

# Application of Natural Sound Music Therapy in Reducing Blood Pressure in Hypertension Patients

Novita Fazilla<sup>1\*</sup>, Rais<sup>2</sup>, Rina Karmila<sup>3</sup>

<sup>1,2,3,4</sup> Academy of Nursing Kesdam Iskandar Muda Banda Aceh, Indonesia

Received: 2026-07-02

Revised: 2026-07-21

Accepted: 2026-07-22

Published: 2026-08-01

Corresponding Author:\* Rais

Author Name\*: Novita Fazilla

Email\*: [novitafazilla@gmail.com](mailto:novitafazilla@gmail.com)

DOI:

<https://doi.org/10.63404/juka.v10i6.272>

© 2023 The Authors. This open access article is distributed under a (CC-BY License)



Phone\*: 081396968215

**Abstract** Hypertension is an increase in systolic blood pressure of more than 140 mmHg and diastolic of more than 90 mmHg on two measurements with an interval of five minutes in a state of sufficient rest, Hypertension is a dangerous disease because it will burden the heart's work so that it causes arteriosclerosis (hardening of the artery walls). Objective: Describe the Application of Natural Sound Music Therapy in Reducing Blood Pressure in Hypertension Patients at the Aroel Wound Care Clinic, Blang Bintang District, Aceh Besar Regency. Method: Using a Case Study Design. The subjects used were 2 patients suffering from hypertension. The application was carried out once a day for 7 consecutive days with a duration of 20-30 minutes with a moderate volume (400-600 Hertz). The results of blood pressure strengthening before the application of music therapy were 140/80mmhg for subject I and 150/90mmhg for subject II. The results of measurements after Alan's voice music therapy showed a decrease in blood pressure in subject I of 120/80mmhg and subject II of 130/90mmhg. The average decrease in systolic pressure in subject I was 2mmhg and subject II was 2mmhg. Conclusion: The application of natural sound music therapy can provide optimal results for reducing blood pressure in hypertensive patients if patients maintain a healthy lifestyle

**Keywords:** Hypertension Blood Pressure reduction, case study, blood pressurer, Music therapy

## Introduction

Hypertension is one of the non-communicable diseases that is a problem in the health sector and is often found in primary health services, namely health centers. Hypertension is an increase in systolic blood pressure of more than 140 mmHg and diastolic blood pressure of more than 90 mmHg on two measurements with an interval of five minutes in a moderately rested/calm state. Hypertension is a dangerous disease because it will overload the work of the heart, causing arteriosclerosis (hardening of the artery walls). A prolonged increase in blood pressure and not detected early can lead to chronic degenerative diseases such as retinopathy, damage to the

kidneys, thickening of the heart wall and heart-related diseases, stroke, and death (Satriadi, 2022).

Blood pressure is the force or energy used by the blood to fight the walls of arteries and is generally measured in millimeters of mercury (mmHg). Blood pressure values are expressed in two types, namely systolic blood pressure and diastolic blood pressure. Systolic blood pressure is the value of blood pressure when the heart contracts, while diastolic blood pressure is blood pressure during the relaxation phase of the heart. Blood pressure is usually measured with a sphygmomanometer or spigmomanometer. The blood pressure value read on the sphygmanometer is a systolic pressure value per

## How to Cite:

Fazilla, N., Sari, N., Fakruddin, & RN Wiguna, (2026). Application of natural sound music therapy in reducing blood pressure in hypertension patients. *Akimba Journal of Nursing*, 10(6), 80-89. <https://doi.org/10.63404/juka.v10i6.272>

diastolic, for example 120/80 mmHg. (Prasetyaningrum & Yunita, 2014).

The prevalence of hypertension according to *World Health Organization* (WHO) data shows that around 1.13 billion people worldwide suffer from hypertension. This means that one in three people worldwide is diagnosed with high blood pressure. The number of people with high blood pressure is expected to continue to increase. By 2025 it is estimated that 1.5 billion people will suffer from hypertension and 9.4 million people will die each year from hypertension and its complications. According to WHO, Africa has the highest prevalence of hypertension at 27% while the Americas has the lowest prevalence of hypertension at 18% (Fulka & Atika Sari, 2024).

