

## **The Effectiveness of the Use of Acupressure Therapy on Reducing the Pain Scale of Gout Arthritis in the Elderly at the Guna Budi Bakti Foundation Nursing Home**

**Krisman Harapan Ziliwu, Fitri kristianis Zalukhu, Mhd Luthfi Rifai,  
Desman Hosada Halawa, Mesy Gultom, Elis Anggeria\***

*Prima Indonesia University, Indonesia*

\* Correspondent Author: [elisanggeria@unprimdn.ac.id](mailto:elisanggeria@unprimdn.ac.id)

### **ABSTRACT**

Acupressure is a traditional treatment that can reduce pain by stimulating nerve cells and controlling blood pressure regularly. Gout arthritis is caused by high purine intake accompanied by an imbalanced consumption pattern. High uric acid levels cause gout which triggers the formation of hardened uric acid clots in the body, marked by inflammation and intense pain in the joints. This study was conducted to determine the effectiveness of the use of acupressure therapy on the scale of arthritis gout pain in the elderly. This study used a quantitative method with a quasi-experimental design with one group pre-test post-test design. The population is all elderly respondents with gout arthritis. Sampling using saturated sampling. Bivariate analysis is using the Wilcoxon test. The results showed that the majority aged 60-69 years were female. The results of the data before the intervention were that the majority of severe pain, and after the intervention, the majority of mild pain. Based on the effectiveness of the use of acupressure therapy interventions given to elderly people with gouty arthritis pain, the sig (2-tailed) value was 0.00, meaning that there was a difference in pain before and after acupressure therapy.

**Keywords:** Gout Arthritis, Pain Relief, Acupressure Therapy

Received April 18, 2021; Revised April 27, 2021; Accepted May 1, 2021



STRADA Jurnal Ilmiah Kesehatan, its website, and the articles published there in are licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

**BACKGROUND**

Aging is a natural process in every human being characterized by psychological disorders, decreased physical and social abilities (Priastana, 2018). All systems in the body experience disruption or decreased function of organ systems including system musculoskeletal where the elderly will feel pain in the joints (Idris & Astarani, 2017). According to the American College of Rheumatology, gouty arthritis is an inflammatory joint disease with complaints of severe pain in the inflammatory area. Gout is chronic joint pain with swelling that occurs around the location of the pain, patients usually often complain of pain in the joints of the toes and other joint areas due to metabolic disorders with increased levels of uric acid which can have a bad impact if not treated immediately (Asrizal, 2019).

Based on data from the World Health Organization (2017), the prevalence of gout arthritis in the world is 34% and in America, it is 26.3% of the total population. The increase in the number of patients with joint disorders in Indonesia (7.3%) was mostly at the age of > 70 years (18.9%). Patients with this disease often occur in women (8.5%) compared to men (6.1%) (Basic Health Research [Riskesdas], 2018).

The increase in the incidence of gout arthritis is caused by various risk factors such as purine intake, obesity, and comorbidities including hypertension and diabetes mellitus. Purine intake is consuming foods that contain purines. Purine intake can affect the occurrence of gout arthritis and will increase in weight if accompanied by an unbalanced consumption pattern (Angriani et al., 2018). High uric acid is bad for the health of the body if uric acid levels are not reduced or eliminated. The impact that occurs on a person with excess uric acid levels will usually feel pain, especially in the joints, feel uncomfortable with his condition when doing activities. High levels of uric acid can form gout, which is a congested clot in the blood characterized by redness due to inflammation that causes severe pain in the joint area. Acupressure therapy will stimulate nerve cells by controlling blood pressure regularly and doing complementary medicine to overcome and reduce pain (Haryani & Misniarti, 2020).

Utomo and Yogi's research (2018) states that giving acupressure therapy can reduce uric acid levels. Research by Rakhman and Purnawan (2015), states that acupressure therapy can overcome high uric acid in the blood.

Acupressure is a traditional medical technique that is performed by applying pressure to points on the body that have been determined as a place for energy circulation that can be used to reduce pain, treat illness and injury. This acupressure technique is non-invasive, effective, and not harmful to health (Priastana, Apriyanto, Akasyah, Juanamasta, & Basuki, 2017). Acupressure is very useful in dealing with pain in the joints, increasing the ability of muscle strength and range of motion, creating a feeling of comfort, and improving blood circulation in the joints (Sunaringtyas & Nuari, 2019). Pain can create subjective conditions that become uncomfortable which includes sensory and emotional experiences of a person (Aswitami & Mastiningsih, 2018).

