APPLICATION OF MIND BODY THERAPY IN HYPERTENSION PATIENTS:
LITERATURE REVIEW

Sutomo1*, Nasrul Hadi Purwanto1, Edy Siswantoro1

1Bachelor of Science in Nursing Study Program, STIKES Dian Husada Mojokerto

*Correspondence:
Sutomo
Bachelor of Science in Nursing Study Program, STIKES Dian Husada Mojokerto
Email: sutomo.ners@gmail.com

Abstract

Background: The increase in the number of people with hypertension in Indonesia is a challenge in the field of health services that requires serious attention from all parties. This is because hypertension can be experienced by all residents of various age groups and has the potential to trigger other health problems.

Objective: This study aims to identify hypnotherapy as part of the application of mind body therapy in hypertension sufferers.

Design: This study is a literature review. Data Sources (include search dates): Researchers use the Google Scholar database to search articles. The range of years of publication of articles used is between 2013-2022. The search keywords used to find articles related to the theme of this study were influence, effectiveness, hypnotherapy, and hypertension.

Review Methods: The author uses a systematic review method in accordance with the PRISMA stages which include identification, screening, inclusion and feasibility of the article findings which are then analyzed.

Results: From the results of the review of the articles conducted, it was found that the provision of hypnotherapy interventions will help hypertensive patients to control their blood pressure. The application of hypnotherapy has an effective effect on reducing blood pressure in people with hypertension. Hypnotherapy is carried out by guiding hypertension sufferers to enter a trance state (relaxation of mind) and after a relaxed state is reached, the subconscious mind will open so that one can accept positive suggestions easily. When a hypertensive patient is in a trance state, the body will produce endorphins which produce a comfortable and relaxed sensation. In a relaxed state, an autonomic nervous response will occur, causing a decrease in blood pressure.

Conclusion: Hypnotherapy is a part of mind body therapy, which is a type of complementary therapy that can be applied to help hypertensive patients control their blood pressure to keep it in optimal condition.

Keywords: Hypertension, Hypnotherapy, Mind Body Therapy

© 2022 The Authors. International Conference of Kerta Cendekia Published by Institute for Research and Community Service of Health Polytechnic of Kerta Cendekia, Sidoarjo

This is an Open Access Article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 (CC BY-NC 4.0) which allows others to remix, tweak, and build upon the work non-commercially as long as the original work is properly cited. The new creations are not necessarily licensed under the identical terms.
INTRODUCTION

Indonesia is currently entering an aging population period. This is not only due to the population explosion that is predicted to occur in 2030-2040, it is also due to an increase in the quality of existing health services so that the life expectancy of the population in Indonesia is getting higher and there is a downward trend in the mortality rate (Kemenkes RI, 2019). The increase in life expectancy and progress in various fields has made it easier for people to live and enjoy their lives.

However, on the other hand, the threat of an epidemiological transition, namely the shift from communicable diseases to non-communicable diseases, is also being experienced by people in Indonesia (Khariri & Saraswati, 2021). In the 1990s, infectious diseases were still the highest risk factor for someone experiencing acute respiratory infections, tuberculosis and diarrhea. At that time, infectious diseases such as acute respiratory infections, tuberculosis and diarrhea were also the leading causes of death. Then in 2010, stroke ranked first as a cause of death. This was followed by tuberculosis, traffic accidents and diarrhea (Renden et al., 2020).

Since 2015, data from the Ministry of Health of the Republic of Indonesia shows that the top four causes of disability, morbidity and death are stroke, ischemic heart disease, cancer and diabetes mellitus. The latest data from the Ministry of Health of the Republic of Indonesia shows that 60 percent of the causes of morbidity and mortality in Indonesia are caused by non-communicable diseases and one of them is hypertension (5.3%) (Kemenkes RI, 2022).

Since 2015, data from the Ministry of Health of the Republic of Indonesia shows that the top four causes that cause disability, morbidity and death are stroke, ischemic heart disease, cancer and diabetes mellitus. Even the latest data from the Health Research and Development Agency of the Ministry of Health of the Republic of Indonesia also shows something similar. 60 percent of the causes of morbidity and mortality in Indonesia are caused by non-communicable diseases. Four of the top five causes of death in Indonesia today are non-communicable diseases. The details are stroke (21.1%), coronary heart disease (12.9%), diabetes mellitus with complications (6.7%), tuberculosis (5.7%), and hypertension with complications (5.3%). Financing data for Indonesia's Health Social Security Organizing Body is the largest in 2020, around 20 trillion will be used to finance non-communicable diseases such as heart disease, cancer, stroke, kidney failure and thalassemia (Kemenkes RI, 2022).

