

BIODATA PENELITI



A. Data Pribadi

Nama : Bagus Dwi Pamungkas
Tempat, tgl lahir : Balikpapan, 22 Desember 1996
Alamat Asal : Jl. Ks Tubun RT. 10
Alamat di Samarinda : Jl. Perjuangan 9 sempaja selatan

B. Riwayat Pendidikan

- **Tamat SD** : Tahun 2009 di SD 020 Semoi
- **Tamat SMP** : Tahun 2012 di SMP 006 Semoi
- **Tamat SLTA** : Tahun 2015 di SMA Negeri 003 Sepaku
- **Tamat S1** : Tahun 2019 di UMKT

Jurnal Keperawatan Silampari
Volume 2, Nomor 1, Desember 2018
e-ISSN: 2581-1975
p-ISSN: 2597-7482
DOI: <https://doi.org/10.31539/jks.v2i1.382>



EFEKTIVITAS ISOMETRIC HANDGRIP EXERCISE DAN SLOW DEEP BREATHING EXERCISE TERHADAP PERUBAHAN TEKANAN DARAH PADA PENDERITA HIPERTENSI

Juli Andri¹, Agung Waluyo², Wati Jumaiyah³, Dhea Nastashia⁴
Program Studi Ilmu Keperawatan, Universitas Muhammadiyah Bengkulu¹
Program Studi Ners, Universitas Indonesia²
Program Studi Magister Keperawatan, Universitas Muhammadiyah Jakarta^{3,4}
Juli_Andri0788@yahoo.co.id¹

ABSTRAK

Penelitian ini bertujuan untuk mengidentifikasi efektifitas *isometric handgrip exercise* dan *slow deep breathing exercise* terhadap perubahan tekanan darah pada penderita hipertensi. Desain penelitian *quasi experimental* dengan rancangan penelitian *two group pretest posttest* pada 32 responden. Hasil penelitian menunjukkan bahwa ada perubahan tekanan darah sistolik dan diastolik setelah dilakukan intervensi *isometric handgrip exercise* ($t=8,279$, $p=0,000$), ($t=6,154$, $p=0,000$), serta terjadi perubahan tekanan darah sistolik dan diastolik setelah diberikan intervensi *slow deep breathing exercise* ($t=3,632$, $p=0,002$), ($t=4,226$, $p=0,001$). Simpulan, baik *isometric handgrip exercise* maupun *slow deep breathing exercise* dapat menurunkan tekanan darah sistolik dan diastolik secara bermakna pada pasien hipertensi.

Kata Kunci: Hipertensi, Isometric Handgrip Exercise, Slow Deep Breathing Exercise, Tekanan Darah

ABSTRACT

This study aims to identify the effectiveness of isometric handgrip exercise and slow deep breathing exercise on changes in blood pressure in patients with hypertension. Quasi experimental research design with a two group pretest posttest research design on 32 respondents. The results showed that there was a change in systolic and diastolic blood pressure after an Isometric Handgrip Exercise intervention ($t = 8,279$, $p = 0,000$), ($t = 6,154$, $p = 0,000$), and changes in systolic and diastolic blood pressure after a slow deep intervention was given breathing exercise ($t = 3,632$, $p = 0,002$), ($t = 4,226$, $p = 0,001$). Conclusion, both isometric handgrip exercise and slow deep breathing exercise can significantly reduce systolic and diastolic blood pressure in hypertensive patients.

Keywords: Hypertension, Isometric Handgrip Exercise, Slow Deep Breathing Exercise, Blood Pressure

**PERBEDAAN EFEKTIVITAS *PROGRESSIVE MUSCLE RELAXATION (PMR)*
DENGAN *SLOW DEEP BREATHING EXERCISE (SDBE)* TERHADAP
TEKANAN DARAH PENDERITA HIPERTENSI**

Andry Sartika¹, Anwar Wardi², Yani Sofiani³
Program Studi Ilmu Keperawatan, Universitas Muhammadiyah Bengkulu¹
Program Studi Magister Keperawatan, Universitas Muhammadiyah Jakarta^{2,3}
andrysartika@gmail.com¹