Complaints of pain that are usually felt by the elderly are various so that there are many obstacles in overcoming them. Poor pain management hurts the health status of the elderly such as depression, social isolation, disability, and sleep disorders (Aisyah, 2017). The way acupressure works are to stimulate the body to heal itself. The therapist will hold and press certain points to stimulate the flow of energy in the body. This stimulation removes blockages energy and fatigue. The energy in the body will be balanced if all energy pathways are open without any tension so that it can create a comfortable state and feeling. If one of

the pathways is blocked, it is necessary to emphasize to relax muscle tension, improve blood circulation and balance the flow of energy (Sunaringtyas & Nuari, 2019).

The combination therapy of stretching and acupressure is more effectively used as an alternative therapy to treat joint pain with gout (Sunaringtyas & Nuari, 2019). Research by Idris and Astarani (2017) states that out of 44 respondents, 39 respondents experienced a decrease in pain after giving acupressure therapy and 5 respondents did not experience a decrease.

Based on data obtained from the medical records of Yayasan Guna Budi Bakti Medan in December 2020, the number of elderly people is 67 people. The number of elderly who complained of joint pain was 44 people. Analgesic drug administration is the main therapy in pain management. However, it is only temporary to relieve pain for a moment as a result the elderly are very dependent on these drugs. In this case, the researcher hopes that acupressure therapy can reduce joint pain caused by gout arthritis so that acupressure therapy can be used as a solution in overcoming the complaints experienced by the elderly with gouty arthritis.

## METHODS

### a. Research design

This research design is quasi-experimental, one group pre-test approach post-test design provides pre-test before intervention and post-test after the intervention. This design aims to see the effectiveness of the use of acupressure therapy to reduce the pain scale of gouty arthritis in the elderly.

### b. Population and Sample

The population consisted of 67 elderly people and 44 people with gouty arthritis. The sampling technique uses saturated sampling, where all members of the population are used as samples (Anshori & Iswati, 2017). The research sample was 44 people.

### c. Research Instruments

The tools used in this study were the observation sheet and rating scale (numerical pain intensity scale).

### d. Data Collection and Data Analysis Procedures

Data collection was carried out in April 2021. Data analysis in this study used univariate and bivariate analysis. Univariate data analysis was carried out to test the demographic data of research respondents which were displayed in the frequency distribution and percentage. Meanwhile, bivariate data analysis was performed to test the pre and post pain scale in the elderly using the Wilcoxon test.

## RESULTS

### Univariate

Research conducted on the effectiveness of the use of acupressure therapy to reduce gout arthritis pain scale in the elderly, the results obtained by the characteristics of the respondents can be seen in the following table:

**Table 1. Frequency Distribution of Respondents Characteristics**

No.	Characteristics of Respondents	Frequency (f)	Percentage (%)
1	Age		
	60-69 years	20	46
	70-79 years old	16	36

	80-89 years old	8	18
	<b>Total</b>	<b>44</b>	<b>100</b>
2	<b>Gender</b>		
	Man	20	45
	girl	24	55
	<b>Total</b>	<b>44</b>	<b>100</b>

Based on the results obtained from Table 1, it is known that the majority of 60-69 years old are 20 people (46%), and the minority age 80-89 years are 8 people (18%). Based on gender, it is known that the majority of women are 24 people (55%), and the minority is male with a total of 20 people (46%).

Table 2. Frequency Distribution of Pain Scale Before Acupressure Therapy in the Elderly Gout Arthritis Sufferers

No.	Pain Scale (Pretest)	Frequency (f)	Percentage (%)
1	No Pain	0	0
2	Mild Pain	7	16
3	Moderate Pain	10	23
4	Severe Pain	27	61
5	Very Severe Pain	0	0
	<b>Total</b>	<b>44</b>	<b>100</b>

Based on the results obtained from Table 2, it is known that the pain scale before acupressure therapy was carried out in 44 respondent, it was found that a minority of mild pain was 7 people (16%), and the majority of severe pain was 27 people (61%).

Table 3. Frequency Distribution of Pain Scale after Acupressure Therapy in the Elderly Gout Arthritis Sufferers

No.	Pain Scale (Posttest)	Frequency (f)	Percentage (%)
1	No Pain	0	0
2	Mild Pain	23	52
3	Moderate Pain	17	39
4	Severe Pain	4	9
5	Very Severe Pain	0	0
	<b>Total</b>	<b>44</b>	<b>100</b>

Based on the results obtained from Table 3, it is known that the pain scale after therapy was carried out in 44 people, the majority of mild pain was 23 people (52%) while the minority of severe pain scale was 4 people (9%).