According to Riskesdas, the prevalence of hypertension in Indonesia reached 34.11%. It is known that 8.36% were diagnosed with hypertension, 13.33% were diagnosed with hypertension without taking medication, and 32.27% were diagnosed with chronic hypertension taking medication. This hypertensive disease is the most common disease suffered by the elderly with a prevalence according to age groups, namely, 55-64 years old (55.23%), 65-74 years old (63.22%), and 75 years and older (69.53%) (Ministry of Health of the Republic of Indonesia, 2023).

The Aceh Health Office noted that hypertension patients in Aceh Province reached 464,839 cases in 2022. The highest hypertension cases in Aceh are in Aceh Tamiang Regency with 110,191 cases, followed by East Aceh Regency with 73,318 cases and Simeulue Regency with 33,161 cases of hypertension. Meanwhile, the lowest hypertension cases in Tanah Rencong are in Sabang City with 1,441, Gayo Lues Regency with 3,418 cases and Nagan Raya Regency with 3,423 hypertension cases (Aceh Health Office, 2023).

Hypertension or high blood pressure is one of the medical conditions that if not treated immediately, will have a serious impact on the health of the sufferer. Hypertension that is not treated immediately can increase the risk of various life-threatening complications, such as stroke, kidney failure, and heart disease (Saimi & Sartika, H. A. 2024).

The initial symptoms of hypertension that sufferers need to watch out for are headache,

fatigue, heart palpitations, sudden blurred vision, nosebleeds, throbbing in the ears, shortness of breath, and swelling in the legs (Saimi & Sartika, 2024). According to *American Heart Association* (JD) (2022), an impact or an unexpected condition that will arise due to hypertension if left untreated, namely stroke, myocardial infarction, kidney failure, heart failure, coronary artery disease, aneurysm, loss of vision function, sexual dysfunction (Saifuddin, 2024).

Management in hypertensive patients is by using pharmacology and non-pharmacology, pharmacological actions by consuming drugs including kaptopril 12.5-25 mg 2-3x a day, nifedepin starting from 5 mg 2x a day, propranolol starting from 10 mg 2x a day which can be increased 20 mg 2x and non-pharmacological actions such as a healthy lifestyle, aerobic exercise that is not too heavy, quitting smoking, reducing excess salt consumption, relaxation such as deep breath relaxation, autogenic and music therapy (Elizabeth, 2015).

Music therapy is a non-pharmacological therapy without the use of drugs that can stimulate the brain in controlling a person's emotions with music themed around natural sounds. Examples of natural sound music such as the sound of waterfalls, the sound of the wind, the chirping of birds and rain. The sound of nature is very close to everyone's daily life and humans have an innate attraction with nature, so that their interaction with nature has a therapeutic effect on humans themselves who listen to it (Lita, Ardianti, 2019).

According to Djohan (2006) in Noor Cholifah et al. (2019) listening to music is an alternative option to achieve a relaxed state so that it will reduce the stress and depression experienced, music will stimulate the hypothalamus so that it will provide a feeling of calm which will later affect the reproduction of endocrine, cortisol and catecholamines in the mechanism of regulating blood pressure. Music is able to stimulate the body to produce a molecule called nitric oxide (NO), a NO molecule that acts on the muscle tone of blood vessels that can reduce blood pressure (Mega, et al. 2019).

This is in line with the research of Nisrina Akmalia and Herni Rejeki (2022), which found that family I and family II were equally effective in

experiencing changes in blood pressure. In family I the initial blood pressure was 160/110 and family II was 170/100 mmHg, after the 14-day meeting family I blood pressure was 140/90 mmHg and family II blood pressure was 140/90 mmHg.

This study was also conducted by Dananto Bakhthiar (2020), the results of the evaluation in both hypertension clients showed a stable decrease in blood pressure, client blood pressure 1 from 150/95 mmHg to 140/83 mmHg and client 2 from 160/90 mmHg to 148/83 mmHg.

This study is also supported by the research of Noor Cholifah, et al. (2019), the results obtained from a 7-day study given natural sound therapy showed a significant change in blood pressure in hypertensive patients, both systole and diastol, on average blood pressure before and after natural sound therapy. Meanwhile, respondents who were not given natural sound therapy were only given therapeutic communication did not show significant changes in average blood pressure before and after treatment.

Based on the results of a preliminary data survey at the Aroel Wound Care Clinic, Blang Bintang District, Aceh Besar Regency, on November 1, 2025, it was found that the number of hypertensive patients during September-November 2025 was 43 people, of which 33 were women and 10 others were men, with an average age of 55 years and some hypertension patients were over 27 years old. The average systolic blood pressure in hypertensive patients at Aroel Clinic is 149 mmHg and the average diastolic blood pressure is 98 mmHg.

