

APPLICATION OF FOOT MASSAGE THERAPY TO REDUCE BLOOD PRESSURE IN ELDERLY HYPERTENSION

Indah Puspita Meylia¹, Elisabeth Iswantiningsih¹, Christiana Endang Daruwati^{2*}

¹Politeknik Kesehatan Karya Husada Yogyakarta Jl. Tentara Rakyat Mataram No.11B, Bumij, Yogyakarta 55231, Indonesia

²Puskesmas Sewon 1 Bantul, Jl. Parangtritis No.Km. 7, Dadapan, Timbulharjo, Bantul, Yogyakarta 55188, Indonesia

*christianaendangdaruwati@gmail.com

ABSTRACT

Hypertension is a disease that many Indonesian people suffer from because the prevalence of hypertension cases in Indonesia especially the elderly is the third highest in the world. Management of hypertension is divided into two, namely pharmacological and non-pharmacological. According to previous research, foot massage is a non-pharmacological therapy that can reduce blood pressure for hypertension sufferers. This case study aims to provide an overview of the application of foot massage to reduce blood pressure in elderly people with hypertension in the Sewon 1 Bantul Community Health Center working area. This case study uses a descriptive method by obtaining a systematic and accurate picture of real events with data collection carried out by means of interviews, blood pressure checks, observation and documentation. The application of foot massage therapy carried out for 3 days with a frequency of 1 time a day for a duration of 15 minutes can reduce the average blood pressure of clients from the first day to the third day before giving foot massage therapy by 145/105mmHg and after giving therapy by 110 /80mmhg. There was a decrease in the average systolic blood pressure before and after giving foot massage therapy by 21 and diastole by 18. The application of foot massage therapy can reduce blood pressure from the classification of stage 1 hypertension to pre hypertension. The classification used in this case study is according to JNC. Suggestion: It is hoped that families can apply foot massage techniques to elderly patients with hypertension.

Keywords: elderly; foot massage; hypertension

INTRODUCTION

Elderly people have several diseases that are often experienced, one of which is high blood pressure or hypertension. Hypertension is an abnormal increase in blood pressure which can be the main cause of cardiovascular disease. Hypertension or high blood pressure is a disease related to human blood pressure. If a person has blood pressure of 140 mmHg (systolic) or more measured while sitting and blood pressure (diastolic) of 90 mmHg or more, then that person is categorized as having high blood pressure or above average. (Tawaddud, 2021). According to World Health Organization (WHO) 2019 in research (Maulidah et al., 2022) estimates that the global prevalence of hypertension is currently 22% of the world's total population. The highest prevalence of hypertension is in Africa, namely 27%. Southeast Asia ranks 3rd highest with a prevalence of 25% of the total population. Meanwhile, Basic Health Research was carried out by the Indonesian Ministry of Health in 2018 (Murwani et al., 2023) 34.1% of people suffer from hypertension in Indonesia. The prevalence in the Special Region of Yogyakarta reached 11.01% in 2021. Meanwhile, the prevalence of hypertension sufferers in Bantul reached 67.8% in 2021 (Dinkes Kabupaten Bantul, 2023). Based on medical record data from the Sewon 1 Bantul Community Health Center in January – December 2023, there were 2,804 people.

Management of hypertension is divided into two parts, namely pharmacological and non-pharmacological. Pharmacological is therapy given by doctors by taking hypertension medication

such as amlodipine, nifedipine, captopril to lower blood pressure, while non-pharmacological is therapy that can be done by carrying out complementary therapies, one of which is foot massage. Foot massage is a complementary therapy that is safe and easy to administer and has the effect of increasing circulation. Massage also improves blood circulation which can provide a direct mechanical effect from pressure and rhythmic movements, causing stimulation of nerve receptors and causing blood vessels to dilate reflexively, thus improving blood flow. (Rahmasari et al., 2023) Based on the background that emerged, the author was interested in writing a scientific paper entitled Application of Foot Massage Therapy to Lower Blood Pressure in Elderly People with Hypertension in the Sewon 1 Bantul Health Center Work Area.