**Bivariate Analysis**

Table 4. The effectiveness of using acupressure therapy in reducing gout arthritis pain in the elderly

Variable	Mean	N	Std. Deviation	Z	Sig. (2-tailed)
Pre test	6.52	44	1,886	-5,354	0.00
Post-test	3.14	44	1,887		

Based on the results of the analysis from Table 4, it can be seen that 44 people between the pre-test pain scale variables, and post-test were carried out with acupressure therapy, the Z value was -5.354 with a Sig value. (2-tailed), namely was 0.00 < 0.05. This indicates a change in pain intensity before and after acupressure therapy.

**DISCUSSION****Pain Scale before Acupressure Therapy in Elderly Patients with Gout Arthritis**

The results of the study on the pain scale before acupressure therapy showed that the majority of severe pain and a minority of mild pain were found. In this study, the average respondent was 60-69 years old and was dominated by women. Research Anggreini and Yanti (2019), it was found that the majority of respondents experienced severe pain. According to Sunaringtyas and Nuari (2019), joint pain in the elderly is caused by gout due to high uric acid in the blood.

Joint pain is inflammation in the joint area that makes sufferers feel pain and feel uncomfortable (Djamal et al, 2015). According to the assumptions of the researchers at the time of the study, the elderly with severe pain seemed anxious due to the pain so that it was difficult activity well and have difficulty walking, bathing, eating, defecating, and urinating. This concurs with research by Seran (2016), who stated that the presence of joint pain is related to the independence of the elderly.

Acupressure therapy is given according to Standard Operating Procedures (SOP) for a period of 7 days. The first day of measuring the pain scale, followed by the application of acupressure therapy on the next day for 10-15 minutes, and posttest on the seventh day. Before taking action, two working principles need to be considered, namely PHBS (Clean and Healthy Living Behavior) and K3 (Cleanliness, comfort, and safety). The activity begins with the respondent's approval, informing the purpose and benefits, the readiness of tools and materials, the basic concept of massage is carried out with 6 techniques, namely rubbing, squeezing, pressing, vibrating, hitting and manipulating, was using cream or rubbing oil to lubricate the massage location and pressing will be done. as much as 30 times clockwise as yang reinforcement and yin attenuation performed 40 times counterclockwise,

**Pain Scale after Acupressure Therapy in the Elderly with Gout Arthritis**

After the intervention, the results showed that the majority of the pain was mild and the minority was severe. The occurrence of a decrease in pain intensity indicates that the use of acupressure therapy is very effective in reducing joint pain scales in the elderly. The results of the observation showed that the elderly did not experience a decrease in pain because the respondents did not fully carry out the procedures given, including the elderly, were tired, did not want to do activities and practice.

According to Aswitami and Mastiningsih (2018), acupressure can provide a stimulus that stimulates blood awareness of chi energy to reduce pain intensity. Acupressure therapy is a form of physiotherapy that balances qi energy in the body so that it can eliminate and

reduce the intensity of acute and chronic pain (Haryani & Misnia rti, 2020). This is in line with research Sunaringtyas and Nuari (2019), that the effect of acupressure therapy on reducing pain intensity in the elderly.

According to Kurniyawan (2016), emphasis on acupressure points will drain qi energy through the meridians to the target organ so that the resulting stimulation can increase levels of endorphins, physiological (blood flow and oxygen activity), and perception (decreased pain intensity). Stimulation of acupressure points on the body can reduce muscle tension, improve blood circulation, and activate qi energy to reduce pain intensity (Sukeksi et al, 2018).

### **The Effectiveness of Using Acupressure Therapy on Reducing Gout Arthritis Pain in the Elderly**

Based on the exposure of the results study was found differences in pain scale before and after the implementation of acupressure therapy. According to the observations of elderly researchers who suffer from severe pain show symptoms such as difficulty in doing activities independently, swelling in the joints, pain that occurs when there is joint movement due to the buildup of uric acid in the body. The gradual decrease in pain intensity after pressing the acupressure points. This is because acupressure therapy is believed to reduce pain intensity by improving blood and oxygen flow and the elderly can follow procedures and instructions from researchers properly.