The results of interviews with 2 subjects with hypertension in Aroel were obtained that subject I had hypertension due to hereditary (genetic) factors and subject I suffered from hypertension 3 years ago, the subject said that he often had dizziness, stiffness in his stomach, and headaches. Meanwhile, subject II mentioned that he had hypertension 4 years ago, complained of dizziness, headache, stiffness and excessive sweating. After being interviewed, it turned out that the 2 subjects did not know that the application of natural sound music therapy can lower blood pressure in hypertensive patients and had never even done natural sound music therapy.

From the results of the interview, hypertension patients in Gampong Beurawe have never applied natural sound music therapy to lower blood pressure. Gampong Beurawe Village is one of the villages with high cases of hypertension compared to other villages. So the researcher is interested in conducting research on the application of Suara Alam music therapy to lower blood pressure in hypertensive patients in the village.

Based on the description above, the author is interested in conducting a case study with the title "Application of Natural Sound Music Therapy in Lowering Blood Pressure in Hypertensive Patients at the Aroel Wound Care Clinic, Blang Bintang District, Aceh Besar Regency".

## Method

This study uses a descriptive design with a qualitative case study approach to analyze the application of natural sound music therapy in hypertensive patients. The case study was chosen to explore the phenomenon in depth in two hypertensive patients. The subjects of the study were 2 female patients with an age range of 40–59 years who experienced grade I hypertension (140–160/90–100 mmHg), were willing to be respondents, were cooperative, were not undergoing other therapies, and did not have hearing loss. The focus of this study was to assess the reduction in blood pressure after the application of natural sound music therapy (waterfalls, rain, wind, and birdsong) given as a nonpharmacological intervention. Therapy was carried out for 7 days with a duration of 20–30 minutes using a volume of 50–60 dB. Operational variables included hypertension as a condition of blood pressure  $\geq 140/90$  mmHg, blood pressure as a result of arterial measurement, and natural sound music therapy as a relaxation intervention to reduce stress and blood pressure. The research instruments include observation sheets, study sheets, SOPs, and blood pressure measuring instruments (sphygmomanometers and stethoscopes). Data were collected through observation and pre-test and post-test measurements before and after the intervention. The research was carried out at the Aroel Wound

Care Clinic, Blang Bintang District, Aceh Besar Regency on February 10-16, 2026. Data were analyzed descriptively and presented in narrative form based on the results of observations, interviews, and blood pressure measurements.

## Result and Discussion

### Results

#### Case Study Location Overview

This research was conducted at the Aroel Homecare Clinic, Blang Bintang Kota District, Aceh Besar. Based on the results of an interview with the Head of the Aroel Homecare Clinic, it was found that the Aroel Homecare clinic serves various general services such as checking blood pressure, blood sugar, temperature, pulse, infusion, antibiotic injections, changing bandages, treating wounds, and various other nursing services.

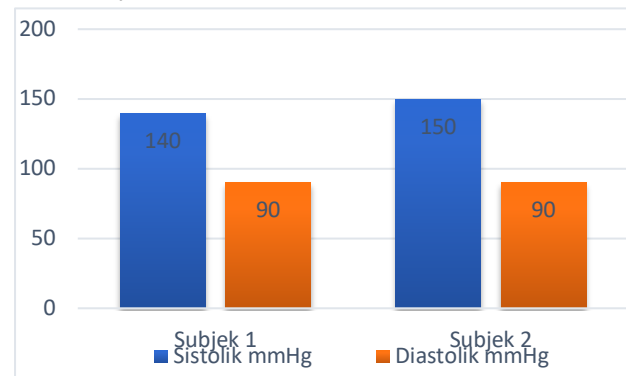
#### Results of the Assessment

Based on the first stage that must be carried out in research with hypertension subjects is a study. In this case study, the initial assessment was to examine the history of hypertension in both subjects.

Based on the results of the study, it was found that during the initial assessment, subject I had a history of hypertension due to hereditary factors. Subject I has been experiencing hypertension since 3 years ago. The results of the examination were obtained blood pressure of 140/90 mmHg, subjects often felt stiffness, headaches, and dizziness. The subject had never been treated at the health center before. Currently the subject has never taken the drug. However, when feeling dizzy, and stiff, the subjects consumed only cucumbers, limiting high-sodium foods and getting enough rest.

