

# MASSAGE EFFLURAGE USING RED GINGER EFFECTIVE AGAINST GOUT ARTHRITIS PAIN IN THE ELDERLY

*By Hartin Suidah*

## Original Research Article

# MASSAGE EFFLURAGE USING RED GINGER EFFECTIVE AGAINST GOUT ARTHRITIS PAIN IN THE ELDERLY

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### Abstract

**Background:** The elderly with gout arthritis pain mostly choose analgesics to deal with their pain. Massage efflurage using red ginger is a therapy to reduce gout arthritis pain.

**Objective:** The purpose of the study was to determine the effectiveness of efflurage massage therapy using red ginger against gout arthritis pain in the elderly.

**Methods:** The design of this study used a pre-experimental one group pre-posttest design. The independent variable is massage efflurage using red ginger and the dependent variable is gout arthritis pain in the elderly. The research population is all the elderly in Kedungbendo Hamlet, Mojokerto Regency as many as 36 elderly people. The sampling technique used probability simple random sampling as many as 33 elderly people. Pretest-posttest data were collected using a numerical pain scale observation sheet.

**Results:** The results of the pretest-posttest were obtained from 8 respondents with severe pain after therapy, the results were 5 respondents with mild pain and 3 with moderate pain. From 21 respondents with moderate pain, 9 became no pain, 10 became mild pain and 2 respondents remained. Of the 4 respondents who experienced mild pain, all of them changed to no pain. Wilcoxon test results = 0.000 = 0.05, meaning that massage efflurage using red ginger is effective against gouty arthritis pain in the elderly.

**Conclusion:** Massage efflurage using red ginger can be used as a safe alternative therapy for the elderly with gouty arthritis pain. Reducing the consumption of pharmacological analgesic drugs can reduce the negative effects associated with the aging process experienced by the elderly.

**Keywords:** *Massage efflurage, red ginger, gout arthritis.*

## INTRODUCTION

The elderly population is one of the community groups that most need health services (Kemenkes RI 2017). This age group which is categorized as elderly cannot be separated from a process called the aging

process. The aging process will have an impact on various aspects of life, both social, economic, and health. Judging from the health aspect, the elderly are more susceptible to various physical complaints, either due to natural factors or due to disease factors. Data

from RISKESDAS (2013) shows that the 10 most common diseases that occur in the elderly are hypertension, arthritis, stroke, chronic obstructive pulmonary disease, diabetes mellitus, cancer, coronary heart disease, kidney stones, heart failure, and kidney failure. Among the 10 diseases experienced by the elderly, the prevalence of arthritis or joint disease is the most common disease for the elderly in Indonesia (RISKESDAS, 2013). Joint diseases that are often experienced by the elderly are gout, osteoarthritis and rheumatoid arthritis (Pusdatin Kemenkes RI, 2013). Pain is a typical symptom in joints that have arthritis so that it interferes with daily activities (Sumual, 2012). In Kedung Bendo Hamlet, Gemekan Village, Sooko District, Mojokerto Regency, there are various complaints experienced by the elderly and the most common is joint pain due to gout arthritis. There has been no alternative treatment to treat joint pain in the elderly.

Data from the Ministry of Health of the Republic of Indonesia (2017), the number of elderly people in the world in 2015 reached 12.3% of the total world population. In America, the prevalence of gouty arthritis is estimated at 13.6/100,000 population (Kuo et al, 2015). In Asia the number of elderly reached 11.6%, and in Indonesia it reached 8.1%. In 2015 the elderly morbidity rate in Indonesia was 28.62%, meaning that out of every 100 elderly people there were about 28 of them experiencing pain. In Indonesia, the prevalence of joint disease reaches 24.7%, the highest among other non-communicable disease prevalence data (RISKESDAS, 2013). In Indonesia, the prevalence of gouty arthritis is estimated at 1.6-13.6/100,000 people. The prevalence of age 55-64 years with 33%, age 65-74 years with 46.1%, age > 70 years with 67% based on the diagnosis of health workers and signs and symptoms in Indonesia (RISKESDAS, 2013). This prevalence increases with increasing age (Wurangin, 2014). The percentage of the elderly in East Java in 2017 reached 12.9% of the total population in East Java (Data and Information Center, 2015). In East Java Province, the prevalence of joint disease reached 26.9% of non-communicable disease data based on the diagnosis of health workers, and based on complaints (RISKESDAS, 2013). In Mojokerto Regency, the number of elderly people reaches 132,186 residents (Department of Population & Civil Registry, Mojokerto Regency, 2017).