ABSTRAK

Penelitian ini bertujuan untuk mengetahui perbedaan Efektivitas *Progressive Muscle Relaxation (PMR)* dan *Slow Deep Breathing Exercise (SDBE)* terhadap TD penderita hipertensi. Jenis penelitian ini *eksperimen* dengan rancangan *randomized pre test and post test three group design* tanpa kelompok kontrol. Hasil penelitian terdapat penurunan TD sistolik dan diastolik setelah dilakukan intervensi pada semua kelompok, tidak terdapat perbedaan efektifitas yang signifikan antar ketiga kelompok setelah diberikan intervensi, waktu optimal penurunan TD sistolik pada kelompok *PMR* dan *SDBE* terjadi pada hari ke 3, sedangkan pada TD diastolik tidak terlihat waktu optimal penurunan TD. Simpulan penelitian ketiga teknik relaksasi efektif menurunkan tekanan darah penderita hipertensi, waktu efektif penurunan tekanan darah terjadi pada hari ketiga.

Kata Kunci: Hipertensi, *Progressive Muscle Relaxation (PMR)*, *Slow Deep Breathing Exercise (SDBE)*, Tekanan Darah

ABSTRACT

This study aimed to determine the differences between the effectiveness of Progressive Muscle Relaxation (PMR) and Slow Deep Breathing Exercise (SDBE) on BP of hypertension patients. The research was an experiment with a randomized pretest and posttest with three group design without a control group. There was no significant difference on the effectiveness between the three groups after intervention. The optimal time of reduction in systolic BP in the PMR and SDBE groups occurred on day three. In diastolic BP, the optimal time of reduction did not occurred. Conclusion, the three relaxation techniques effectively reduced blood pressure of hypertension patients. The effective time of blood pressure reduction occurred on the third day.

Keywords: Hypertension, *Progressive Muscle Relaxation (PMR)*, *Slow Deep Breathing Exercise (SDBE)*, Blood Pressure

**PENGARUH LATIHAN TEHNIK *SLOW BREATHING EXERCISE* TERHADAP
PENURUNAN TEKANAN DARAH PADA PASIEN HIPERTENSI ESENSIAL**

*The Influence of Slow Breathing Exercise Technique to the Blood Pressure Decrease At
The Essential Hypertension Patients*

Frengki Apryanto

STIKES Widyagama Husada Malang, E-mail: frenky_apryanto@yahoo.com

ABSTRACT

Background: Hypertension often be called as silent killer, because included as deadly disease, without symptoms as the warning to the victims. The Diseases Integrated Surveillance of Health Care Center in East Java in 2010, some areas in East Java that contribute hypertension mostly are Malang city of 31.789 persons. The research aimed at studying the differences of blood pressure before and after slow breathing exercises at the essential hypertension patients.

Method: The research method was pre experimental of one group pre test - post test with dependent variable of blood pressure and the independent variable was the slow breathing exercises technique. The sampling technique is purposive sampling with 98 respondents who were examined at the health care center of Malang city, suitable with the inclusion criteria. The patients were given slow breathing exercises technique by regulating the chest and abdomen breathing by take a breath from nose, and exhale slowly from mouth 6-10 times per minute for ± 15 minutes twice a day (morning and afternoon) for 30 days in succession.

Result: The analysis results by paired sample t test known that from 98 respondents before given slow breathing exercises have blood pressure of 153.63/96.47 mmHg, than after given slow breathing exercises have 145.16/88.5 mmHg.

Conclusion: The conclusion of the research is the blood pressure mean after given slow breathing exercises experience decrease compared with before the exercises. It means there is influence of slow breathing exercises to the decrease of blood pressure of the essential hypertension patients. The slow breathing exercises technique should be applied to health services institution as the complementary therapy for medical therapy.

Keywords :*Slow breathing exercises technique , blood pressure*

EFEKTIFITAS *GUIDED IMAGERY* DAN SLOW DEEP BREATHING TERHADAP PENURUNAN TEKANAN DARAH PADA PASIEN HIPERTENSI DI RSUD dr. R. SOEDARSONO PASURUAN

Dzurrotun Nafi'ah¹⁾, Sumirah Budi P.²⁾, Mustayah³⁾

^{1,2,3)} Prodi Sarjana Terapan Keperawatan Lawang, Poltekkes Kemenkes Malang
E-mail: dzurrotunafi@gmail.com

EFFECTIVENESS OF *GUIDED IMAGERY* AND SLOW DEEP BREATHING ON BLOOD PRESSURE REDUCTION IN PATIENTS HYPERTENSION IN RSUD dr. R. SOEDARSONO PASURUAN