METHOD

The method of this scientific paper is descriptive in the form of a case study to describe the application of Foot Massage Therapy to Lower Blood Pressure in Elderly People with Hypertension. Data was collected based on inclusion criteria at Sewon 1 Community Health Center, then carried out observations and got clients in Dusun Cepit RT 05 Pandowoharjo Sewon Bantul, conducted interviews and then gave informed consent. If the client was willing, we made a time contract and informed them that a blood pressure check would be carried out, then the next day That day, the blood pressure was checked before doing the foot massage, then foot massage therapy was carried out on the client for 15 minutes, after that, advise the client to rest and have the blood pressure checked, and evaluate the results every day for the next 3 days.

RESULT AND DISCUSSION

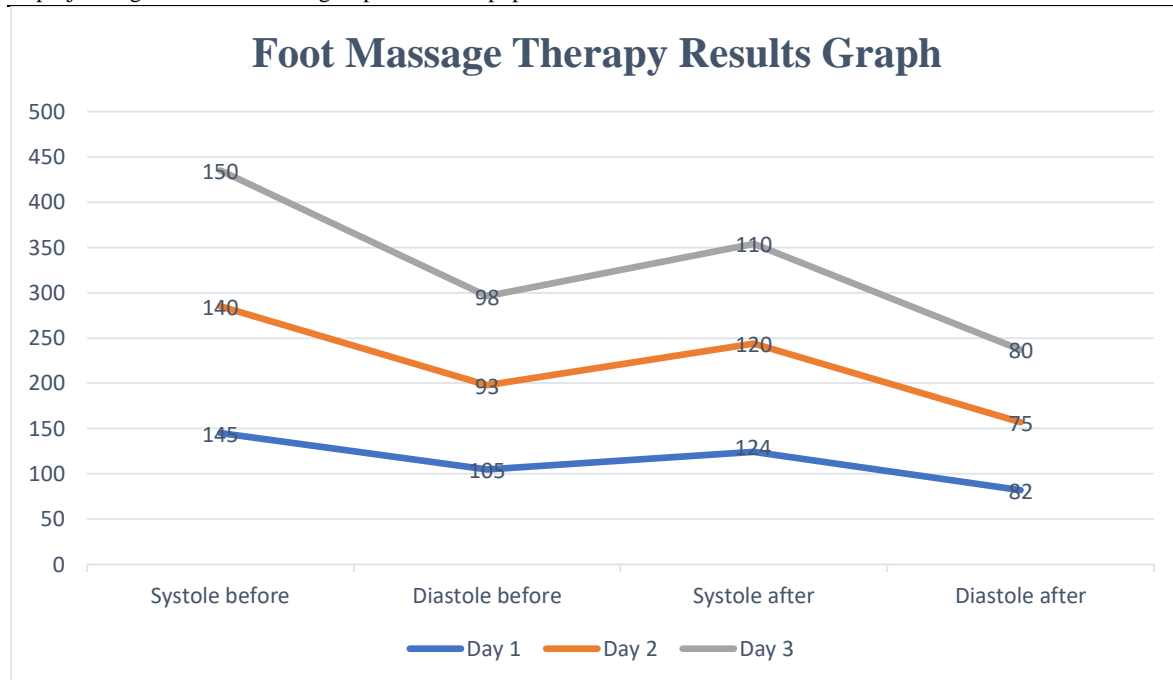
In this case study, the data obtained during the observation was a client named Mrs. P, female, 60 years old, Muslim, Javanese, who has suffered from high blood pressure since 2023. The client's last education was Elementary School (SD). The client's current job is as a housewife. Currently, the client lives with her husband, because her children are married and live with her husband. When the examination was carried out, the results showed that the client's blood pressure was 140/97 mmHg, pulse: 95x/minute, RR: 21x/minute. The complaints currently being felt by clients are dizziness and hot feet. The client said he went to bed at 22.00 WIB then woke up at 05.00 WIB. The following table explains blood pressure before and after applying foot massage.