The challenges of health development in Indonesia are currently faced with four transitions, namely the epidemiological transition, the demographic transition, the nutritional transition, and the behavioral transition. It is these four transitions that ultimately result in high rates of non-communicable diseases. The four transitions are the epidemiological transition (a change in trend from communicable diseases to non-communicable diseases), the demographic transition (the number of productive ages and old people increases, so the vulnerability to suffering from non-communicable diseases also increases), the nutritional transition (the problem of malnutrition or malnutrition), thin and stunted, overweight and obesity in children, adolescents and adults are increasing) as well as behavioral transitions (sedentary behavior, consumption of low fiber and high sugar, fat salts, drinking and smoking habits, and inappropriate stress management) (Siswanto et al., 2020).

One type of non-communicable disease that has the potential to trigger other health problems is hypertension. A patient with hypertension is impossible to be cured considering that hypertension tends to be permanent. Management of hypertension therapy is basically intended to maintain blood pressure conditions in a stable and controlled condition. Uncontrolled hypertension or high blood pressure can cause long-term and potentially fatal complications in coronary
artery disease, heart failure, stroke, and kidney failure. In addition, sufferers will experience cognitive decline and overall poor quality of life (Yulanda & Lisiswanti, 2017).

Therefore, proper management and management is needed to prevent more severe disease complications due to hypertension. Appropriate management is with pharmacological and non-pharmacological therapy. Pharmacological therapy is carried out by administering antihypertensive drugs as a standard treatment approach to control or reduce blood pressure. Several types of antihypertensive drugs that can be given are diuretics, beta blockers, vasodilators, calcium antagonists, angiotensin converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs). However, these drug therapies have side effects associated with an increased risk of cardiovascular events, dry cough, dizziness, headache and weakness (Andri, 2021).

One of the therapeutic methods developed as a complementary therapy for controlling blood pressure in hypertensive patients so that they remain in optimal condition is complementary therapy. Complementary therapy itself is part of a holistic nursing service in which the implementation of complementary therapy prioritizes individual harmony to integrate the mind, body and soul in one unitary function. This condition is in accordance with the principles of nursing which views humans as holistic beings (bio, psycho, social, and spiritual) (Wahyuni et al., 2021).

One type of therapy developed to control blood pressure in controlled conditions is using complementary therapy. Complementary therapy is traditional therapy given as a companion to modern medicine. Complementary is the use of traditional therapy into modern medicine (Rufaida et al., 2018). Complementary therapy is known as traditional therapy which is combined in modern medicine. Complementary is the use of traditional therapy into modern medicine. This terminology is known as modality or activity therapy which adds to the orthodox approach to health care. There are also complementary therapies that call it holistic medicine. This opinion is based on a form of therapy that affects the individual as a whole, namely an individual harmony to integrate the mind, body and soul in a unified function. This condition is in accordance with nursing principles which view humans as holistic beings (bio, psycho, social, and spiritual) (Wahyuni et al., 2021).

Complementary therapy performed on people with hypertension has various forms and types. Complementary therapy itself is divided into two major parts, namely invasive therapy and non-invasive therapy. Invasive therapy is therapy that uses several medical devices/tools that are directly in contact with the patient, while non-invasive therapy is the opposite of invasive therapy, namely therapy that does not use the help of medical devices (Rufaida et al., 2018). In accordance with Permenkes Number 1109 of 2007 concerning the provision of complementary – alternative medicine in health care facilities including mind and body interventions, alternative systems of medical practice, manual healing methods, pharmacologic and biologic treatments, diet and nutrition the prevention and treatment of disease, and unclassified diagnostic and treatment methods.