Abstract: Hypertension is one of the most influential risk factors for the incidence of heart disease and blood vessels. The purpose of this study is to determine The Effectiveness of Guided Imagery and Slow Deep Breathing Against the Decline of Blood Pressure on the Patient Hypertension. This research uses Quasi Experimental Design design with design non equivalent pretest - posttest design and Group Comparasion, with consecutive sampling technique, great samples 30 respondents divided into 2 groups namely Guided Imagery and Slow Deep Breathing. Each group received treatment for 15 minutes once a day for three days, each treatment performed before and after the blood pressure measurement. The results of this study used test dependent-t-test, wilcoxon sign rank test, two samples independent t-test, and U Mann Whitney test showed that diastolic systolic blood pressure in each group decreased, in Guided Imagery 4.07 mmHg and 3.4 mmHg (p value = 0,000 α = 0.05), Slow Deep Breathing 8 mmHg and 6.8 mmHg (p value = 0,000; 0,001; α = 0.05). It was concluded that Slow Deep Breathing is more effective than Guided Imagery in lowering blood pressure in hypertensive patients. As nurses are expected to apply nonpharmacology like a Guided Imagery and Slow Deep Breathing as a pharmacological companion therapy in blood pressure.

Keywords: Guided Imagery, Slow Deep Breathing, Blood Pressure, Hypertension.

Abstrak: Hipertensi merupakan salah satu faktor risiko yang paling berpengaruh terhadap kejadian penyakit jantung dan pembuluh darah. Tujuan penelitian ini untuk mengetahui efektifitas guided imagery dan slow deep breathing terhadap penurunan tekanan darah pada pasien hipertensi. Penelitian ini menggunakan desain Quasi Eksperimental Design dengan rancangan non equivalent pretest - posttest design dan Group Comparasion, dengan teknik consecutive sampling, besar sample 30 responden yang dibagi menjadi 2 kelompok yaitu Guided Imagery dan Slow Deep Breathing. Setiap kelompok mendapatkan perlakuan selama 15 menit dilakukan sehari sekali selama tiga hari, setiap perlakuan dilakukan pengukuran tekanan darah sebelum dan sesudah. Hasil penelitian menggunakan uji dependent t-test, wilcoxon sign rank test, two sampel independent t-test, dan U Mann Whitney test menunjukkan bahwa tekanan darah sistolik diastolik pada masing-masing kelompok mengalami penurunan, pada Guided Imagery 4,07 mmHg dan 3,4 mmHg (p value = 0,000 α =0,05), Slow Deep Breathing 8 mmHg dan 6,8 mmHg (p value = 0,000; 0,001; α =0,05). Disimpulkan bahwa Slow Deep Breathing lebih efektif daripada Guided Imagery dalam menurunkan tekanan darah pada pasien hipertensi. Sebagai perawat diharapkan dapat menerapkan terapi nonfarmakologis seperti latihan Guided Imagery dan Slow Deep Breathing sebagai pendamping terapi farmakologi penurunan tekanan darah.

Kata kunci: Guided Imagery, Slow Deep Breathing, Tekanan Darah, Hipertensi

SLOW DEEP BREATHING TERHADAP PERUBAHAN TEKANAN DARAH PADA PASIEN HIPERTENSI

Heny siswanti¹, Muh Purnomo²

1. STIKES Muhammadiyah Kudus, Jawa Tengah 59316, Indonesia
2. STIKES Muhammadiyah Kudus, Jawa Tengah 59316, Indonesia

*Email : henysiswati@stikesmuhkudus.ac.id

ABSTRAK

Hipertensi merupakan salah satu penyakit tidak menular yang umum dalam kehidupan modern saat ini. Hipertensi juga penyebab utama terjadinya penyakit kardiovaskuler yang menyebabkan tingginya angka kematian di Indonesia. Slow Deep Breathing merupakan salah satu terapi non farmakologis untuk merilekskan otot sehingga menyebabkan penurunan tekanan darah pada pasien hipertensi. Penelitian ini bertujuan untuk mengetahui pengaruh terapi SDB terhadap perubahan tekanan darah pasien hipertensi di Puskesmas Kalinyamatan Jepara. Dalam penelitian ini menggunakan desain pre experimental one group pretest-posttest. Besar sampel adalah 32 responden. Teknik pengambilan sampel dengan cara purposive sampling. Uji yang digunakan yaitu Uji T dan uji normalitas menggunakan Shapiro Wilk. P value = 0,000 ($\alpha < 0,05$) yang berarti ada pengaruh terapi SDB terhadap tekanan darah pada pasien hipertensi di Puskesmas Kalinyamatan Jepara. Ada pengaruh terapi SDB terhadap tekanan darah pada pasien hipertensi di wilayah kerja Puskesmas Kalinyamatan Jepara.