Table 1

Date and time	Time	Blood Pressure	
		Before action	After action
Tuesday 12/03/2024	16.00	145/105mmhg	124/82mmhg
Wednesday 13/03/2024	16.00	140/93mmhg	120/75mmhg
Thursday 14/03/2024	16.00	150/98mmhg	110/80mmhg

Foot Massage therapy carried out for 3 consecutive days showed the highest reduction on the 3rd day on March 14 2024.

Sample image:



Based on the results of the case study carried out, the results showed that on the first day, Tuesday 12 March 2024, blood pressure decreased from 145/105 to 124/82mmHg. Foot massage provides a relaxing effect and improves blood pressure so that blood pressure can decrease, according to (Rahayu & Hanifah, 2023) which says foot massage can increase blood flow, provide a comfortable and relaxing effect on the body and cause blood retention to decrease. On the second day, Wednesday 13 March 2024, at 14.00 a blood pressure check was carried out and there was a decrease in blood pressure after the foot massage from 140/93mmHg to 120/75mmHg. Clients say that after therapy the body feels better and sleeps better, because foot massage can provide a deep relaxing effect, reduce anxiety, reduce pain, physical discomfort, and improve sleep quality. (Robby et al., 2022)

On the third day, Thursday 14 March 2024, at 16.00 the blood pressure was checked again and there was a decrease in blood pressure from 150/98 to 110/80 mmHg. On the third day, the blood pressure before the foot massage was 150/98, higher than the previous day, because the client said he had eat goat meat brought by his child and felt dizzy after eating. The cause of high blood pressure experienced by Mrs. P can occur by several factors such as genetics, gender, stress, and factors from the food consumed, as happened to Mrs. P. On the third day, her blood pressure before therapy showed a higher number than the previous day due to factors from the food consumed. According to Ainurrafiq et al., (2019), one of the factors that influence the rise and fall of a person's blood pressure is the food consumed, such as foods high in saturated fat such as fatty red meat, milk fat, butter and hard cheese which can increase the risk of high blood pressure. or hypertension.

Management of hypertension with non-pharmacological therapy such as providing massage therapy which can be done independently at home and using tools that are very simple and can be found, namely just using oil or lubricant for massage, here the researchers used telon oil. One of them is by providing foot massage therapy, foot massage therapy, apart from having an effect on reducing blood pressure, also has a positive effect on pulse frequency and sleep quality. This foot massage therapy functions to increase blood circulation which can make the client relax which can affect the atmosphere. liver, reduces stress hormones, foot massage also reduces the source of depression and anxiety, makes it easier for the leg muscles to walk, increases blood circulation to the joints, relaxes muscle tension, thereby improving blood flow to the heart

and stabilizing blood pressure so that blood pressure continues to decrease and body function improves. improved. Based on this discussion, researchers recommend Foot Massage therapy as an independent intervention that nurses can carry out to help overcome high blood pressure in hypertension patients.

CONCLUSION

Based on the results of the case study that has been conducted, the provision of foot massage therapy carried out for 3 days with a frequency of 1 time a day with a duration of 15 minutes can help lower the blood pressure of clients with hypertension. Clients have been observed and their blood pressure measured before and after being given foot massage therapy because it smoothes blood flow to the heart and stabilizes blood pressure so that blood pressure will continue to decrease. An average decrease was obtained from the first day to the third day before therapy of 145/105mmhg and after the administration of foot massage of 110/80mmhg, and lowering blood pressure from the classification of stage 1 hypertension to pre-hypertension.