When viewed by area type, the health status of the elderly living in urban areas tends to be better than the elderly living in rural areas (SUSENAS, 2015). One of the causes of elderly morbidity due to degenerative diseases is the elderly with joint disease. In the study area, there were 80 elderly people, 90% suffered from joint pain and 50% experienced joint pain with gout arthritis.

Gout arthritis or gout is a disease that is often found and spread throughout the world. The underlying metabolic disorder of gouty arthritis is hyperuricemia. Hyperuricemia occurs when serum uric acid levels are >5.7 mg/dl in women and 7.0 mg/dl in men (Rho YH et al, 2012). Risk factors for gout arthritis include age, gender, excessive purine consumption, alcohol consumption, disease and drugs (Fitriana, 2015). The results showed that people with a genetic history of hyperuricemia had a 1-2 times greater risk than those with no genetic or hereditary history. Uric acid levels are controlled by several genes. Gender also has a role in gout, men are considered more at risk than women, because women produce more of the hormone estrogen which can prevent the formation of uric acid. About 98% of gout attacks in women only occur at the age of menopause (Arisa, 2013). Uric acid levels in men increase in line with an increase in a person's age (Soekanto, 2012). Pain is the most common symptom of gout. Pain is an unpleasant sensory and emotional experience resulting from actual or potential tissue damage. Pain is the main reason for someone to seek health care assistance and the most complained of (American Medical Association, 2013).

Medical treatment of Gout arthritis pain is usually with allopurinol and painkillers. Alternative therapy or complementary therapy is also developing in this regard. One of the complementary and alternative medicine (CAM) therapies is massage therapy (Jones, 2012). Massage is an action given to manipulate the soft tissues of the body to bring about an increase in general health (Cunha, 2012). Massage aims to increase muscle relaxation, accelerate healing, reduce anxiety and reduce muscle tension (Majchrzycki 2014). There are many kinds of massage, one of which is using the efflorage technique. Efflorage is a massage technique in the form of gentle, slow,

long and uninterrupted strokes. The effects of this technique are muscle relaxation, increase blood circulation, stimulate the central nervous system, increase lymph flow (Maemunah, 2009). The efflurage technique in its implementation is using oil (Metliani Teti, 2015). In this case the researchers replaced the oil with grated ginger. Red ginger is the most widely used type of ginger in medicine because of its high volatile oil content compared to other types of ginger (Hernani & Hayani, 2001). Several chemical components found in red ginger or *Zingiber officinale* Linn Var rubrum such as gingerol, shagaol, and zingerone have pharmacological and physiological effects as antioxidants, anti-inflammatory, analgesic, and anticarcinogenic (Stoilova et al. 2007 in Hernani & Winarti, 2010).

## METHODS

### Design

The research design used was pre-experimental with one group pre-posttest design.

### Setting

This research was conducted in Kedungbendo Hamlet, Gemekan Village, Mojokerto regency on 2019.

### Research Subject

The criteria for the sample of this study were the elderly who were willing to become respondents, aged 46, located in the Kedungbendo Hamlet, Gemekan Village, Mojokerto Regency, experienced joint pain on a scale of 3-10, had gouty arthritis, were able to communicate well, did not experience mental disorders, did not suffer from mental illness, diabetes mellitus or other diseases that cause impaired taste perception. The sampling technique in this study used simple random sampling from the total elderly population suffering from gout arthritis in Kedungbendo Hamlet, Gemekan Village, Mojokerto Regency, namely 33 elderly people.