One type of therapy that is currently becoming a treatment trend for people with hypertension is mind and body interventions. Mind and body interventions are basically a series of combination therapies that seek to integrate the brain, mind, body and behavior where the focus of the intervention is carried out by strengthening beliefs or instilling in the patient's mind about various positive and beneficial things for the patient and at the same time giving suggestions to the patient. that they can recover and be free from all kinds of diseases and other disorders that have been experienced so that with positive suggestions like this the patient will not have a negative psychological self. When a hypertensive patient has a positive self-psychology, this condition will indirectly affect the physical condition of the hypertensive patient and will ultimately help hypertensive patients to control their blood pressure so that they are always in optimal condition. Mind and body interventions have various types and one of them is hypnotherapy.

This study aims to determine the implementation of mind body therapy applications in hypertensive patients as a form of complementary therapy to help hypertensive
patients control blood pressure in order to remain in optimal condition.

**METHODS**

This research uses literature review in its implementation. The search for related articles was carried out by researchers using the Google Scholar database. The search keywords used to find articles related to the theme of this study were influence, effectiveness, hypnotherapy, and hypertension. From the articles obtained, the articles were then selected based on the criteria determined by the researcher, namely:

1. Articles published within the year 2013-2022
2. Articles are open source
3. The research was conducted using a comparative approach
4. The therapy used as an intervention is hypnotherapy

The researcher uses a systematic review method according to the PRISMA (Preferred Reporting Items for Systematic Review) stages which include identification, screening, inclusion and feasibility of the article findings which are then analyzed. Articles that meet the criteria will be reviewed to identify the implementation of mind body therapy applications with this type of hypnotherapy for people with hypertension. All information obtained will be analyzed and presented together with an explanation in narrative form. Conclusions were drawn by researchers after obtaining data related to the effectiveness of hypnotherapy in hypertension sufferers as a form of complementary therapy to help hypertension sufferers control blood pressure to remain in optimal condition.

**RESULTS**

From the search results for research articles using the Google Scholar database, a total of 304 articles were found. Furthermore, articles were selected based on the title of the article and 96 articles were issued so that the number of articles further selected was 208 articles. Next, the articles were accessed and 67 articles were issued because the articles were not open access, so that there were 141 articles left to be screened again. Of the 141 articles, a selection was made regarding the research method used, the research subjects involved and the types of interventions carried out so that as many as 10 articles were obtained for further analysis.

<table>
<thead>
<tr>
<th>Author and year</th>
<th>Methods</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hidayati (2020)</td>
<td>The research design used a pre-experimental approach with a one group pre post test design approach</td>
<td>From the results of the study, it was found that there were differences in blood pressure before and after being given hypnotherapy intervention</td>
</tr>
<tr>
<td>Siska (2018)</td>
<td>The research design used a pre-experimental approach with a one group pre post test design approach</td>
<td>From the results of the study, it was found that there was a decrease in blood pressure in the research respondents so that it could be concluded that there were differences in blood pressure before and after being given hypnotherapy intervention</td>
</tr>
<tr>
<td>Aprilyadi &amp; Amita (2021)</td>
<td>The research design used a pre-experimental approach with a one group pre post test design approach</td>
<td>From the results of the bivariate test conducted, it was found that the p value was &lt;0.05, so it can be concluded that giving hypnotherapy interventions has proven to be useful for reducing stress, systolic blood and diastolic blood pressure,</td>
</tr>
<tr>
<td>Mardiani et al (2020)</td>
<td>The research design used a pre-experimental approach with a one group pre post test design approach</td>
<td>From the results of the study, it was found that there were differences in blood pressure before and after being given hypnotherapy intervention</td>
</tr>
<tr>
<td>Author and year</td>
<td>Methods</td>
<td>Result</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sutomo, et. al. (2022)</td>
<td>design approach</td>
<td>hypnotherapy intervention</td>
</tr>
<tr>
<td>Pujiati &amp; Heriyanti</td>
<td>The research design used a pre-experimental approach with a one group pre post test design approach</td>
<td>From the results of the study, it was found that there were differences in blood pressure in elderly respondents before and after being given hypnotherapy intervention</td>
</tr>
<tr>
<td>Rositawati &amp; Azizah (2021)</td>
<td>The research design used a pre-experimental approach with a one group pre post test design approach</td>
<td>From the results of the study, it was found that there were differences in blood pressure in elderly respondents before and after being given hypnotherapy intervention</td>
</tr>
<tr>
<td>Sutrisno et al (2016)</td>
<td>The research design used a pre-experimental approach with a one group pre post test design approach</td>
<td>From the results of the study, it was found that there was a decrease in blood pressure in the research respondents so that it could be concluded that there were differences in blood pressure before and after being given hypnotherapy intervention</td>
</tr>
<tr>
<td>Nurprasetyo &amp; Ruhyana (2016)</td>
<td>This study used the Quasi Experimental Design method with the Non Equivalent Control Group approach</td>
<td>The results of the pretest and posttest paired t-test for the intervention group showed a systolic BP of 0.000 and a diastolic BP of 0.000. From these results it can be concluded that there is an effect of hypnotherapy on blood pressure of hypertensive patients in Gamping Lor Ambarketawan g Hamlet, Gamping Sleman , Yogyakarta .</td>
</tr>
<tr>
<td>Rifki &amp; Yosdimyati (2018)</td>
<td>The research design used a pre-experimental approach with a one group pre post test design approach</td>
<td>From the results of the study, it was found that there was a decrease in blood pressure in the research respondents so that it could be concluded that there were differences in blood pressure before and after being given hypnotherapy intervention</td>
</tr>
<tr>
<td>Afiani &amp; Wahyuningrum (2014)</td>
<td>The research design used a pre-experimental approach with a one group pre post test design approach</td>
<td>From the results of the study, it was found that there was a decrease in blood pressure in the research respondents so that it could be concluded that there were differences in blood pressure before and after being given hypnotherapy intervention</td>
</tr>
</tbody>
</table>

