, neck feels heavy and complains of difficulty sleeping. Hypertension disease just 3 months ago. On examination, vital signs Blood pressure: 170/100 mmHg, Temperature: 36.8°C, Pulse: 85 x/minute, Breathing: 16 x/minute.

Case 2 Mrs. H, 50 years old with the main complaint saying that she has pain in the head, neck feels heavy and gets tired easily. Mrs. H said that hypertension had been experienced 2 years ago until now. On examination, vital signs Blood pressure: 180/110 mmHg, Temperature: 37°C, Pulse: 83 x/minute, Breathing: 18 x/minute.

Cases 1 and 2 obtained indicate that the client has hypertension as seen from the increase in the client's blood pressure, this is in accordance with the definition put forward by the World Health Organization (WHO), namely an increase in abnormal arterial blood pressure, namely blood pressure of more than 140/90 mmHg.

Nursing diagnoses

Based on the results of the assessment carried out in cases 1 and 2, the researcher can formulate nursing diagnoses that appear on the client, namely Acute Pain related to physiological sufferers because the assessment data relates to major and minor signs in the Indonesian Nursing Diagnostic Standards book (D.007).¹¹

Planning

Based on the nursing problems experienced by client 1, namely Mrs. Y and client 2, namely Mrs. H, with the

diagnosis of Acute Pain related to physiological injury. So the author can develop a nursing plan that is teaching the application of yoga exercises to lower blood pressure and reduce the pain felt.

Planning nursing actions for clients is guided by the existing theory that yoga has been proven to increase levels of b-endorphine in the blood. When someone does yoga, b-endorphine will come out and be captured by receptors in the hypothalamus and limbic system which function to regulate emotions. An increase in b-endorphine is closely related to a decrease in pain, increased memory, sexual ability, blood pressure and breathing.

Implementation

The implementation of nursing actions must be in accordance with the nursing action plan that has been established. Nursing actions are carried out with 3 visits, namely on 12-14 April 2021

The implementation that the researchers did in cases 1 and 2 was Mrs. Y and Mrs. H is the same, namely pain management education by teaching non-pharmacological techniques, namely the application of yoga exercises to lower blood pressure and reduce pain, monitor vital signs before and after application, provide education or health education about hypertension, explain causes, periods and strategies to relieve pain, teach monitor pain independently and teach the use of analgesics appropriately.

Evaluation

The evaluation process on client 1, namely Mrs. Y and client 2, namely Mrs. H is done by monitoring blood pressure every before and after implementing yoga exercise, an evaluation of blood pressure checks is carried out 30 minutes after the application is carried out to see if there is a change in blood pressure after the intervention.

The results of the blood pressure study after doing yoga for 3 days from April 12-14, 2021 with a frequency of 1 time a day for 10-20 minutes. There was a decrease in blood pressure in cases 1 and 2, namely pretest and posttest measurements, the average systolic was 20 mmHg and diastolic was 10 mmHg. So it can be concluded that there is an effectiveness in the application of yoga gymnastics to reduce blood pressure in hypertensive clients.

DISCUSSION

The results of the intervention showed a significant difference between systolic and diastolic blood pressure before and after application. Besides being effective in lowering blood pressure, yoga gymnastics also reduces complaints of headaches due to hypertension itself, anxiety / restlessness and improves the client's sleep pattern. This is in line with Pujiastuti et al research on the effect of yoga therapy on reducing blood pressure in patients with hypertension, with the results of research on 60 respondents showing that systolic and diastolic blood pressure after yoga with a frequency of 3-4 times a week, there is an effect to lowering blood pressure.¹²

Another study by Hariawan et al regarding the implementation of family empowerment and hypertension exercise as an effort to manage hypertension sufferers with the results obtained in the form of family participation in

family empowerment and participation of participants in hypertension exercise. The combination of family empowerment and hypertension exercise improved hypertension management by controlling blood pressure in 18 respondents, but the blood pressure examination before and after community service did not tend to give significant changes.³