Kata Kunci : Hipertensi, Tekanan Darah, Terapi SDB

ABSTRACT

Hypertension is one of the non-communicable diseases that are common in today's modern life. Hypertension is also a major cause of cardiovascular disease which causes high mortality in Indonesia. Slow Deep Breathing is one of the non-pharmacological therapies to relax muscles and reduce anxiety that causes a decrease in blood pressure in hypertensive patients. The purpose of this study is to determine the effect of SDB therapy to changes in blood pressure in hypertensive patients Community Health Center Kalinyamatan Jepara. In this study used a pre-experimental design one group pretest-posttest. The sample is 32 respondents. Sampling technique by purposive sampling. Test used is the T test and normality using the Shapiro Wilk test. The p value = 0.000 ($\alpha < 0.05$) which means there SDB therapeutic effect on blood pressure in hypertensive patients in Health center Kalinyamatan Jepara. There is a therapeutic effect of SDB on blood pressure in hypertensive patients in Community Health Center Kalinyamatan Jepara.

Keywords : Blood Pressure, Hypertension, SDB Therapy

PENDAHULUAN

Hipertensi disebut juga *the silent killer*, dikarenakan seseorang yang mengidap hipertensi selama bertahun-tahun tanpa menyadari akan penyakitnya. Hipertensi juga salah satu penyakit paling umum dan paling berbahaya dalam kehidupan modern. Hipertensi dapat didefinisikan sebagai tekanan darah persisten yang mana tekanan sistolik di atas 160 mmHg dan diastoliknya di atas 90 mmHg Penyakit ini sangat terkait dengan pola hidup seseorang (Smeltzer, 2009).

Menurut WHO (2009), sekitar 972 juta orang atau sekitar 26,4% penduduk di bumi mengidap penyakit hipertensi dengan perbandingan 26,6% untuk pria dan 26,1% untuk wanita. Dengan keadaan ini, bila tidak dilakukan upaya yang tepat, maka jumlah penderita akan terus meningkat, dan pada tahun 2025 yang akan datang, jumlah penderita hipertensi diprediksi akan meningkat menjadi 29% atau sekitar 1,6 miliar orang di seluruh dunia. Menurut Riset Kesehatan Dasar (Riskesdas) tahun 2007 menunjukkan, prevalensi hipertensi di Indonesia (berdasarkan pengukuran tekanan darah) sangat tinggi, yaitu 31,7 % dari total penduduk dewasa. Prevalensi ini jauh lebih tinggi dibandingkan dengan

**SLOW DEEP BREATHING DAN ALTERNATE NOSTRIL BREATHING
TERHADAP PENURUNAN TEKANAN DARAH PADA PASIEN HIPERTENSI**

Faradilla Miftah Suranata¹, Agung Waluyo², Wati Jumaiyah³, Dhea Natashia⁴
Program Studi Ilmu Keperawatan, STIKES Muhammadiyah Manado¹
Program Studi Ners, Universitas Indonesia²
Program Studi Magister Keperawatan, Universitas Muhammadiyah Jakarta^{3,4}
faradilla.miftah@yahoo.com¹

ABSTRAK

Tujuan penelitian ini mengetahui efektifitas *slow deep breathing* dan *alternate nostril breathing* terhadap penurunan tekanan darah pada pasien dengan hipertensi. Penelitian ini menggunakan desain *quasi-experimental* dengan pendekatan *pretest-posttest group design*. Hasil uji Friedman menunjukkan bahwa ada perbedaan tekanan darah sistolik ($\chi^2=34,09$; $p<0,001$) dan diastolik ($\chi^2=28,74$; $p<0,001$) pada kelompok intervensi *slow deep breathing*. Berdasarkan uji *post hoc*, pengukuran dari waktu ke waktu didapatkan nilai p ($p=0,001$) baik pada tekanan darah sistolik dan diastolik. Sementara itu ada perbedaan tekanan darah pada kelompok *alternate nostril breathing* sistolik ($\chi^2=15,50$; $p<0,001$), diastolik ($\chi^2=17,18$; $p<0,001$). Uji *post hoc* didapatkan penurunan tekanan darah sistolik dan diastolik yang signifikan dari masing-masing waktu pengukuran selama periode intervensi dengan masing-masing nilai p 0,005 dan 0,025. Simpulan, dalam penelitian ini yaitu *slow deep breathing* jauh lebih efektif dalam menurunkan tekanan darah pada pasien hipertensi.