From the results of the review of the articles conducted, it was found that the provision of hypnotherapy interventions will help hypertensive patients to control their blood pressure. The application of hypnotherapy has an effective effect on reducing blood pressure.
in people with hypertension. Hypnotherapy is carried out by guiding hypertension sufferers to enter a trance state (relaxation of mind) and after a relaxed state is reached, the subconscious mind will open so that one can accept positive suggestions easily. When a hypertensive patient is in a trance state, the body will produce endorphins which produce a comfortable and relaxed sensation.

In a relaxed state, an autonomic nervous response will occur, causing a decrease in blood pressure. Someone who is in a state of relaxation, the neuroendocrine system will reduce levels of cortisol, epinephrine and norepinephrine. Cortisol levels in the blood cause vasoconstriction of blood vessels. Decreased epinephrine and norepinephrine will act directly on the vascular smooth muscle alpha androgenic receptors, causing vasodilation of blood vessels. Vasodilation caused by decreased levels of epiinephrine and norepinephrine can reduce total peripheral pressure which will cause a decrease in blood pressure.

**DISCUSSION**

Hypertension or better known as high blood pressure is a chronic disease caused by excessive and almost inconstant blood pressure on the arteries. Pressure is generated by the force of the heart when it pumps blood. Hypertension is related to a continuous increase in systemic arterial pressure, both diastolic and systolic. Symptoms of hypertension are difficult to know because they do not have specific symptoms. Symptoms that are easy to observe are dizziness, frequent restlessness, red face, ringing in the ears, shortness of breath, fatigue, dizzy eyes (Yonata & Pratama, 2016).

The World Health Organization classifies blood pressure in hypertensive patients, namely controlled blood pressure < 140/90 mmHg and uncontrolled blood pressure, namely ≥ 140/90 mmHg. Hypertensive patients tend to have uncontrolled blood pressure, factors that cause uncontrolled blood pressure are inadequate therapy or patient non-compliance, drug side effects, lack of education, alcohol consumption and inappropriate consumption of hypertension drugs (WHO, 2015).

Blood pressure describes a person's hemodynamic situation at that time. Hemodynamics is a condition in which blood pressure and flow can maintain perfusion or exchange of substances in tissues as measured using millimeters of mercury (mmHg) units, namely systolic pressure (when the heart beats) to diastolic pressure (when the heart relaxes) (Epstein et al., 2012). Blood pressure depends on the volume of blood contained in the vessel and the compliance, or distensibility of the vessel wall (how easily the vessel is stretched). If the volume of blood entering the arteries is equal to the volume leaving the arteries during the same period, then the arterial blood pressure will be constant.