The theory of hypertension management can provide pharmacological and non-pharmacological techniques (Physical exercise: Yoga Gymnastics, Heart Gymnastics, Hypertension Gymnastics and others). Regular exercise can produce a cardiovascular response, namely a significant decrease in blood pressure and resting pulse. Physical exercise will have an acute effect on the body that affects the muscular system, hormonal system, circulatory and respiratory systems, digestive system, metabolism and excretory system. This means that regular exercise helps improve the maintenance of body organ functions, especially the heart and is effective for lowering blood pressure in people with hypertension.^{13,14}

CONCLUSION

After conducting an assessment on Mrs. Y and Mrs. H with Acute Pain problems in Hypertensive clients obtained data: Case 1 is Mrs. Y, blood pressure before applying yoga, systolic and diastole 170/100 mmHg and after applying yoga exercise 140/90 mmHg and Case 2 is Mrs. H pressure blood before the implementation of yoga gymnastics, systolic and diastolic 180/110 mmHg and after the implementation of yoga exercise 150/90 mmHg. Blood pressure after doing yoga for 3 days regularly from 12-14 April 2021 with a frequency of 1 time a day for 10-20 minutes for 3 visits. There was a decrease in blood pressure in cases 1 and 2, namely pretest and posttest measurements, the average systolic was 20 mmHg and diastolic was 10 mmHg. So it can be concluded that there is an effectiveness of the application of yoga gymnastics to hypertensive clients to reduce blood pressure, because there is a difference between systolic and diastolic blood pressure before and after application. Besides being effective in lowering blood pressure, yoga gymnastics also reduces complaints of

headaches due to hypertension itself, anxiety/restlessness and improves the client's sleep pattern.

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CONFLICT OF INTEREST

The authors declare that they have no conflict interests.

REFERENCES

- Mittal B V, Singh AK. Hypertension in the developing world: challenges and opportunities. *Am J Kidney Dis.* 2010;55(3):590–8.
- Krishnan A, Garg R, Kahandaliyanage A. Hypertension in the South-East Asia region: an overview. In: *Regional health forum.* 2013. p. 7–14.
- Hariawan H, Tatisina CM. Pelaksanaan Pemberdayaan Keluarga Dan Senam Hipertensi Sebagai Upaya Manajemen Diri Penderita Hipertensi. *J Pengabd Masy Sasambo.* 2020;1(2):75–9.
- Kemendes RI. Hasil utama riskesdas 2018. Jakarta Kemendes RI. 2018;
- Shen S, He T, Chu J, He J, Chen X. Uncontrolled hypertension and orthostatic hypotension in relation to standing balance in elderly hypertensive patients. *Clin Interv Aging.* 2015;10:897.
- Lubis NL, Siregar FA. Factors associated with hypertension among elderly in Medan, Indonesia. *J Epidemiol Public Heal.* 2019;4(3):215–21.
- Taddei S, Nami R, Bruno RM, Quatrini I, Nuti R. Hypertension, left ventricular hypertrophy and chronic kidney disease. *Heart Fail Rev.* 2011;16(6):615–20.
- Posadzki P, Cramer H, Kuzdzal A, Lee MS, Ernst E. Yoga for hypertension: a systematic review of randomized clinical trials. *Complement Ther Med.* 2014;22(3):511–22.
- Permana B, Lindayani L, Hendra A, Juniarni L. The Effect of Yoga Exercise on Reducing Blood Pressure among Elderly with Hypertension: A systematic review. *J Pendidik Keperawatan Indones.* 2020;6(2):163–70.
- Field T. Yoga research review. *Complement Ther Clin Pract.* 2016;24:145–61.
- PPNI T. Standar Diagnosis Keperawatan Indonesia Definisi dan Indikator Diagnostik Edisi 1. Dewan Pengurus Pus PPNI. 2017;268.
- Pujiastuti RSE, Sawab S, Afyati SZ. Pengaruh Terapi Yoga Terhadap Penurunan Tekanan Darah Pada Penderita Hipertensi. *J Perawat Indones.* 2019;3(1):36–47.
- Juwita R. Perbedaan Keefektifan Senam Yoga dan Jus Mentimun dalam Menurunkan Tekanan Darah pada Penderita Hipertensi di Wilayah Kerja Puskesmas Lempake Samarinda Utara. 2016;
- Sinarsari NM. Yoga Gembira Bagi Lansia Hipertensi. *J Yoga dan Kesehat.* 2020;3(1):99–107.