Meanwhile, subject II had hypertension since 4 years ago, the results of the examination showed that the subject's blood pressure was 150/90 mmHg, the subjects often felt dizzy, headaches, stiffness of the knees. and excessive sweating. Previously, the subject had been treated at a health center to check blood pressure and was given amlodipine but that was 1 month ago. The cause of hypertension in subject II is because they do not

maintain a diet. At this time the subject has never taken any medication.



**Figure 1. Results of Preliminary Blood Pressure Assessment of Subjects I & Subjects II**

After a study was carried out on both subjects related to hypertension disease suffered by the subjects, where both subjects experienced an increase in blood pressure, a nursing intervention was carried out by applying natural sound music therapy. Natural sound music therapy is a form or way of healing by listening to music in the form of natural sounds. This activity is carried out 1 time a day for 7 consecutive days in the morning.

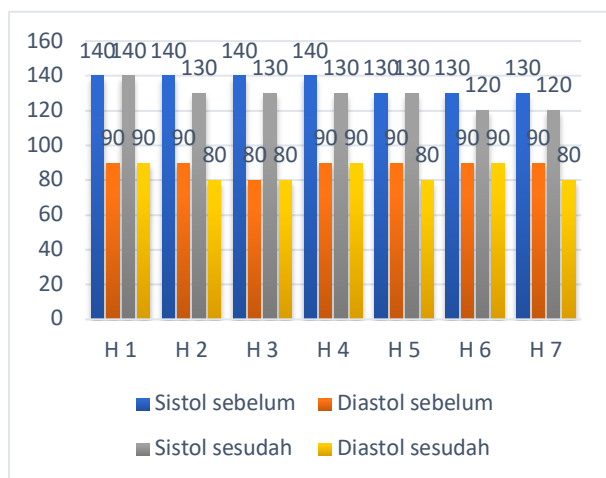
After completing the intervention in the application of natural sound music therapy, an evaluation is carried out every day to find out the development of the subject, whether the application of natural sound music therapy can help lower high blood pressure in hypertensive subjects.

#### Evaluation results

Based on the results of the study, it is known that after the application of natural sound music therapy, the results of vital signs in subjects I and subject II are as follows:

##### Subject I

Subject I with the initials Mrs. S, 55 years old, Muslim, address Gampong Blang Bintang, Acehnese tribe, last education S1. On the first day to the seventh day of the subject's blood pressure after the Application of therapy There was a decrease in natural sound music, namely on the first day 140/90 mmHg there was a decrease on the seventh day to 120/80 mmHg.

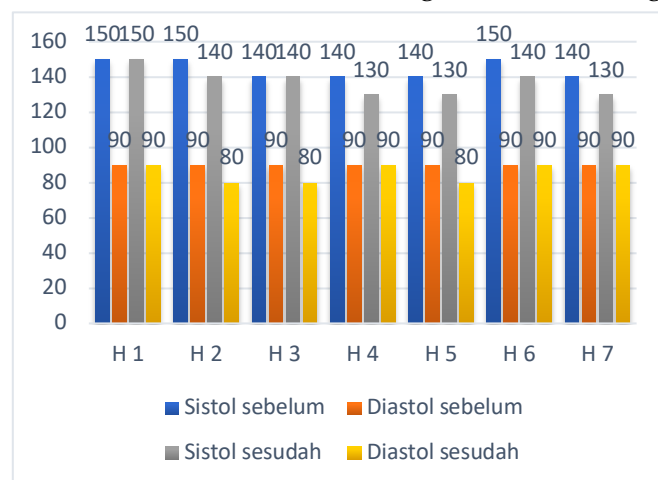


**Figure 2. Blood Pressure Results (TD) Before and After the Application of Natural Sound Music Therapy**

Based on the diagram above, it is known that there was a decrease in blood pressure in subject I, gradually from the first day to the seventh day with the final result of blood pressure obtained in subject I, which was 120/80 mmHg.

#### Subject II

Subject II with the initials Mrs. M is 53 years old, Muslim, last education in high school, address Gampong Blang Bintang, Acehese tribe, housewife work (IRT). On the first day of the subject's blood pressure after the application of natural sound music therapy was carried out, there was no change of 150/90 mmHg. On the second to fifth day of the subject's blood pressure, there was a change with pre-intervention 150/90 mmHg to (post-intervention) 130/80 mmHg. On the sixth day of the subject's blood pressure, there was an increase before being given the intervention (pre-intervention) from 150/90 to (post intervention) 140/90 mmHg. On the seventh day of the subject's blood pressure, there was a decrease with pre-intervention from 140/90 mmHg to 130/90 mmHg.