Kata Kunci: Alternate Nostril Breathing, Hipertensi, Penurunan Tekanan Darah, Slow Deep Breathing

ABSTRACT

The purpose of this study is to determine the effectiveness of *slow deep breathing* and *alternate nostril breathing* on reducing blood pressure in patients with hypertension. This study uses a *quasi-experimental design* with a *pretest-posttest group design* approach. Friedman test results showed that there were differences in systolic blood pressure ($\chi^2 = 34.09$; $p < 0.001$) and diastolic ($\chi^2 = 28.74$; $p < 0.001$) in the *slow deep breathing* intervention group. Based on the *post hoc* test, measurements from time to time obtained p values ($p = 0.001$) for both systolic and diastolic blood pressure. Meanwhile there were differences in blood pressure in the *alternate nostril* systolic breathing group ($\chi^2 = 15.50$; $p < 0.001$), diastolic ($\chi^2 = 17.18$; $p < 0.001$). *Post hoc* test found a significant decrease in systolic and diastolic blood pressure from each measurement time during the intervention period with p values 0.005 and 0.025, respectively. Conclusion, in this study that *slow deep breathing* is much more effective in reducing blood pressure in hypertensive patients.

Keywords: Alternate Nostril Breathing, Hypertension, Decreased Blood Pressure, Slow Deep Breathing

Conference Paper

The Effect of Slow Deep Breathing on Blood Pressure of Hypertension Patients in M. Djamil Hospital Padang 2018

Revi Neini Ikbai and Rebbi Permata Sari

Nursing Study Program, STIKes Alfah, Padang, Indonesia

Abstract

The incidence of hypertension reached 50% of the total population in the world and is expected to increase to 64.01% by 2025. West Sumatra Province has a high incidence of hypertension, one of which is based on data from M. Djamil Hospital Padang, obtained 24,782 people suffering from hypertension in 2016. Handling hypertension with the aim of lowering blood pressure can be done in various ways, one of which is by non-pharmacological therapy, slow deep breathing. The purpose of the study is to determine the effect of slow deep breathing on blood pressure. The type of research was quasi-experiment with two groups, pre-test and post-test. The research was carried out in the Interner Room in M. Djamil Hospital Padang from February to August 2018. The population is all patients with hypertension in the interne room. The sampling technique used was purposive sampling and the number of samples was 28 people with criteria for hypertension samples, aged 40-60 years and not obese. Data processing is carried out computerizedly by processing the data using the Wilcoxon test. The results showed that there was an effect of slow deep breathing on systolic blood pressure in the intervention group with $p = 0.01$ and diastolic $p = 0.02$ and there was no effect of slow deep breathing on systolic blood pressure in the control group with $p = 0.107$ and diastolic $p = 0.157$.

Keywords: *slow deep breathing*, blood pressure, hypertension

Corresponding Author:

Revi Neini Ikbai
revi.neini@gmail.com

Received: 18 January 2019

Accepted: 26 February 2019

Published: 12 March 2019

Publishing services provided by
Knowledge E.

© Revi Neini Ikbai and dan
Rebbi Permata Sari. This article is
distributed under the terms of
the [Creative Commons
Attribution License](#), which
permits unrestricted use and
redistribution provided that the
original author and source are
credited.

Selection and Peer-review under
the responsibility of the 1st
PANIHC Conference Committee.

 OPEN ACCESS

1. Introduction

Hypertension is one of the main diseases because of the high incidence in the world and its relationship with coronary heart disease as the number one killer disease in the world [1]. Hypertension results in disruption of the blood vessels which results in the supply of oxygen and nutrients carried by the blood being blocked up to the body tissues that need it. Hypertension is often referred to a silent killer, because it is a deadly disease without the symptoms first as a warning to the sufferer [2].

