



THE EFFECT OF FOOT MASSAGE WITH KHOFANUN OIL ON ANXIETY OF HYPERTENSION PATIENTS IN MAINI DARUL AMAN VILLAGE WEST TEBING TINGGI DISTRICT, MERANTI ISLANDS

Rizka Febtrina¹, Nur Syafridawati², Wardah³
1, 2, 3 School of Nursing Payung Negeri Pekanbaru
rizka.febtrina@payungnegeri.ac.id

Abstract

Objective: Hypertension causes physical and psychological complaints, one of which is anxiety. Anxiety is not overcome, it will affect blood pressure. The research aimed to determine the effect of foot massage with khofanum oil on anxiety in hypertension patients. **Method:** The research design used was a quasi-experimental, one group pre and post test using GAI (Geriatric Anxiety Inventory) questionnaire to measure the level of anxiety. Foot massage was given once a day for 30 days every morning. **Data analysis** used dependent t test. **Result:** The average anxiety of 30 respondents before given foot massage khofanun oil was 8.03 and after intervention was 3.53. **Conclusion:** There is effect of khofanun oil foot massage on anxiety in hypertension patients (p value = 0.000). **Conclusion:** Foot massage can be used as an independent nursing intervention to reduce anxiety in hypertension patients. Further research is needed to determine the effect of foot massage on other variables such as comfort or sleep quality.

Keywords: Foot Massage, Anxiety, Hypertension

Introduction

Hypertension is one of the most common cardiovascular diseases. It is often referred to as the silent killer because most cases of hypertension show no symptoms and go undetected until they show serious complications that can cause death¹. Hypertension is one of the main risk factors for heart attacks and strokes, which affect most of the world's population. Hypertension is a condition where blood pressure is found to be 140/90 mmHg or more for ages 13 - 50 years and blood pressure reaches 160/95 mmHg for ages over 50 years². Hypertension is a chronic disease that cannot be cured, it can only be prevented from developing through

modification of risk factors for hypertension³. Therefore hypertension is a disease that does not only affect the physics but also the psychological conditions⁴. Anxiety can also cause an increase in blood pressure and can affect concentration and alertness, and also increase health risks, and can damage the function of the immune system⁵

Anxiety can also cause an increase in blood pressure and can affect concentration and alertness, and also increase health risks, and can damage the function of the immune system⁵. During times of stress and anxiety, the body experiences hormonal imbalances. All hormones that are controlled by the brain have a balance disorder, one of which is an increase in adrenaline levels and an adrenocortical response. Stress will increase peripheral vascular resistance and cardiac output so that it will stimulate sympathetic nerve activity⁴.

Foot massage is the practice of massaging certain points on the feet. The benefits of foot massage for health are not in doubt. One of its most popular advantage is to reduce pain in the body. Other benefits include preventing various diseases, increasing endurance, helping to cope with stress, relieving migraine symptoms, helping to cure chronic diseases, and reducing dependency on drugs^{6,8}



This study aims to identify the characteristics of respondents, changes in anxiety before and after the intervention and the effect of foot massage on anxiety in hypertension patients.

Method

The research design used was a quasi-experimental design, one group pre and post test. The intervention was given in the form of foot massage using khofanun oil for 10 minutes on each leg which was carried out for 3 days. Anxiety was measured on the first day and measured again after the intervention on the third day. The level of anxiety was assessed using the GAI (Geriatric Anxiety Inventory) to measure the level of anxiety in the elderly (20 questions).

The samples in this study were 30 hypertension patients aged 45 years and experiencing moderate to severe anxiety, with purposive sampling. The exclusion criteria in this study were patients with injuries on the feet, edema, pain in the legs, fractures or other injuries of feet. The procedure of the research is massage the soles of the feet using firm movements with the thumbs using khofanum oil, apply light to medium pressure to various pressure points on the soles of the feet, press the instep area between the thumb and forefinger using the thumbs, then hold the base of the foot with one hand, with the other fingers, pull, rotate and pull the big toe gently, moving from the outside to the inner toes, repeat 2-3 times.

The statistical test in this study was to see the difference in anxiety levels in hypertension patients before and after being given foot massage therapy using khofanun oil. The test used was the dependent t test with a confidence level $\alpha = 0.05$. This research has also been declared to have passed the health research ethics commission at the Faculty of Medicine at University of Riau (No:B/037/UN19.5.1.1.8/UEPKK/2029).