**Figure 3. Blood Pressure Results (TD) Before and After the Application of Natural Sound Music Therapy**

Based on the diagram above, it is known that there is a decrease and increase in blood pressure in subject II, gradually from the first day to the seventh day with the final result of blood pressure obtained in subject II, which is 130/90 mmHg.

#### Discussion

From the results of the study on the application of natural sound music therapy in lowering blood pressure in subjects suffering from hypertension, the results of a decrease in blood pressure in subjects I and subject II between before and after the application of natural sound music therapy in both research subjects were obtained.

According to the researchers' assumptions, there is an effect of the application of natural sound music on the reduction of blood pressure in people with hypertension. As the researcher saw from both subjects, after the application of natural sound music therapy, there was a decrease in blood pressure. Where listening to natural sound music can be an alternative to make a relaxed state so that it will reduce the stress and depression experienced.

The results of this study are in line with the research conducted by Noor Cholifah, et al. (2019) with the title "The Effect of the Intensity of Natural Sound Music Therapy on Reducing Blood Pressure in Hypertensive Patients in Pelang Mayong Village, Jepara in 2016" the results obtained from a 7-day study given natural sound therapy showed a change, namely a decrease in blood pressure in hypertensive patients, both systole and diastole. It can be implied that there is a significant influence in the administration of natural sound therapy on lowering blood pressure.

This is supported by Mega, et al. (2019) that the administration of music therapy can be done once a day for 7 days can lower blood pressure in hypertensive patients. The decrease in blood pressure in hypertensive patients lasts gradually for 7 days. The supporting factors for the success of therapy to reduce blood pressure in hypertensive patients are influenced by several factors including the intensity of therapy, diet, and sleep quality.

According to the researchers' assumption, the intensity of giving natural sound music can lower blood pressure where natural sounds can calm and can help reduce the production of stress hormones that will give the body relaxation.

This is evidenced by (Sulistiyarini & Purnanto, 2021) the intensity of giving music that has a relaxed rhythm of about 60 beats per minute. Lowering blood pressure systolic and diastole is one of the research findings on the impact of natural music therapy on blood pressure regulation.

In addition, the success of this therapy also requires the subject's obedience in maintaining a diet. According to the assumption of researchers, maintaining a diet can affect hypertension. An unhealthy diet that can cause high blood pressure to increase, because often consuming foods that are high in sodium and high fat in large portions or exceeding what is needed will cause fat in the body to accumulate and cause blood flow to be inhibited so that blood pressure becomes high.

This is in line with research conducted by Andini (2022) showing that respondents who experienced hypertension were more likely to have a poor diet of 77 people (64.7%) compared to respondents who had a good category diet of 12 people (24.3%).

This is supported by the theory of Windyasari (2016) stating that the way of consuming foodstuffs is also related to the effectiveness of the foodstuffs consumed as a prevention of Hypertension. In theory, fat is indeed needed by the body as a protective and building agent. However, if consumed excessively, it will increase the occurrence of plaque in the blood vessels, which will further cause hypertension (Windyasari, 2016).

In addition, the success factor of therapy requires the subject's compliance in maintaining the quality of sleep. According to the assumption of researchers, maintaining sleep patterns can be one of the prevention of increased blood pressure. Poor sleep quality will have an impact on the decrease of antibodies against the body with symptoms of weakness and fatigue easily so that when a person gets life problems it will cause a person to be immediately helpless or experience an increase in blood pressure.

This is supported by the theory of Hanugroho (2016). Poor sleep quality can impair memory and cognitive abilities. If this continues for many years, it will have an impact on high blood pressure, heart attacks, strokes, and psychological problems such as depression and other emotional disorders. Poor sleep quality is one of the risk factors for hypertension in adults.

According to Purwono, et al., (2020) the incidence of hypertension is influenced by many factors, including high sodium consumption, high consumption of foods containing animal fats, physical activity such as lack of exercise, family history (genetic), stress, smoking habits, lack of fiber consumption.

According to the assumption researchers consume high salt can cause blood pressure to rise because the sodium in salt draws fluid into the blood vessels. This causes blood volume to increase and overload the heart's work.