This is in line with the research of Aswitami and Mastiningsih (2018), there is a significant effect of acupressure therapy on reducing pain frequency. The provision of acupressure therapy is adjusted to the physical conditions experienced by the elderly by using pressure on certain parts of the body, this action is believed to be able to overcome various kinds of complaints such as pain due to musculoskeletal disorders (Haryani & Misniarti, 2020).

### **CONCLUSION**

Based on the interventions that have been carried out, it can be concluded that before acupressure therapy on the respondents, the majority of the data were severe pain and the minority was mild. After giving acupressure therapy to the respondents, it was obtained the majority of mild pain and the minority of severe pain. There is an effect of the use of acupressure therapy on reducing gouty arthritis pain in the elderly. The results of this study are expected to be used as guidelines for conducting acupressure therapy in dealing with joint pain in the elderly and as a reference source for further researchers to determine the level of effectiveness of the effectiveness of the use of acupressure therapy on reducing pain in the elderly.

### **CONFLICTS OF INTEREST**

The authors have no conflicts of interest to disclose.

### **REFERENCES**

- Anggreini, S. N., & Yanti, N. F. (2019). Efektifitas Kompres Ekstrak Jahe Terhadap Nyeri Sendi Lansia Dengan Arthritis Gout di Panti Sosial Tresna Werda Khusnul Khotimah Pekanbaru Riau. *Health Care : Jurnal Kesehatan*, 7(2), 69–76. <https://doi.org/10.36763/healthcare.v7i2.31>
- Aswitami, G. A. P., & Mastiningsih, P. (2018). Pengaruh Terapi Akupresur terhadap Nyeri Punggung Bawah pada Ibu Hamil TM III di Wilayah Kerja Puskesmas Abian Semal



1. *Strada Jurnal Ilmiah Kesehatan*, 7(2), 47–51.  
<https://doi.org/10.30994/sjik.v7i2.171>
- Djamal, R., Rompas, S., & Bawotong, J. (2015). Pengaruh Terapi Musik Terhadap Skala Nyeri Pada Pasien Fraktur Di Irina a Rsup Prof. Dr. R.D. Kandou Manado. *Jurnal Keperawatan UNSRAT*, 3(2), 113549.
- Haryani, S., & Misniarti. (2020). Efektifitas Akupresure dalam Menurunkan Skala Nyeri Pasien Hipertensi Diwilayah Kerja Puskesmas Perumnas. *Jurnal Keperawatan Raflesia*, 2(1), 21–30. <https://doi.org/10.33088/jkr.v2i1.491>
- Kurniyawan, H. E. (2016). Terapi Komplementer Alternatif Akupresur Dalam Menurunkan Tingkat Nyeri. *NurseLine Journal*, 1(2), 246–256.
- Muslich anshori, sri iswati. (2017). *Metodologi Penelitian KuantitatiF* (1st ed.). Surabaya: Airlangga University Press.
- Priastana, I. K. A. (2018). *Pengembangan Model Keperawatan Manajemen Berduka Kronis Lansia yang Mengalami Kehilangan Pasangan di Komunitas Menggunakan Pendekatan Teori Chronic Sorrow* (Universitas Airlangga). Retrieved from <http://repository.unair.ac.id/73363/>
- Priastana, I. K. A., Apriyanto, B. S., Akasyah, W., Juanamasta, I. G., & Basuki, H. O. (2017). A Systematic Review on the Effectiveness of Auricular Acupressure for Pain. *8th International Nursing Conference Faculty of Nursing Universitas Airlangga*. Surabaya: Faculty of Nursing Universitas Airlangga.
- Seran, R., Bidjuni, H., & Onibala, F. (2016). Hubungan Antara Nyeri Gout Arthritis Dengan Kemandirian Lansia Di Puskesmas Towuntu Timur Kecamatan Pasan Kabupaten Minahasa Tenggara. *Jurnal Keperawatan UNSRAT*, 4(1), 107451.
- Sukeksi, N. T., Kostani, G., & Emy, S. (2018). Pengaruh Teknik Akupressure Terhadap Nyeri Punggung Pada Ibu Hamil di Wilayah Puskesmas Jogonalan I Klaten. *Jurnal Kebidanan Dan Kesehatan Tradisional*, 3–1, 1–7.
- Widyasih Sunaringtyas, Nian Afrian Nuari, W. (2019). Pengaruh Terapi Stretchig dan Akupressure Terhadap Nyeri Sendi Pada Lansia Dengan Gout. *Jurnal ILKES (Jurnal Ilmu Kesehatan)*, 10(1), 45–52.