

The Effect of Laughter Therapy Yoga on Blood Pressure in Hypertension Sufferers

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Abstract

Background: Hypertension or high blood pressure, sometimes referred to as arterial hypertension is a chronic medical condition in which the blood pressure in the arteries is increased. One of the lifestyle modifications that can overcome hypertension is by recommending to be more relaxed. One of the relaxation alternatives for people with hypertension is laughter yoga therapy.

Objectives: This study aims to determine the effect of laughter yoga therapy on blood pressure in hypertensive patients in Bojong Village, Karangtengah District, Cianjur Regency in 2022.

Methods: This research uses a Quasy Experimental type of research using a one-group pretest-posttest design without a control group where data collection and measurement of the independent and dependent variables are carried out simultaneously with the dependent variable of blood pressure reduction, namely the independent variable. laughter yoga therapy. This study aims to determine the effect of Laughter Yoga Therapy on Blood Pressure in Hypertension Sufferers. The intervention was carried out with laughter yoga for 5 days, in January 2023 this intervention lasted 15-20 minutes. A total of 17 respondents. Determination of the sample using a purposive sampling technique. Data was collected using a questionnaire and the data collected was tested using Wilcoxon.

Results: research from the measurement of the pre-test MAP P-Value = 0.029 post-test MAP P-Value = 0.009 This study shows the effect of laughter yoga therapy on reducing blood pressure P-Value = 0.000 Wilcoxon test. This means Ho is rejected and the sample supports a significant influence.

Conclusion: should better address the problems of Indonesian society related to the increase in patients with hypertension.

Keywords: hypertension, laughter yoga therapy

Introduction

Hypertension is a health problem in all parts of the world and is a major risk factor for cardiovascular disease. Hypertense is also known as a non-communicable disease because it is not passed from person to person. Non-communicable diseases are chronic diseases that cannot be transmitted to other people. Non-communicable diseases are still a health problem that is currently a concern in Indonesia. This is because the emergence of PTM in general is caused

by the lifestyle of each individual who pays little attention to health.¹

Based on data from WHO in 2019 it is known that the number of Dewasa dengan Hipertensi was a level of 594 million in 1975 which occurred 1.13 billion in 2015. Elastimening the number of cases of hypertension in Indonesia a total of 63,309,620 people, as well as the number of centuries in Indonesia 427,218 deaths. Hypersensitivity occurred in groups aged 31-44 years (31.6%), aged 45-54 years (45.3%), aged 55-64 years (55.2%).² The 2018 Riskesdas stated that the prevalence of hypertension was based on measurement results in the population aged ≥ 18 years, which was 34.1%, the highest in South Kalimantan (44.1%), while the lowest was in Papua, mostly 22.2%. The estimated number of hypertension cases in Indonesia is 63,309,620 people, while the death rate in Indonesia due to hypertension is 427,218 deaths.³

Attempts made to reduce pressure suggest that there are two ways to treat hypertension, namely pharmacological and non-pharmacological. Pharmacological treatment is by using antihypertensive drugs which are proven to reduce blood pressure. Drugs that are commonly used to treat hypertension are captopril and amlodipine.⁴ Out of the many types of hypertension non-pharmacological treatment of hyperthyroidism, one that is currently starting to become a trend to be carried out is laughter yoga. Laughter is the healthiest thing one can do, the best medicine. One type of laughter therapy is laughter yoga.⁵

Laughter yoga is a yoga technique designed by an Indian doctor named Madan Kataria based on the finding that laughter simulation can provide the same physiological and psychological benefits as regular laughter which aims to revive an atmosphere of joy.⁶ The benefits of the laughter yoga movement itself are to cure patients with stress/depression and hypertension which can be seen from various aspects.⁷ which can help the breathing process, lower blood pressure, increase body strength and balance, be able to reduce levels of stress, anxiety and depression Spiritually able to increase awareness of oneself.⁸

Based on this background, this research aims to determine the effect of laughing yoga therapy on blood pressure in hypertensive patients in Bojong Village, Karangtengah District, Cianjur Regency in 2022.

Methods

This study used a Quasy Experimental research type using a one-group pre-test and post-test design without a control group where data collection and measurement of independent and dependent variables were carried out at the same time as the dependent variable of blood pressure reduction, the independent variable of laughter yoga therapy. ⁹ This study aims to determine the influence of Laughter Yoga Therapy on Blood Pressure in Hypertension Sufferers. The intervention was carried out with laughter yoga for 5 days, in January 2023 this intervention lasted 15-20 minutes. Totaling 17 respondents. Determination of the sample using a purposive sampling technique Data was collected using a questionnaire and the data collected was tested using Wilcoxon.