According to Purwono (2020), people consume an average of 15 grams of salt per day. High salt or sodium content consumed in excess will result in hypertension. The sodium absorbed in the blood vessels from high salt consumption will result in water retention, so that the volume of blood in the body will increase. High sodium intake causes excessive production of the natrioretic hormone to indirectly result in an increase in blood pressure.

According to the theory expressed by Ramadhani (2017), consuming foods with high fat content and excessive portions can increase cholesterol levels which will result in disorders in blood vessels until there is an increase in blood pressure. This research is in line with the research of Adriaans (2016) who said that high levels of fat in the blood will cause clogging of blood vessels so that they can cause disorders in the cardiovascular system. Fat can lead to cardiovascular disease but does not directly trigger hypertension.

In subject II after the application of natural sound music therapy for 7 consecutive days, the results of the subject's blood pressure were obtained for 5 consecutive days. On the sixth day of the subject's blood pressure, there was an increase before the intervention because at night the subjects consumed fatty foods (mutton) and salted fish. However, after being given

intervention, there was a decline again. On the seventh day, there was a decline again.

According to the assumption that the researcher consumes goat meat can cause an increase in blood pressure, this is in accordance with the theory revealed by Afid & Nurmasitoh (2016) that goat meat has a great potential in increasing blood pressure due to the large protein content in goat meat, in this study it contains 6.25 mg of protein. Meanwhile, consuming food, especially protein, can cause a *specific dynamic action* response which depends on the amount of protein consumed.

According to the theory expressed by Nugroho, et al. (2019) Excessive fat consumption tends to increase blood cholesterol so that it is necessary to limit fat consumption so that blood cholesterol is not too high. High blood cholesterol levels can result in cholesterol deposits in the walls of blood vessels. When the accumulation of cholesterol deposits increases, it will clog the veins and interfere with blood circulation. Impaired blood circulation will aggravate the work of the heart and indirectly aggravate hypertension.

This is in line with research conducted by Fathina (2017) at the Outpatient Clinic at Kodia Hospital that there is a significant relationship ( $p = 0.00$ ) between fat intake and hypertension, fat intake can increase diastolic and systolic blood pressure levels. This is because the habit of consuming fat, especially saturated fat, is very closely related to weight gain which can be at risk of hypertension. Saturated fat consumption can also increase the risk of blood pressure-related atherosclerosis.

In addition to consuming fatty foods (goat meat), the subjects experienced an increase in blood pressure because the subjects also consumed salted fish. According to the author's assumption, consuming salted fish has an effect on increasing blood pressure. This is in accordance with the theory expressed by Sari, et al. (2015) salted fish can also affect blood pressure due to the presence of sodium which causes the body to retain fluids, which increases blood volume.

This is in line with a study conducted by Widyaningrum (2014) with a sample of the elderly in Makamhaji Village, Kartasura District, which also stated that there is a significant relationship

between sodium intake and blood pressure. Sodium is associated with the occurrence of high blood pressure because high salt consumption can shrink the diameter of the arteries, so the heart has to pump harder to push the blood volume narrower and will cause blood pressure to rise. The opposite will also happen when sodium intake decreases, as well as blood volume and blood pressure in some individuals.

According to the researchers' assumption, the lack of exercise/other activities can also lead to an increase in blood pressure. This was obtained in subject II where the subject experienced an increase in blood pressure due to lack of exercise.

This is in accordance with the theory of Rahmayani (2019), that people with hypertension are recommended to do physical exercise or exercise regularly. Exercising regularly is one of the most important parts of managing hypertension because regular exercise can lower peripheral resistance which will lower blood pressure. One exercise session can lower blood pressure (5-7 mmHg) while the long-term effect of exercise can lower blood pressure by 7.4 mmHg.

Family history is also a risk factor that can increase blood pressure, this is in accordance with the theory expressed by Taslima & Husna (2017) that genetic factors in certain families cause the family to have a risk of suffering from hypertension, because a person's family history will be closer to their parents' blood pressure if they are related by blood, so it will allow hypertension to occur in them.

This factor is also supported by the theory from Agustina & Budi, (2015) that a close family history of hypertension (hereditary factors) also increases the risk of developing hypertension, especially in primary hypertension. Of course, this genetic factor is also linked to other environmental factors, which then causes a person to suffer from hypertension. Genetic factors are also related to the metabolism of the regulation of salts and renin of cell membranes.

This is in line with research conducted by Riska (2015) showing that there is a relationship between genetic factors and the incidence of hypertension of productive age (25-54 years). Respondents who experienced hypertension tended to have genetic factors (73.3%).