How to cite this article: Revi Neini Ikbai and Rebbi Permata Sari, (2019), "The Effect of Slow Deep Breathing on Blood Pressure of Hypertension Patients in M. Djamil Hospital Padang 2018" in *The 1st Payung Negeri International Health Conference*, KnE Life Sciences, pages 206–218. Page 206
DOI 10.18502/kls.v4i10.3845

Preliminary study of Slow Deep Breathing in Mindfulness Exercise Effects on Physical Health Outcome among Hypertensive Patients

Pantip Sangprasert, MNS¹; Srimuang Palangrit, PhD²; Junya Pattanasarchachai, DSc²; Natima Tiyoa, MD²



Pantip Sangprasert, MNS,
PhD Candidate

¹ Doctor of Philosophy Program in Community and Family Medicine, Faculty of Medicine, Thammasat University, Pathumthani, Thailand.

² Department of Community and Family Medicine, Thammasat University, Pathumthani, Thailand.

³ Chulabhorn International College of Medicine, Thammasat University, Pathumthani, Thailand.

* Address Correspondence to author:
Associate professor Pantip Sangprasert
Faculty of Medicine,
Thammasat University, Rangsit,
Pathumthani 12121, Thailand.
email: pantips162@gmail.com

Received: May 29, 2018
Revision received: June 1, 2018
Accepted after revision: June 25, 2018
BKK Med J 2018;14(2): 48-54.
DOI: 10.31524/bkkmedj.2018.09.009
www.bangkokmedjournal.com

Abstract

OBJECTIVE: The aim of this study is to examine the effect of slow deep breathing in mindfulness exercises on physical health outcome among hypertensive patients.

MATERIALS AND METHODS: Two primary health care units (PCU) were selected as control and intervention groups. Samples were patients aged 35 - 59 years old, diagnosed with stage I hypertension. Both groups received the standard for hypertension guidelines treatment. The experimental group was added as a drill in observational breathing in mindfulness skills, which recognizes the feeling of adaptation to everyday life.

RESULTS: The physical outcomes were measured on the 6th week as follows: respiratory rate (RR); blood pressure (BP); and heart rate (HR) test. Those that were statistically significantly different in RR 4.7 ($p = 0.007$), diastolic blood pressure (DBP) 6.7 ($p = 0.008$), HR 7.1 ($p = 0.018$), on the 12th week RR 9.0 ($p < 0.001$), and DBP 5.6 ($p = .002$) when compared to the control group. However there was no statistically significant difference in systolic blood pressure (SBP) (6th and 12th week) and heart rate (HR) (12th week).

CONCLUSIONS: Slow breathing in mindfulness training should be introduced as a counterpart to modern medicine and promoted to stage I hypertensive patients for resting cardiovascular and blood pressure disease.

Keywords: slow breathing, mindfulness, physical health outcome, hypertension

Hypertension from major vital organ complications in cardiovascular, cerebrovascular diseases, retinopathy and nephropathy, are major causes of morbidity and mortality.¹⁻³ Most hypertensive patients have uncontrollable hypertension and need support to reach their goal of blood pressure^{3,4} which poses a high risk of side effects and drug interaction from long term drugs therapy. Recently nonpharmacological treatment observed that slow breathing in mindfulness has been used to promote an alternative complementary treatment and has managed to lower blood pressure based on scientific data. The definition of consciousness is that the mind recognizes and accepts experience that arrives mentally, it is a form of concentration with a relaxed and clear mind in conjunction with brain processes.^{5,7} However, its effects on the reduction of physical health outcome is still seen as controversial with BP and HR. For example, D'Silva et al.⁸ found that there was no significant reduction in BP and HR after deep breathing exercise for patients with hypertension, coronary disease and diabetes mellitus. Meanwhile, other studies revealed that slow breathing was linked to beneficial effects on resting BP and HR in hypertensive patients.⁹

Slow deep breathing affects the bio-physical scientific mechanism.¹⁰ It is integrated in mindfulness-based stress reduction that is useful for BP and HR. These benefits of mindfulness showed in vascular disease studies such as hypertension, heart disease, stroke and diabetic mellitus.^{11,12} Moreover, the mental benefit of relaxation for hypertension response was reported by Benson H et al.¹³ Although, slow deep breathing has benefits for both mental and physical health outcomes, the results of studies are controversial that slow deep breathing can control in BP and HR. There are few studies on the effect of mindful-group conversation about awareness in breathing based on PCU treatment.