However, arterial blood pressure fluctuates between systolic and diastolic pressure. This is related to arteriolar vasoconstriction and vasodilation. Vasoconstriction causes increased resistance and decreased flow through blood vessels, whereas vasodilation causes decreased resistance and increased flow through blood vessels (Epstein et al., 2012). Several centers monitor and regulate changes in blood pressure, namely: the nervous system which consists of centers in the brain stem, for example the vasomotor center and outside the central nervous system, for example baroreceptors and chemoreceptors; humoral or chemical systems that can take place locally or systemically, for example renin-angiotensin, vasopressin, epinephrine, norepinephrine, acetylcholine, serotonin, adenosine and calcium, magnesium, hydrogen, potassium, and so on; and the hemodynamic system which is more influenced by blood volume, capillary arrangement, and changes in osmotic and hydrostatic pressure inside and outside the vascular system (Epstein et al., 2012).

Hypertension usually has no signs and symptoms. Symptoms that often appear are headaches, a burning feeling in the nape, or a heavy head. However, these symptoms cannot be used as the presence or absence of hypertension in a person. One way to find out is to check your blood pressure regularly. A patient usually does not realize that he has hypertension until organ damage is found, such as coronary heart disease, stroke, or kidney failure (Haris & Tambunan, 2016).

The principle of managing hypertension is to reduce blood pressure to normal, or to the lowest level that can be tolerated by sufferers and prevent complications that may arise due to increased blood pressure. The management of hypertension includes reducing the risk factors for increased blood pressure such as a low.
sodium diet, low fat diet, stopping smoking and consuming alcohol, losing weight to return to normal nutritional status, and doing regular exercise which is beneficial for reducing peripheral pressure. In addition, medical therapy can be carried out by taking diuretic drugs, sympathetic inhibitor groups, ganglion block groups, Angiotensin Converting Enzyme (ACE) inhibitor groups, and calcium antagonist groups (Yulanda & Lisiswanti, 2017). Applying a healthy lifestyle and consuming drugs to control blood pressure so that it remains in optimal condition often causes boredom in people with hypertension.

One effort that has been developed to overcome this is to provide companion therapy or often referred to as complementary therapy for hypertension and one of them is hypnotherapy. Hypnotherapy itself is part of the application of mind body therapy in people with hypertension (Divia, 2022). Hypnotherapy aims to enter hypertensive patients into a hypnotic state while suggestions are made to hypertensive patients. Suggestions are usually related to changes in the patient's behavior. In every state of unconsciousness in hypnosis there are elements of saving movement and relaxation, reducing muscle activity and energy expenditure, limb catalepsy, namely a kind of stiffness in the muscles of the limbs, and tends to remain in the position placed (flowing pipe effect). The next element of hypnosis is that the patient tends to take words with a literal meaning, constricts attention and increases acceptance of suggestions (Divia, 2022).

Hypnotherapy is useful for increasing the ability to produce anesthesia in every part of the body, the ability to give suggestions after hypnosis to improve sleep problems, coping, control pain symptoms, and so on. Hypnosis can control several organic functions such as bleeding, heart rate, blood pressure, and so on. When a person is under hypnotherapy, there is stimulation of the reticular activating system in the brain, causing an autonomic nervous response, namely a decrease in pulse, blood pressure and respiratory rate. If given a good suggestion, it will have a therapeutic effect as well as relaxation. Therefore, hypnotherapy can be used as an alternative treatment for hypertension.

Hypnotherapy can change sensations, perceptions, thoughts, feelings or behavior with the suggestions given so that the brain stimulates the Reticular Activating System to reduce its performance and the Bulbar Synchronizing Regional will take over causing the client to fall asleep and relax. The relaxation response is closely related to the hypothalamus pituitary adrenal (HPA) axis. The HPA axis (hypothalamus pituitary adrenal axis) will decrease cortisol, epinephrine, and norepinephrine levels which can cause a decrease in blood pressure and pulse. In this relaxed state the mind will also be calmer and stress levels will decrease (Lubis & Yusuf, 2017).