Respondents who had genetic factors had a 4.12 times greater risk of hypertension of productive age compared to respondents who did not have genetic factors.

According to Mulyadi, et al. (2013) Music is able to activate the limbic system which has a relationship with emotions. When the limbic system is activated by the music being listened to, it will produce a relaxing effect and it is at this time that the blood pressure will drop. Music can also stimulate the body to produce NO (Nitric Oxide) molecules that work on blood vessels which will later lower blood pressure.

This is in accordance with the results obtained in subject I that the application of natural sound music therapy can lower blood pressure and each process has progressed very well, on the first day to the seventh day the subjects have made very significant progress. starting from the subject experiencing a regular decrease in blood pressure. Because the subject said that he or she had cut back on fatty foods and foods that were high in salt (salty).

This is in accordance with the theory according to Jaya, et al. (2016) family history with hypertension, moderate and severe stress, light physical activity, obesity and the habit of consuming excessive salty foods are risk factors for hypertension and the habit of consuming fatty foods is indirectly found also related to hypertension.

From the results of the application of natural sound music therapy carried out I times a day for 7 days, the application to both subjects shows that natural sound music therapy is effective in lowering blood pressure because natural sounds can stimulate the body to produce NO (Nitric Oxide) molecules that work on the vessels. The last result of the vital signs of subject I, namely blood pressure decreased from 140/90 mmHg to 120/80 mmHg, pulse 70 times/minute, breathing 24 times/minute and temperature 36.5° C.

Based on the research conducted shows how important it is to apply natural sound music therapy to lower blood pressure in hypertensive patients, this is because natural sound music is able to lower blood pressure, which music can reduce cortisol levels, which is a stress hormone that contributes to high blood pressure, as well as

improve the function of the inner lining of blood vessels that cause blood vessels to stretch by 30%, In addition to being useful in lowering blood pressure, music also affects the parasympathetic nervous system which stretches the body and slows down the heart rate, as well as providing a relaxing effect on the organs of the body with music with the theme of natural sounds (Lita, Ardianti, 2019).

## Conclusion

Based on the exposure of the focus of the case study and discussion on hypertension subjects regarding blood pressure reduction. After the application of natural sound music therapy, it can be concluded that natural sound music therapy can lower blood pressure in hypertensive patients. Where blood pressure in subject I decreased from 140/90 mmHg to 120/80 mmHg. And in subject II there was a decrease from 150/90 mmHg to 130/90 mmHg. The application of natural sound music therapy can provide optimal results to lower blood pressure in hypertensive patients if the patient maintains a healthy lifestyle.

## Acknowledgments

The authors would like to express their sincere gratitude to all parties who have contributed to the completion of this study entitled "Application of Natural Sound Music Therapy in Reducing Blood Pressure in Hypertension Patients at the Aroel Wound Care Clinic, Blang Bintang District, Aceh Besar Regency." We extend our deepest appreciation to the management and staff of Aroel Wound Care Clinic for their permission, support, and cooperation during the data collection process. Special thanks are also addressed to the patients who willingly participated as respondents in this study. Our gratitude is further extended to the Diploma III Nursing Study Program, Iskandar Muda Military Hospital, Banda Aceh, for providing academic support and guidance throughout the research process. We also sincerely thank all lecturers and colleagues who contributed valuable suggestions and encouragement in completing this study. Finally, the authors acknowledge all individuals who directly or indirectly assisted in the completion of this research.

## Author Contributions (supervisor, )

"Conceptualization, N.F. and N.F.; methodology, N.F.; software, N.F.; validation, N.S., Y.Y. and Z.Z.; formal analysis, N.F.; investigation, N.F.; resources, J.M.; data curation, N.F.; writing—original draft preparation, N.F.; writing—review and editing, N.F.; visualization, N.F.; supervision, N.S.; project administration, W.D.;

## Funding

This research does not receive external funding, this research is funded by Novita Fazilla and APC costs are funded by Novita Fazilla

### Conflicts of Interest

The author has no problem in conducting this research or other conflicts of interest