### Instruments

This research was conducted before being given a massage efflurage treatment using ginger. Pain was observed first pre-test) using the Numeric Rating Scale (NRS) observation sheet Potter Perry, 2010). Massage efflurage treatment using red ginger was carried out based on the Standard Operating Procedure (SOP) "steps in massage", (Wong Ferry, 2011).

### Intervention

This research was conducted before being given a massage efflurage treatment using ginger. Pain was observed first pre-test) using the Numeric Rating Scale (NRS) observation sheet Potter Perry, 2010). After observing the pre-test pain scale, subjects were given massage efflurage treatment using red ginger (Wong Ferry, 2011). After the subject is given treatment, the pain scale will be re-measured (posttest) and see if there is a change in the scale after the action or compare between the pre-test and post-test.

### Data Analysis

Data analysis was performed with SPSS using Wilcoxon test after inputting and checking the data from questionnaire.

### Ethical Consideration

This research was conducted in the Kedungbendo Hamlet, Gemekan Village, Sooko District, Mojokerto Regency through a permit from the National Unity and Political Agency (Bangkesbangpol) of the Mojokerto Regency Government with a research recommendation permit number: 070/143/146-206/2019 and through a research permit in the Sooko District area with the number : 072/1621/416-102.C/2019.

## RESULTS

### *The Effect of Massage Efflurage using Red Ginger to Change Gout Arthritis Pain in Elderly*

The result of wilcoxon sign range test shows  $\rho = 0.000 \leq \alpha = 0.05$ , meaning that

massage efflurage using red ginger effectively relieves gout arthritis pain in elders (table 1).

**Table 1.** The Effect Massage Efflurage using Red Ginger to Change Gout Arthritis Pain in Elderly at Kedungbendo Hamlet, Gemekan Village, Mojokerto Regency on 2019.

Pain Level	Before Massage Efflurage		After Massage Efflurage	
	Frequency (f)	Percentage (%)	Frequency(f)	Percentage (%)
No Pain	0	0.0	11	33.3
Mildly Pain	4	12.1	18	54.6
Moderately Pain	21	63.6	4	12.1
Severely Pain	8	24.3	0	0.0
Total	33	100.0	33	100.0

*p-value* = .000

Sources: Primary Data of Questionnaires, 2019.

**DISCUSSION**

Based on table 1, it was found that there was a decrease in the gout arthritis pain scale after giving efflurage massage therapy using red ginger. The results showed that before the administration of therapy most of the respondents had moderate pain and after the administration of therapy some of the respondents had mild pain.

The age group categorized as elderly cannot be separated from a process called the aging process. The aging process will have an impact on various aspects of life, both social, economic, and health. Judging from the health aspect, with increasing age, the elderly are more susceptible to various physical complaints, either due to natural factors or due to disease factors. Of the 33 respondents who experienced gouty arthritis in the research area, according to the researchers, it was caused by age factors and consumptive lifestyles and lack of exercise. This is in line with the results of the age distribution, namely 21 respondents (63.6%) are in the 49-59 year age range. At that age, humans have entered the Middle Age phase, which of course will appear various kinds of health problems, including gout arthritis. Efflurage massage using red ginger performed on the elderly with gout arthritis resulted in a decrease in the pain scale to mild. The effect of these changes is because red ginger has a pharmacological effect and coupled with the relaxation effect given by efflurage massage is proved to cause changes in the decrease in pain scale in patients with gout arthritis pain in the elderly. Red ginger was chosen because it