Overall, pharmacological therapy of hypertension works through three main approaches, namely: reducing cardiac output, reducing blood volume and reducing peripheral resistance. In patients with hypertension, an increase in blood pressure can occur due to anxiety or physical stress due to degenerative factors and an unhealthy lifestyle so that standard therapy becomes less effective. The combination of standard therapy and hypnotherapy can help comprehensively restore the health of hypertension sufferers (Kandarini, 2016). Hypnotherapy can change sensations, perceptions, thoughts, feelings or behavior after being given a suggestion (La Kahija, 2007). The brain that has been influenced by suggestion will instruct the central nervous system to stimulate the Reticular Activating System to decrease its performance so that it has an impact on the release of serotonin from specific cells in the pons and brain stem, namely BSR (Bulbar Synchronizing Region).

The decrease in blood pressure in respondents is due to physiologically when entering hypnotic relaxation, thought waves will enter alpha waves with a frequency of 7-14 hertz or deeper into theta waves with a frequency of 4-7 hertz so that they can cause the brain to produce serotonin and endorphins hormones which causes a comfortable and relaxed sensation, the body's metabolism and autonomic nervous response become better which eventually causes a decrease in blood pressure, pulse and respiration. When in a relaxed state, the neuroendocrine system will also decrease levels of cortisol, glucocorticoids, gonadocorticoids, epinephrine and norepinephrine. This decrease affects the vascular smooth muscle alpha androgenic receptors, causing vasodilation of blood vessels, reducing total peripheral pressure,
thereby causing a decrease in blood pressure (Lubis & Yusuf, 2017).

This concept is strengthened by research conducted by Rifki & Yosdimyati (2018) which states that, this decrease in blood pressure occurs because physiologically when a person enters hypnotic relaxation, his thought waves enter alpha waves with a frequency of 7-14 hertz or even deeper into theta waves with a frequency of 4-7 hertz. When a person's mind enters this wave, humans produce natural endorphins that produce comfortable sensations, and the body relaxes. And in this hypnosis state, the body's metabolic system becomes much better and the body is free from tension. So that there is an autonomic nerve response to a decrease in blood pressure, pulse, and respiration. The above opinion is strengthened by research from Holdevici & Crăciun (2012) about The Role of Ericksonian Hypnosis in Reducing Essential and Secondary Hypertension, hypnotherapy using Hypnosis techniques is proven to improve quality of life by lowering blood pressure in hypertensive patients. This is due to the release of endorphins which make the body feel comfortable and happy, the quality of life increases and blood pressure can be controlled.

Hypnotherapy is a modern application of ancient techniques that apply trance-hypnosis. The application of hypnotherapy will guide the client to enter a trance state (relaxation of mind) so that they can easily accept the suggestions given by the hypnotherapist. In a trance state, the client's subconscious mind will be given positive suggestions to heal psychological disorders or can also be used to change thoughts, behaviors and feelings for the better. Positive suggestions given to the subconscious mind of hypertensive patients will be a separate support for hypertensive patients to be able to comply with every diet suggested by health workers and implement various programs that support controlling blood pressure so that it is always in optimal condition.

CONCLUSION
Hypnotherapy is a part of mind body therapy which is a type of complementary therapy that can be applied to help hypertensive patients control their blood pressure to keep it in optimal condition. The application of hypnotherapy to hypertensive patients will provide suggestions for hypertensive sufferers to be able to adopt a healthy lifestyle, carry out certain food restrictions that can trigger an increase in blood pressure and at the same time control stress which can trigger an increase in blood pressure and prevent hypertensive sufferers from the risk of recurrence of hypertension.

ACKNOWLEDGMENT
The author would like to thank profusely to the STIKES Dian Husada Mojokerto Institution which has provided funding to the author to conduct this research.

DECLARATION OF CONFLICTING INTEREST
The author declares that there are no other interests or conflicts that may arise as a result of the publication of this research article.

FUNDING
This research was conducted using STIKES Dian Husada Mojokerto’s internal funding for the 2021-2022 fiscal year.

AUTHOR CONTRIBUTION
Author 1: Correspondence researchers, article authors
Author 2: Researchers, article authors
Author 3: Researchers, article authors

REFERENCES
Cite this article as: Sutomo, et al. (2022). Application of Mind Body Therapy in Hypertension Patients: Literature Review. International Conference of Kerta Cendekia, 2 (1), 164-173.