REFERENCES

- Ainun, K., Kristina, K., & Leini, S. (2021). Terapi Foot Massage Untuk Menurunkan Dan Menstabilkan Tekanan Darah Pada Penderita Hipertensi. *Abdimas Galuh*, 3(2), 328. <https://doi.org/10.25157/ag.v3i2.5902>
- Ainurrafiq, A., Risnah, R., & Ulfa Azhar, M. (2019). Terapi Non Farmakologi dalam Pengendalian Tekanan Darah Pada Pasien Hipertensi: Systematic Review. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, 2(3), 192–199. <https://doi.org/10.56338/mppki.v2i3.806>
- B. Nuraini. (2020). Risk Factors of Hypertension. *J Majority*, 4(5), 10–19.
- Dinas Kesehatan DIY. (2022). Dinas Kesehatan D.I Yogyakarta tahun 2022. Dinas Kesehatan Daerah Istimewa Yogyakarta Tahun 2022, 76. <http://www.dinkes.jogjaprov.go.id/download/download/27>.
- Dinkes Kabupaten Bantul. (2023). Profil Kesehatan Kabupaten Bantul Tahun 2022. *Tunas Agraria*, 3(3), 1–47.
- Fadlilah, S., Hamdani Rahil, N., & Lanni, F. (2020). Analisis Faktor Yang Mempengaruhi Tekanan Darah Dan Saturasi Oksigen Perifer (Spo2). *Jurnal Kesehatan Kusuma Husada, Spo 2*, 21–30. <https://doi.org/10.34035/jk.v1i1.408>
- Helwig, N. E., Hong, S., & Hsiao-wecksler, E. T. (n.d.). SOP FOOT MASSAGE. 6–9.
- History, A., Astuti, V. W., Amri, L. F., Keperawatan, J., Kemenkes, P., & Barat, S. (2021). PREVALENSI. 9(1), 1–9.
- Iswati, I. (2022). Foot Massage untuk Mengontrol Tekanan Darah pada Lansia dengan Hipertensi. *Adi Husada Nursing Journal*, 8(1), 29. <https://doi.org/10.37036/ahnj.v8i1.222>
- Junaedi, E., Yulianti, I. S., & Renata, M. G. (2013). hipertensi kandas berkat herbal. *FMedia*.
- Kusnan, A. (2022). Pengaruh Teh Hijau Dalam Menurunkan Tekanan Darah: Systematic Review. *NURSING UPDATE: Jurnal Ilmiah Ilmu Keperawatan P-ISSN: 2085-5931 e-ISSN: 2623-2871*, 13(1), 69–79.

- Mahmudah, S. (2019). Sari Buah Pepaya (*Carica Papaya L*) Untuk Mengendalikan Tekanan Darah Pada Lansia. *Prosiding Seminar Nasional ...*, 11, 162–183. <http://jurnal.poltekkeskhjogja.ac.id/index.php/PSN/article/view/362>
- Marhabatsar, N. S., & Sijid, S. A. (2021). Review: Penyakit Hipertensi Pada Sistem Kardiovaskular. *Jurnal Biologi*, November, 72–78. <http://journal.uin-alauddin.ac.id/index.php/psb>
- Maulidah, K., Neni, N., & Maywati, S. (2022). Hubungan Pengetahuan, Sikap Dan Dukungan Keluarga Dengan Upaya Pengendalian Hipertensi Pada Lansia Di Wilayah Kerja Puskesmas Cikampek Kabupaten Karawang. *Jurnal Kesehatan Komunitas Indonesia*, 18(2), 484–494.
- Monica, S. (2022). Pengaruh Foot Massage Disertai Terapi Muromtall Terhadap Perubahan Tekanan Darah Pada Lansia Dengan Hipertensi Di Puskesmas Pasar Ikan Kota Bengkulu Tahun 2019.
- Murwani, A., Sari Fatimah, & Julia K, J. (2023). Pendidikan Kesehatan Hipertensi dan Cek Kesehatan di Dusun Tambalan, Pleret, Bantul, Yogyakarta. *Journal of Philantropy*, 1(1), 1–5.
- Nasution, F., Darmansyah, I. M., Larasati, D. S., & Anggeria, E. (2022). Pengaruh Foot Massage terhadap Penurunan Tekanan Darah dan Stres Psikologis pada Keluarga Pasien Gagal Ginjal Kronik. *JUMANTIK (Jurnal Ilmiah Penelitian Kesehatan)*, 7(1), 37. <https://doi.org/10.30829/jumantik.v7i1.10881>
- Patria, A., & Haryani, R. P. (2019). PENGARUH MASASE KAKI Berdasarkan data Dinas Kesehatan Provinsi. *Kesehatan Panca Bhakti Lampung*, VII(1), 48–56.
- pebrina. (2020). *Jurnal Abdimas Saintika Jurnal Abdimas Saintika*. *Jurnal Abdimas Saintika*, 2(2), 21–24.
- Punjabstuti, B., & Fatimah, M. (2020). Pengaruh Slow Stroke Back Massage Terhadap Tekanan Darah Pada Lansia Dengan Hipertensi: Literature Review. *Jurnal Kesehatan Madani Medika*, 11(02), 167–176.
- Rahayu, C. E., & Hanifah, F. (2023). Pengaruh Terapi Pijat Refleksi Kaki Terhadap Penurunan Tekanan Darah Pada Pasien Hipertensi. *Jurnal Ilmiah Ilmu Keperawatan*, 14(1), 212–221.
- Rahmasari, Z., Hartutik, S., & Yulianti, R. (2023). Penerapan foot massage terhadap tekanan darah pada lansia dengan hipertensi di RSUD Karanganyar. *Jurnal Ilmu Kesehatan*, 8(4), 151–159. <https://journal-mandiracendikia.com/jikmc>
- Robby, A., Agustin, T., & Hanifan Azka, H. (2022). Pengaruh Pijat Kaki (Foot Massage) Terhadap Kualitas Tidur. *Healthcare Nursing Journal*, 4(1), 206–213. <https://doi.org/10.35568/healthcare.v4i1.1845>
- RS. William Booth Surabaya. (2016). Apa itu Tekanan Darah. Yayasan Pelayanan Kesehatan Bala Keselamatan.
- Rusandi, & Muhammad Rusli. (2021). Merancang Penelitian Kualitatif Dasar/Deskriptif dan Studi Kasus. *Al-Ubudiyah: Jurnal Pendidikan Dan Studi Islam*, 2(1), 48–60.