contains the highest essential oil and oleoresin content of red ginger compared to other types of ginger (Nurliani, 2011). The essential oil and oleoresin contained in red ginger are used for traditional medicine. Red ginger contains substances such as gingerol, shagaol and zingiberol which make red ginger effective as an analgesic. The combination of the relaxation effect resulting from the efflurage massage given and combined with grated red ginger is effective in reducing the scale of pain caused by gout arthritis in the elderly. Red ginger is the most widely used type of ginger in medicine because of its high volatile oil content compared to other types of ginger (Hernani & Hayani, 2001). Several chemical components found in red ginger or Zingiber officinale Linn Var rubrum such as gingerol, shagaol, and zingerone have pharmacological and physiological effects as antioxidants, anti-inflammatory, analgesic, and anticarcinogenic (Stoilova et al. 2007 in Hernani & Winarti, 2010). Zuriati (2017) said that substances such as gingerol can help the process of reducing joint pain. According to Zuriati (2017) in his research, ginger has heat properties that can provide a warm effect or the body's response to heat and can cause dilation of blood vessels, reduce blood viscosity, reduce muscle tension, increase tissue metabolism, and increase capillary permeability.

Handling gout arthritis pain experienced by the elderly is not only with chemical drugs but can optimize treatment with alternative ways, namely massage efflurage with red ginger. In addition to the effectiveness of

efflurage massage with red ginger, it can be proven to reduce gout arthritis pain, controlling purine consumption is very necessary to reduce the appearance of pain complaints.

#### SUGGESTIONS

In the elderly with Gout Arthritis pain should be given efflurade therapy with red ginger which has been proven to reduce the pain scale.

#### ACKNOWLEDGMENT

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#### DECLARATION OF CONFLICTING INTEREST

With the publication of this article, it can add information for readers about one of the complementary therapies to treat gouty arthritis pain in the elderly.

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#### AUTHOR CONTRIBUTION

**Hartin Suidah:** Arrange research implementation, conduct literature review, collect research data, compile articles.

**Ninik Murtiyani:** Research data collection, data analysis, article preparation.

**Reni Ayu Mita Sari:** Research data collection, compile articles.

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#### REFERENCES

- American Medical Association. (2013). *American Medical Association Complete Guide to Prevention and Wellness*. United State of America: Wiley.
- Arisa, Maria. I. (2013). *Pola Distribusi Kasus Osteoarthritis Di RSUD dr.Soeharso Pontianak Periode 1 Januari 2008 - 31 Desember 2009*. Skripsi. Pontianak: Fakultas.
- Bermawie, Nurliani. (2011). *Jahe: Zingiber Officinale Rosc*. Bogor: Balai Penelitian Tanaman Obat Dan Aromatik Pusat Penelitian Dan Pengembangan Perkebunan Badan Penelitian Dan Pengembangan Pertanian Kementerian Pertanian.
- Cavaye, J.(2012). Does Therapeutic Massage Support Mental Well-Being?. *A Journal of the BSA MedSoc Group*. Vol 6. Issue 2.
- Dinas Kependudukan Dan Catatan Sipil. (2017). *Jumlah Penduduk Kabupaten Mojokerto Menurut Jenis Kelamin Per Kecamatan Bulan Desember 2017*. Accessed on November 20, 2018. <http://www.mojokertokab.go.id>.
- Fitriana, Rahmatul. (2015). *Cara Cepat Usir Asam Urat*. Yogyakarta: Medika
- George, Jennifer and Gareth R. Jones.(2012). *Understanding and Managing Organizational Behavior*. New Jersey: Pearson Education Inc.
- Hernani dan E. Hayani. (2001). *Identification of chemical components on red ginger (Zingiber officinale var. Rubrum) by GC-MS. Proc. International Seminar on natural products chemistry and utilization of natural resources*. UI-Unesco, Jakarta : 501-505.
- Hernani Winarti. (2010). *Kandungan Bahan Aktif Jahe dan Pemanfaatannya Dalam*