See discussion, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/336382053>

Effect of Progressive Muscle Relaxation and Slow Deep Breathing on Blood Pressure and Heart Rate on Hypertensive Clients

Article · October 2019

DOI: 10.18001/1949-1018.10101

CITATIONS

0

READS

25

2 authors, including:



Ehsa Anderson
Rabat University

3 PUBLICATIONS 1 CITATION

[SEE PROFILE](#)



The Effect of Progressive Muscle Relaxation and Slow Deep Breathing Toward Vital Signs of Patients' Hypertension in The Working Area of Bengkuring Medical Center (Puskesmas)

Ismansyah, Ismansyah^{1*}, Parellangi, Andi¹, Firdaus, Rivan¹, Wiadiastuti, Hesti Prawita¹

¹Poltekkes Kemenkes Kalimantan Timur, Jl. W. Monginsidi No.3B, Sidodadi, Samarinda Ulu, Kota Samarinda, Kalimantan Timur 75243, Indonesia

*Correspondence: isman_rafky@yahoo.co.id

Type of the Paper (Article)

Received: May 6, 2019; Accepted: June 26, 2019; Published: September 01, 2019

<https://doi.org/10.29253/achnr.1.2.2019.80>

Abstract: This study aims to determine the effect of progressive muscle relaxation and slow deep breathing toward the vital signs of hypertensive patients. Using the quasi experiment with pre and post-test without control. The sample size 22 respondent, of each group of 11 people was conducted 7 times intervention, both with progressive muscle relaxation and slow deep breathing. The data collection was conducted using an observation form. The results of hypothesis testing with the Paired T-Test and Wilcoxon found that there was an effect of progressive muscle relaxation toward the vital signs, systolic blood pressure, diastolic, and pulse values obtained $p = 0.000$, while respiration 0.020, body temperature 0.006. Interventions with slow deep breathing obtained p value of systolic 0.011, diastolic 0.001, pulse 0.000, respiration 0.012, and body temperature 0.043. Analysis of differences in the two groups with Independent T-Test obtained the value of systolic blood pressure = 0.001, diastolic 0.066, pulse 0.000, respiration 0.011, and body temperature 0.055. In addition, it concludes the progressive muscle relaxation has an effect on systolic, diastolic, pulse, body temperature compared to slow deep breathing, but slow deep breathing intervention has more influence on respiration than progressive muscle relaxation.

Keywords: Hypertensive, Progressive muscle relaxation, Slow deep breathing, Vital signs.

1. Introduction

Cardiovascular disorders consist of hypertension is one of the causes of death, which will increase to approximately 23.3 million deaths in 2030. The latest statistical data states that there were 26.6% of Indonesia's population experiencing cardiovascular disease in 2015 (WHO, 2017). Lifestyle modification and relaxation techniques might control the blood pressure in patients with hypertension (Black J, and Hwaks, 2005).

Therefore, one of the non-pharmacological interventions includes the progressive muscle relaxation, which is simple relaxation by tensing and relaxing the muscles of the body. Previous research by Isnaini Herawati, 2016 showed progressive muscle relaxation had an effect on decreasing

The effects of slow loaded breathing training on exercise blood pressure in isolated systolic hypertension

Chulee Ubolsakka-Jones¹ | Phailin Tongdee² | David A. Jones³

¹School of Physical Therapy, Faculty of Associated Medical Science, Khon Kaen University, Khon Kaen, Thailand

²Department of Physical Therapy, Faculty of Medicine, Prince of Songkla University, Songkhla, Thailand

³School of Healthcare Science, Manchester Metropolitan University, Manchester, UK

Correspondence

Chulee Ubolsakka-Jones, School of Physical Therapy, Faculty of Associated Medical Science, Khon Kaen University, Mitraparb Road, Khon Kaen 40002, Thailand.
Email: joneschulee@gmail.com

Funding information

Financial support was provided by the National Research Council of Thailand, Khon Kaen University (590002).

Abstract

Objectives: Slow loaded breathing training has been shown to reduce resting blood pressure (BP) in isolated systolic hypertension (ISH), but it is not known whether this also reduces their exaggerated BP responses to exercise.