Results

Table 1. Frequency Distribution By, Age, Gender, Duration of Hypertension

Respondent Characteristics	Frequency	Percentage (%)
Age Group		
Late 36-45 Years	11	64,7%
Middle Age 46-55 Years	6	35,3%
Gender		
Women	10	58,8%
Man	7	41,2%
Duration of Hypertension		

< 3 Years	9	52,9%
> 3 Years	8	47,1%

From table 1 it can be seen that based on age characteristics, out of the 17 respondents, the majority were late adults (36-45) years as many as 11 people (64.7%), and a minority had early elderly age based on gender characteristics, the majority were female, namely 10 people or 58.8% and almost half of the respondents were male, 7 people or 41, based on the characteristics of the duration of hypertension, the majority were < 3 years, namely 9 people (52.9%). And the minority > 3 years as many as 8 people (47.1%).

Univariate Analysis

Table 2. Normality Test Using Shapiro-Wilk

Variable	Measurement	Mean	SD	N	P-Value
Blood Pressure	Before	112	5,419	17	004
	After	104	3,955	17	

Table 2 The normality test shows the results of the normality of Shapiriowilk because the number of respondents is less than 50 people. From the post-test blood pressure measurement after being given laughter yoga, the p-value is 0.004.

Bivariate Analysis

Table 3. The Effect of Laughter Yoga Therapy on Blood Pressure in Hypertensive Patients in Bojong Village, Karangtengah District, Cianjur Regency

Measurement	Mean	Standard Deviation	95% Confidence Interval		Z	Asymp. sig. (2-Tailed)
			Lower	Upper		
Pre-Test	113	5,419	109,33	114,90	3,556 ^a	0,000
Post-Test	103	3,955	102,50	106,56		

Wilcoxon test the results of the Wilcoxon test can be concluded that the research data has an influence. Based on these results, the researcher looked at the overall test results and found that p-Asym. sig was 0.000 < 0.05. which means there is a significant effect before and after the intervention is given.

Discussion

MAP Value Before Laughter Yoga Therapy

Based on the average results of the first measurement in Bojong Village, Karangtengah District, Cianjur Regency. to collect data regarding the decrease in blood pressure in this study using an observation sheet given a pre-test before being given treatment. Blood pressure was measured using a calibrated sphygmomanometer and stethoscope using the One Med brand. Besides that, the method of administering laughter yoga therapy every morning at 09.00 for 5 days with a duration of 25 minutes and 50 seconds with the preparation of a training area in a closed room free of distractions to make it easier for respondents to concentrate on participating in laughter yoga.

Statistical test results are based on the results of collecting systolic and diastolic blood pressure data which are added together to form a MAP (Mean Arterial Pressure) value with an average value of 113 (MAP) from 17 respondents with a minimum result of 103 (MAP) and a maximum of 120 (MAP). Based on research conducted by Angeline K in 2018 entitled Laughter Yoga For Patients with Hypertension. The results of this study showed that the mean pretest blood pressure values in the control group were 108.33 and 110.03 (MAP) in the

experimental group.

It can be seen that hypertension is caused by having two factors that cannot be changed, such as heredity, age, and gender, and what can be changed is a good lifestyle or lifestyle, such as minimal fruit and vegetable consumption, lack of exercise, stress, smoking habits, and alcohol consumption.⁹ Based on research analysis of hypertensive patients with age over 39 years, the high blood pressure in these patients can be influenced by the age factor, as seen from the results of research conducted, hypertension is prone to occur at the age of 39 and over because the older a person is, the greater the loss of tissue elasticity.¹⁰ blood vessels and arteriosclerosis due to the aging process, as well as the dilation of blood vessels that occurs, therefore people with hypertension must adjust their lifestyle, one of which is to stop smoking, exercise regularly, and reduce consumption of alcoholic beverages. Thus, the patient's blood pressure and heart rate will not increase suddenly.¹¹

The results of field conditions during the study, on day 1 to day 4 there was no decrease in blood pressure, patients said they had difficulty sleeping and there were several respondents who complained that there were many things to think about besides that many patients could not avoid foods high in sodium. The results showed that there was a decrease on the 5th day here, the patient said he had enough rest and slept well.