### References

- Afid, M. D., & Nurmasitoh, T. (2012). Efek konsumsi daging kambing. *KesMas: Jurnal Kesehatan Masyarakat*, 10.
- Agustina, R., & Raharjo, B. B. (2015). Faktor risiko yang berhubungan dengan kejadian hipertensi usia produktif (25–54 tahun). *Unnes Journal of Public Health*, 4(4).
- Akmalia, N., & Rejeki, H. (2022). Penerapan terapi suara alam untuk menurunkan tekanan darah pada keluarga di Desa Kebonan Kecamatan Batang Kabupaten Batang. 674–679.
- Bakhthiar, D. (2020). *Penerapan terapi musik*. Universitas Muhammadiyah Magelang.
- Cholifah, N., Setyowati, S., & Karyati, S. (2019). Pengaruh pemberian terapi musik suara alam terhadap penurunan tekanan darah pada penderita hipertensi di Desa Pelang Mayong Jepara Tahun 2016. *Jurnal Ilmu Keperawatan dan Kebidanan*, 10(1), 236.
- Elizabeth. (2015). Konsep dasar hipertensi, Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. *Hypertension*, 42, 1206–1252.
- Fathina. (2017). *Hubungan asupan sumber lemak dan indeks massa tubuh (IMT) dengan tekanan darah pada penderita hipertensi* (Artikel ilmiah). Program Studi Ilmu Gizi, Fakultas Kedokteran, Universitas Diponegoro, Semarang.
- Fulka, R., & Alike Sari, S. H. (2024). Application of hypertension exercise on blood pressure in hypertension patients in the work area of Purwosari Metro Puskesmas. *Jurnal Cendikia Muda*, 4(3), 440–447.
- Hanugroho. (2016). *Hubungan kualitas tidur dengan tekanan darah pada lansia hipertensi di Kedawung Kabupaten Sragen*. Fakultas Kesehatan, Universitas Sebelas Maret.
- Jaya Widayatha, I. M., et al. (2016). Family history, stress, less physical activity, obesity and excessive salty food consumption as risk factors of hypertension. *Public Health and Preventive Medicine Archive*, 4, 186.
- Kementerian Kesehatan Republik Indonesia. (2023). *Prevalensi, dampak, serta upaya pengendalian hipertensi & diabetes di Indonesia*.
- Lita, Ardianti, M. D. (2019). The effects of nature sound to blood pressure. 5(3), 132–138.
- Mega, O., Ririn, N., & Rika, S. (2019). Pengaruh terapi musik klasik terhadap penurunan tekanan darah pada penderita hipertensi. *Pengetahuan Orang Tua Tentang Jajanan Sehat Pada Anak*, 3, 11–24.
- Nugroho, et al. (2019). Faktor risiko penyebab kejadian hipertensi di wilayah kerja Puskesmas Sidorejo Lor Kota Salatiga. *Jurnal Kesehat Kusuma Husada*.
- Prasetyaningrum, I. Y., & G. S. (2014). *Hipertensi bukan untuk ditakuti*.
- Purwono, J., et al. (2020). Pola konsumsi garam dengan kejadian hipertensi pada lansia. *Jurnal Wacana Kesehatan*, 5(1).
- Rahmayani Sri, T. (2019). Faktor-faktor resiko kejadian hipertensi primer pada usia 20–55 tahun di Poliklinik Penyakit Dalam RSUD 45 Kuningan. *Syntax Idea*, 1(4).
- Riska. (2015). Faktor risiko yang berhubungan dengan kejadian hipertensi usia produktif (25–54 tahun). *Unnes Journal of Public Health*, 4(4), 146–158.
- Saifuddin, R., & . (2024). *Perawatan diri penderita hipertensi usia dewasa*.
- Satriadi, A. (2022). Application of family nursing care in patients with hypertension: A case study. *Asian Journal of Pharmaceutical Research and Development*, 10(2), 48–52. <https://doi.org/10.22270/ajprd.v10i2.1118>
- Taslima, T., & Husna, A. (2017). Hubungan riwayat keluarga dan gaya hidup dengan hipertensi pada lansia di Puskesmas Kuta Alam Banda Aceh. *Journal of Healthcare Technology and Medicine*, 3(1).
- Widyaningrum, T. A. (2014). *Hubungan asupan natrium, kalium, magnesium dan status gizi dengan tekanan darah pada lansia di Kelurahan Makamhaji Kartasura (Skripsi)*. Program

Studi Ilmu Gizi, Fakultas Ilmu Kesehatan,  
Universitas Muhammadiyah Surakarta.

Windyasari. (2016). *Hubungan antara konsumsi makanan dengan kejadian hipertensi pada pra lansia di wilayah kerja UPTD Puskesmas Kampung Bangka Kecamatan Pontianak Tenggara* (Naskah publikasi). Universitas Tanjungpura.