Results

The majority of patients are in the category of elderly (60 years - 74 years) as many as 16 respondents (53.3%) and the majority of

gender are women as many as 24 respondents (80.0%).

Table 1
Distribution of Respondents by Characteristics

No	Variables	Freq	Percentage (%)
Age			
1	Middle age (45-59 y)	10	33.3
2	Elderly (60-74 y)	16	53.3
3	Old age (75-90 y)	4	13.3
Gender			
1	Female	24	80.0
2	Male	6	20.0

Table 2
The Effect of Foot Massage Using Khofanun Oil on Anxiety of hypertension patients

Anxiety	Mean	SD	SE	P value
Pre	8.03	3.023	0.552	0.000
Post	3.53	1.570	0.287	

The average of anxiety before given khofanun oil foot massage was 8.03 (the mean of pre-test) and 3.53 (the mean of post-test). The statistical test results show p value = 0.000 which means that there is an effect of foot massage using khofanun oil on anxiety in elderly hypertension in Maini Darul Aman Village, West Tebing Tinggi District, Meranti Islands.

Discussion

Foot reflexology causes deep relaxation, thereby relieving physical and spiritual fatigue because the sympathetic nervous system has decreased activity which ultimately results in a decrease in blood pressure⁹. The body condition of the elderly who have hypertension can get back to better and stable condition, but the psychological factors of the elderly are very influential in the process of handling hypertension problems⁶. Elderly experiences physical limitations too. Sometimes they experience anxiety because the various illnesses they suffer do not go away and even get worse, so that there is little hope of



recovery. Things like this ultimately cause the elderly to experience psychological disorders such as anxiety^{10,11}. The basic techniques that are often used in reflexology include: the technique of propagating the thumb, rotating the hands and feet at one point, and pressing and holding techniques. Stimulation in the form of pressure on the feet can emit waves of relaxation throughout the body¹².

According to the researchers' assumptions, with the provision of khofanun oil foot massage, the respondents relaxed, so that they could reduce the level of anxiety they experienced. Based on the obtained data, almost all respondents said that they feel soundly when they sleep at night and can also provide comfort and decreased anxiety. This is due to the fact that the action of the khofanun oil foot massage given can accelerate blood flow, seen from the results of the average value of anxiety after the pre-test category of moderate anxiety becomes the mild post-test category.

Non-pharmacological treatment is needed because it provides long-term effects and minimal side effects, among others, is the khofanun oil foot massage for elderly hypertension anxiety¹³. Foot massage khofanun oil is the practice of massaging certain points on the feet. The benefits of foot massage for health are not in doubt. One of its most popular advantage is to reduce pain in the body. Other benefits include preventing various diseases, increasing endurance, helping to deal with stress and anxiety, relieving migraine symptoms, helping to cure chronic diseases, and reducing dependency on drugs^{14,16}.

Khofanun Oil is an oil well known for its properties in Riau Province, especially in the Meranti Islands. Locals often use this oil for various complaints. The composition of khofanun oil consists of a mixture of various natural ingredients such as gotu kola leaves, laos, kencur, lemongrass, red ginger, temu kunci, temu manga, and other spices. Besides being used as a rubbing oil, khofanun oil can

also be consumed directly by drinking it. The use of oil is intended to lubricate the skin so that it will smoothen the movement during massage.

According to the researchers' assumptions, anxiety is a psychosocial disorder that can increase blood pressure. From the results of the study, there was a decrease in anxiety after giving foot massage khofanun oil which greatly influenced the anxiety level in hypertension patients. This can be seen from the 30 respondents in the pre-test category, 17 respondents (56.7%) had moderate anxiety. And the post test category of anxiety became mild as many as 26 respondents (86.7%). It can be seen that there is an effect of reducing anxiety in hypertension patients after giving khofanun oil foot massage. Reduce significant levels of anxiety and make respondents feel comfortable. Foot massage khofanun oil also has minimal side effects and has a very significant effect on reducing anxiety in people with hypertension. But it also needs to be considered and monitored while the foot massage is being carried out so that unexpected things do not happen to the respondent.

Conclusions

Foot massage can be used as an independent nursing intervention that is used to reduce anxiety in hypertension patients. Further research is needed to determine the effect of foot massage on other variables such as comfort, sleep quality and blood pressure.

Acknowledgement

Researchers highly appreciate the School of Nursing Payung Negeri Pekanbaru.