Methods: The study was a randomized controlled trial with block allocation stratified by sex. Twenty ISH patients (68 ± 5 yrs, 11 males) were randomized with one group undertaking 8-weeks training with slow loaded breathing (SLB: 25% maximum inspiratory pressure, 6 breaths per minute, 60 breaths every day) or deep breathing control (CON), with 8 weeks follow-up. Outcome measures were home BP and heart rate (HR) with laboratory measures of BP and HR responses to static handgrip and dynamic arm cranking exercise. Data were compared with a two-week run-in baseline.

Results: Home systolic BP fell by 22 mmHg (20–23; mean, 95% CI), diastolic BP by 9 mmHg (7–11), and HR by 12 bpm (9–15; all $p < .001$) as a result of SLB training. Systolic BP at the end of 2-min isometric handgrip was 189 ± 10 mmHg (mean, SD) before training and 157 ± 6 mmHg following SLB training. After 4-min arm exercise, systolic BP, measured at the ankle, was reduced from 243 ± 8 mmHg during the run-in period to 170 ± 15 mmHg after SLB training with no change for CON. The reduction in exercise BP, in both types of exercise, was partly due to a reduction in resting BP and to a smaller increase above resting. Systolic and pulse pressures remained below run-in values 8 weeks after the end of SLB training, and BP response to handgrip exercise remained below run-in values at 4 weeks after SLB training.

Conclusions: SLB not only reduces resting BP in ISH but also the responses to both static and dynamic exercise, potentially reducing the negative aspect of exercise for cardiovascular health.

KEYWORDS

breathing exercises, exercise, hypertension

1 | INTRODUCTION

Isolated systolic hypertension (ISH), which is characterized by systolic blood pressure (sBP) of more than 140 mmHg with diastolic blood

pressure (dBp) less than 90 mmHg (Chobanian et al., 2003), affects more than 50% of people over the age of 60 years (Cohen & Townsend, 2011; Franklin, Jacobs, Wong, L'Italien, & Lapuerta, 2001) and is a major cause of stroke, cardiovascular, and kidney disease (Lee & Oh, 2010; Weber et al., 2014). Unfortunately, for such a common and serious problem, ISH is difficult to treat, and more than 60%

The study was registered as a clinical trial (NCT 02752217).

Surat Pernyataan

Saya yang bertanda tangan dibawah ini :

Nama : Bagus Dwi Pamungkas

Nim : 1911102412032

Judul Kian : Pengaruh Terapi *Slow Deep Breathing* Terhadap Penurunan Tekanan Darah Tinggi Pada Pasien Hipertensi : *Literature Review*

Dengan surat pernyataan ini saya menyatakan bahwa saya menggunakan metode penelitian *literature review*. Demikian permohonan yang saya sampaikan atas ucapannya saya ucapkan terima kasih.

Samarinda, 16 November 2020

Pemohon



Bagus Dwi Pamungkas, Skep
Nim : 1911102412032



Pembimbing



Ns. Marich M. Dirdjo, M.Kep
NIDN. 1125037202

Mengetahui

Ketua Program Studi Profesi Ners

Ns. Dwi Kannah Fitriani, NDKep
NIDN : 1119097601

LEMBAR KONSUL

Judul : Pengaruh Terapi *Slow Deep Breathing* Terhadap Penurunan Tekanan Darah Tinggi pada Pasien Hipertensi : *literature review*

Pembimbing I : Ns. Maridi M.Dirdjo.,M.Kep

NO	TANGGAL	KONSULTASI	HASIL KONSULTASI	PARAF
1.	07-07-2020	Bimbingan awal kian		
2.	09-07-2020	Konsul Jurnal	Revisi Jurnal	
3.	10-07-2020	Konsul II Jurnal	Acc II Jurnal	
4.	13-07-2020	Konsul Judul	Revisi Judul, Perbaiki judul sesuai kondisi covid (literature review)	
5.	14-07-2020	Konsul BAB 1&2	Revisi BAB 1&2	
6.	16-07-2020	Konsul Revisi BAB 1&2	Acc BAB 1&2, lanjut BAB 3,4 dan 5	
7.	20-07-2020	Konsul BAB 3,4,5	Revisi BAB 3,4,5	
8.	23-07-2020	Konsul Revisi BAB 3,4,5	Perbaiki Pembahasan BAB 4	
9.	27-07-2020	Konsul Perbaiki Pembahasan BAB 4.	Acc Perbaiki BAB 4	
10.	29-07-2020	Konsul BAB 1-5	Acc BAB 1-5	
11.	30-07-2020	Konsul Akhir Laporan kian	Acc	