<https://doi.org/10.55623/au.v2i1.18>

Siswanto, Y., Sri Wahyuni, & Sigit Ambar Widyawati. (2023). Perilaku Berisiko Hipertensi Pada Remaja di Kabupaten Semarang. *Pro Health Jurnal Ilmiah Kesehatan*, 5(1), 284–290. <https://doi.org/10.35473/proheallth.v5i1.2131>

Sumber, D., Sebaung, D., & Probolinggo, G. (2014). 1,2 1 , 2. 46–60.

Susanti, S. (2022). *Jurnal Ilmu Kedokteran dan Kesehatan Indonesia*. Susanti Susanti, 2(2), 45–54.

Tawaddud. (2021). *Jurnal Nasional Ilmu Kesehatan*. *Jurnal Nasional Ilmu Kesehatan*, 4(1), 10–19. https://scholar.google.co.id/scholar?hl=id&as_sdt=0%2C5&q=HUBUNGAN+GAYA+HIDUP+DENGAN+KEJADIAN+DISMENORE+PRIMER+PADA++MAHASISWI+PROGRAM+STUDI+PENDIDIKAN+DOKTER+FAKULTAS++KEDOKTERAN+UNIVERSITAS+TANJUNGPURA&btnG=#d=gs_qabs&u=%23p%3DgKDx05LoScQJ

Telaumbanua, A. C., & Rahayu, Y. (2021). Penyuluhan Dan Edukasi Tentang Penyakit Hipertensi. *Jurnal Abdimas Saintika*, 3(1), 119. <https://doi.org/10.30633/jas.v3i1.1069>

Tesha, A. Z., Rahmawati, & Yanti, S. V. (2023). Effectiveness of Foot Massage Therapy on Decreasing Blood Pressure in Elderly With Hypertension: A Case Study. *Jurnal Ilmiah Mahasiswa Fakultas Keperawatan*, VII(1), 82–89.

Wulandari Ayu, Sari Senja Atika, L. (2023). *Jurnal Cendikia Muda* Volume 3 , Nomor 2 , Juni 2023 ISSN : 2807-3469 Berdasarkan hasil Riset Kesehatan Dasar. 3, 163–171.