MAP Value After Administration of Laughter Yoga Therapy

Based on the results of measurements by taking data from the fifth meeting, the average result after giving laughter yoga therapy for 5 days with a frequency of 25 minutes 50 seconds, obtained a minimum result of 100 (MAP) maximum of 113 (MAP) with an average of 103 (MAP) from 17 respondents.

Based on research conducted by Angeline in 2018 entitled Laughter Yoga for Patients with Hypertension, India. The results of this study showed that the mean post-test blood pressure values of the control group were 9.742 and 97.79 (MAP) in the experimental group. There are two ways of treating hypertension to reduce pressure, namely pharmacological and non-pharmacological. In addition, non-pharmacological management is carried out with complementary therapy. Several complementary therapies that are often used to lower blood pressure include laughter therapy, music therapy, progressive relaxation, yoga, hypnotherapy, and guided imagery.¹² Of the several types of non-pharmacological treatment of hypertension, one that is currently starting to become a trend is laughter yoga. Laughter is the healthiest act one can take, the best medicine. One type of laughter therapy is laughter yoga where laughter yoga therapy or laughter yoga is a therapy to achieve joy in the heart that is expressed through the mouth in the form of laughter, or a smile that adorns the face, a feeling of a free and happy heart, an open chest, smooth blood circulation, which can prevent and maintain health. So physically it can help the breathing process, lower blood pressure and increase body strength and balance.¹³

It can be concluded that giving laughter yoga therapy can help maintain the balance of endorphin hormone pumps which affect blood pressure. Giving laughter yoga therapy to respondents, most of them stated that after doing laughter yoga therapy they felt calm, and their headaches became less and they even slept more deliciously. This statement shows that the respondent's laughter yoga therapy can reduce muscle tension so that blood clots will decrease which will make the body more relaxed and calmer so that it can improve heart work and lower blood pressure.¹⁴

The Effect of Laughter Yoga Therapy on Blood Pressure in Hypertensive Patients in Bojong Village, Karangtengah District, Cianjur Regency

Based on the results of research that has been conducted, there is an effect of providing laughter yoga therapy interventions on blood pressure in people with hypertension in Bojong Village, Karangtengah District, Cianjur Regency. Besides that, the method of giving laughter yoga therapy for 5 days with a duration of 25 minutes 50 seconds. The results of statistical tests based on the results of collecting data on systolic and diastolic blood pressure are added together to form a MAP (Mean Arterial Pressure) value so that it can be concluded that there is a significant influence on the provision of laughter yoga therapy interventions with hypertension sufferers with a p-value of 0.000, which means $p\text{-value} < 0.05$, therefore H_0 was rejected and H_a accepted that there was an effect of giving laughter yoga therapy on reducing blood pressure in hypertension sufferers in Bojong Village, Cianjur District, Cianjur Regency.

Based on research analysis, laughter yoga therapy can reduce blood pressure due to the pressure of laughter yoga because it produces endorphins. This hormone has an effect like high blood pressure medication. That is to enlarge blood vessels not to stiffen them so that blood pressure will decrease. Mechanism of action of laughter yoga therapy on blood pressure because laughter yoga produces endorphins causing all muscle tensions can also improve blood circulation and oxygen supply to the heart muscles so that blood clots will decrease will make the body more relaxed and calmer it can improve the work of the heart and lower blood pressure.¹⁵

After 5 days of research conducted by giving laughter yoga therapy every 09.00 WIB. Respondents felt the benefits of laughter yoga therapy, the feeling of dizziness disappeared, sore shoulders disappeared and said they had enough rest and had a good night's sleep. After the research was completed, many patients wanted to continue laughter yoga therapy to continue to maintain blood pressure.

Conclusion

Results are based on the characteristics of 17 respondents ranging from an average age of 43 years. Based on gender characteristics, the majority were female, namely 10 respondents or 58.8%, and male, namely 7 respondents or 41.2%, and based on the characteristics of a history of hypertension with an average of 3 years.