References

1. Bakris G, Ali W, Parati G. ACC/AHA Versus ESC/ESH on Hypertension Guidelines: JACC Guideline Comparison. *J Am Coll Cardiol*. 2019;73(23):3018–26.
2. Chopra HK, Ram CVS. Recent Guidelines for Hypertension: A Clarion Call for Blood Pressure Control in India. *Circ Res*. 2019;124(7):984–6.
3. Farrell M. Smeltzer & Bares Textbook of



1. Medical-surgical Nursing [Internet]. Lippincott Williams & Wilkins Pty, Limited; 2016. Available from: <https://books.google.co.id/books?id=FobljwEACAAT>
 2. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan sumber.
 3. Dilarang mengutip hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
 4. Dilarang tidak mengutip sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Universitas Riau.
 5. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan sumber.
 6. Dilarang mengutip hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
 7. Dilarang mengutip sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Universitas Riau.
 8. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan sumber.
 9. Dilarang mengutip hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
 10. Dilarang mengutip sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Universitas Riau.
 11. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan sumber.
 12. Dilarang mengutip hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
 13. Dilarang mengutip sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Universitas Riau.
 14. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan sumber.
 15. Dilarang mengutip hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penyusunan laporan, penulisan kritik atau tinjauan suatu masalah.
 16. Dilarang mengutip sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Universitas Riau.
1. Medical-surgical Nursing [Internet]. Lippincott Williams & Wilkins Pty, Limited; 2016. Available from: <https://books.google.co.id/books?id=FobljwEACAAT>
- Johnson HM. Anxiety and Hypertension: Is There a Link? A Literature Review of the Comorbidity Relationship Between Anxiety and Hypertension. *Curr Hypertens Rep.* 2019;21(9):22–6.
- Jackson CA, Pathirana T, Gardiner PA. Depression, anxiety and risk of hypertension in mid-Aged women: A prospective longitudinal study. *J Hypertens.* 2016;34(10):1959–66.
- Elshamy K, Elsafty E. Effect of Nursing interventions Using Foot Reflexology on Blood Pressure and Quality of Life of Hypertensive Patients at Mansoura University Hospitals: Preliminary Results. *Med J Cairo Univ* [Internet]. 2011;79(2):193–202. Available from: <http://medicaljournalofcairouniversity.net/index/images/pdf/2011/September/52.pdf>
- Ramu K, Natekar DS, Abraham LE, St AB, Ct RA. Effectiveness Of Foot Massage On Blood Pressure. *Int J Curr Adv Res.* 2019;8(01).
- Eccles AS. The effect of massage on the pulse-rate. *Br Med J.* 1895;1(1788):787.
- Rezky RA, Hasneli Y, Hasanah O, Studi P, Keperawatan I, Riau U. Pengaruh terapi pijat refleksi kaki terhadap tekanan darah pada penderita hipertensi primer. *JOM.* 2015;2(2).
- Priyanka DT, Aruna S, Gowri PM. Assess the effectiveness of Foot massage on blood pressure among patient with Hypertension in selected setting , Chennai. *Int J Multidiscip Educ Res.* 2015;4(September):2–6.
- Cankaya A, Sarita S. Effect of Classic Foot Massage on Vital Signs , Pain , and Nausea / Vomiting Symptoms After Laparoscopic. *Surg Laparosc Endosc Percutan Tech.* 2018;28(6):359–65.
- Wahyuni S. Pijat refleksi untuk kesehatan. Jakarta: Dunia Sehat; 2014.
- Moyle W, Cooke ML, Beattie E, Shum DHK, O'Dwyer ST, Barrett S, et al. Foot massage and physiological stress in people with dementia: A randomized controlled trial. *J Altern Complement Med.* 2014;20(4):305–11.
- Youssef NFA, Diab A, Dns AH. The Effect of hand and foot massage on alleviating pain and anxiety of abdominal post-operative patients at a University Hospital: A randomized control trial The Effect of hand and foot massage on alleviating pain and anxiety of abdominal post-operative. *IOSR J Nurs Heal Sci.* 2017;6(May):56–65.
- Oshvandi K, Abdi S, Karampourian A, Moghimbaghi A, Homayonfar S, Kh O. The effect of foot massage on quality of sleep in ischemic heart disease patients hospitalized in CCU. *Crit care Nurs.* 2014;7(2):66–73.
- Azhar MU, Sciences H, Massage F. Effect of Foot Massage on Decreasing Blood Pressure in Hypertension Patients in Bontomarannu Health Center. *J Heal Sci Prev.* 2019;3(December):6–10.