- Bidang Kesehatan, Status Teknologi Hasil Penelitian Jahe*. Bogor.
- Kementerian Kesehatan RI. (2014). *InfoDATIN: Situasi Dan Analisis Lanjut Usia*. Jakarta: Kementerian Kesehatan RI.
- Kementerian Kesehatan RI. (2016). *InfoDATIN: Situasi Lanjut Usia (Lansia) Di Indonesia*. Jakarta: Kemenkes RI.
- Kementerian Kesehatan RI. (2017). *Analisis Lansia Di Indonesia*. Jakarta: Kementerian Kesehatan RI.
- Maemunah. (2009). *Asuhan Kebidanan 2*. Jakarta: CV. Trans Info Media.
- Majchrzycki, M., Kocur, P., & Kotwicki, T. (2014). "Deep Tissue Massage and Nonsteroidal Anti-Inflammatory Drugs for Low Back Pain: A Prospective Randomized Trial." *The Scientific World Journal* page: 7.
- Nurliani, B. (2011). *Jahe : Zingiber Officinale Rosc*. Bogor : Balai Penelitian Obat Dan Aromatik.
- Potter, Perry. (2010). *Fundamental Of Nursing: Consep, Proses and Practice*. Edisi 7. Vol. 3. Jakarta : EGC.
- Rho, Y.H., Zhu, Y & Choi, H.K. (2012). The epidemiology of uric acid and fructose. *Sem Nephrol* 31(5):410-419.
- Sumual, A.S. (2012). *Pengaruh Berat Badan Terhadap Gaya Gesek Dan Timbulnya Osteoarthritis Pada Orang Di Atas 45 Tahun Di RSUP Prof. Dr. R. D. Kandou Manado*. Skripsi. Bagian Fisika Fakultas Kedokteran Universitas Sam Ratulangi Manado: Manado.
- Smeltzer, Suzanne C. and Bare, Brenda G. (2002). *Buku Ajar Keperawatan Medikal Bedah Brunner dan Suddarth (Ed.8, Vol. 1,2), Translated by Agung Waluyo... (et al)*. Jakarta: EGC.
- Smeltzer, Suzane C., and Bare, Brenda G., (2008). *Buku Ajar Kesehatan Medical Bedah, Volume 2, Edisi 8*. Jakarta : Buku Kedokteran EGC.
- Soekanto, Soerjono. (2012). *Sosiologi Suatu Pengantar*. Jakarta: Rajawali Pers.
- Suranto, Aji. (2011). *Terapi Enzim*. Jakarta: Penebar Plus.
- Swarbrick, J., and Boylan, J. C., (2002), *Encyclopedia of Pharmaceutical Technology, Second Edition Vol. 1, Hal 932-943*. New York: Marcel Dekker Inc.
- Trihono. (2014). *Riset Kesehatan dasar Dalam Angka Final*. Jakarta: Kementerian Kesehatan RI.
- Trihono. (2018). *Riset Kesehatan dasar Dalam Angka Final*. Jakarta: Kementerian Kesehatan RI.
- Wurangian Mellynda. (2013). *Pengaruh Kompres Hangat Penurunan Skala Nyeri Pada Penderita Gout Arthritis di Wilayah Kerja Puskesmas Bahu Manado*. Volume 4 No 2. [www.id.portalgaruda.org](http://www.id.portalgaruda.org).
- Zahara R. (2013). Arthritis Gout Metakarpal dengan Perilaku Makan Tinggi Purin Diperberat oleh Aktifitas Mekanik Pada Kepala Keluarga dengan Posisi Menggenggam Statis. *Medula, Volume 1, Nomor 3, October 2013*.
- Zuriati. (2017). *Efektifitas Kompres Air Hangat Dan Kompres Jahe Terhadap Penurunan Nyeri Pada Pasien Asam Urat Di Puskesmas Lubuk Begalung Tahun 2017*. Accessed on November 25, 2018 9:33:52 AM.

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