The results of the study showed that blood pressure before laughter yoga therapy was carried out in Bojong Village, Karangtengah sub-district, Cianjur district, mostly had blood pressure measurements with an average result of 113(MAP). The results of the study showed that blood pressure after laughter yoga therapy was carried out in Desa Bojong, Karangtengah sub-district, Cianjur district, mostly blood pressure measurements were made with an average result of 103 (MAP). There was a decrease in blood pressure in hypertensive patients. There is an effect of giving laughter yoga therapy before and after on hypertension patients seen from the p-value of 0.000 which means < 0.05 so H_a is accepted, which means there is an effect of giving laughter yoga therapy on blood pressure in hypertensive patients in Bojong village, Karangtengah sub-district, Cianjur district in 2022.

Conflict of Interest

This research is not bound by individual or group interests.

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References

1. Lukito AA, Harmeiwaty E, Hustrini NM. Konsensus penatalaksanaan hipertensi 2019. Jakarta Perhimpun Dr Hipertens Indones. 2019;7–8. Available from: <https://www.inash.or.id/news-detail.do?id=411>
2. RISKESDAS. Riset Kesehatan Dasar 2018. Jakarta: Badan Penelitian Dan Pengembangan Kesehatan; 2018. 198 p.
3. Rohmawati NDL, Kep M, Kep S. Terapi Komplementer untuk Menurunkan Tekanan Darah (Evidence Based Practice). Media Sains Indonesia; 2021.
4. Hanik U. Pengaruh senam ergonomik terhadap penurunan tekanan darah pada lansia yang mengalami hipertensi. STIKes Insan Cendekia Medika Jombang; 2018. Available from: <https://repository.itskesicme.ac.id/id/eprint/516/>
5. Triyanto E. Pelayanan keperawatan bagi penderita hipertensi secara terpadu. Yogyakarta Graha Ilmu. 2014.
6. Andika F, Safitri F, Husna A, Rahmi N, Rizki G. Analisis Kepatuhan Pasien Hipertensi Terhadap Penggunaan Obat Generik di Wilayah Kerja Puskesmas Mane Kabupaten Pidie. J Healthc Technol Med. 2022;8(1):1–9. Available from: <https://jurnal.uui.ac.id/index.php/JHTM/article/view/1934>
7. Hidayat AA. Khazanah Terapi Komplementer-Alternatif: Telusur Intervensi Pengobatan Pelengkap Non-Medis. Nuansa Cendekia; 2022. Available from: <https://edeposit.perpusnas.go.id/collection/khazanah-terapi-komplementer-alternatif-sumber-elektronis-telusur-intervensi-pengobatan-pelengkap-non-medis/108781>
8. Kemenkes RI. Hipertensi penyakit paling banyak diidap masyarakat. Jakarta <https://www.kemkes.go.id/article/view/19051700002/hipertensi-penyakit-paling-banyak-diidap-masyarakat.html>. 2019.
9. Rahmadhani M. Faktor-faktor yang mempengaruhi terjadinya hipertensi pada masyarakat di Kampung Bedagai Kota Pinang. J Kedokt STM (Sains Dan Teknol Med. 2021;4(1):52–62. <https://doi.org/10.30743/stm.v4i1.132>
10. Nursalam N. Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan (87). Stikes Perintis Padang; 2019. Available from: <http://repo.upertis.ac.id/id/eprint/1037>
11. Nursalam N. Metodologi Penelitian Ilmu Keperawatan: Pendekatan Praktis Edisi 3. Salemba Med Jakarta. 2013. Available from: <https://api.penerbitsalemba.com/book/books/08-0284/contents/fc506312-5e09-4027-a661-9ba646dced46.pdf>
12. PRIAJAYA S, Sirait A. Analisis Faktor-faktor yang Berhubungan dengan Risiko Kejadian Hipertensi pada Usia Dewasa Muda di Puskemas Batang Beruh Kecamatan Sidikalang Kabupaten Dairi Tahun 2019. J Ilm Simantek. 2019;3(3). Available from: <https://www.simantek.sciencemakarioz.org/index.php/JIK/article/view/70>
13. Notoadmojo S. Metodologi Penelitian Kesehatan, PT. Rineka Cipta: Jakarta. 2010;
14. Weinberg M, Hammond T, Cummins R. The impact of laughter yoga on subjective well-being: A pilot study. 2014. Available from: <https://www.ceeol.com/search/article-detail?id=974909>
15. Woodbury-Fariña MA, Schwabe MMR. Laughter yoga: benefits of mixing laughter and yoga. J Yoga Phys Ther. 2015;5(4):1. Doi:[10.4172/2157-7595.1000209](https://doi.org/10.4172/2157-7595.1000209)