

# Application of Red Ginger Essential Oil Massage to Reduce Pain in the Elderly with Gout Arthritis

Much Nurkharistna Al Jihad<sup>1\*</sup>, Aulia Praptiwi Ningrum<sup>1</sup>, Dewi Setyawati<sup>1</sup>

<sup>1</sup>Faculty of Nursing and Health Sciences, Universitas Muhammadiyah Semarang, Indonesia

\*Corresponding author : [kharistna@unimus.ac.id](mailto:kharistna@unimus.ac.id)

## ABSTRACT

**BACKGROUND:** Gout arthritis is a disease due to high levels of purines in the blood caused by the breakdown of purines that are not optimal in the body, resulting in hyperuricemia and causing pain in the joints. Non pharmacological methods are the right choice to help cure diseases because they are believed to have no side effects. One of the non-pharmacological methods of reducing pain due to gout arthritis can be done by massage in combination with red ginger essential oil. **AIM:** to apply massage with red ginger essential oil on clients with pain due to gout arthritis in Sale District, Rembang Regency. **METHODS:** This case study was conducted using a descriptive method by applying several journals about the application of massage with red ginger essential oil for gout arthritis sufferers for 5 days. **RESULTS:** the application of massage with red ginger essential oil for 5 days showed a decrease in the pain scale. **CONCLUSION:** There is a decrease in pain levels in the elderly with gout arthritis through nursing intervention massage with red ginger essential oil.

**Keywords:** elderly, gout arthritis, massage

## 1. INTRODUCTION

Uric acid is the final product in metabolism in the form of the breakdown of purines that occur in the body (1). Uric acid will act as a natural antioxidant if within normal limits produced by the body itself (1). Research on uric acid in the elderly explains that the elderly are very at risk of developing gout due to changes in hormones and decreased function of body organs due to the aging process. Men are more affected by gout because androgen hormones in adulthood become more active, while in women due to a decrease in estrogen hormones that accumulate and cause high uric acid in the body. Gout is a degenerative disease that can cause several complaints to sufferers such as arthritis which can cause abnormalities in the joints, especially the elderly, besides that uric acid can also cause other complications, namely kidney failure and kidney stone disease (2). Gout can interfere with daily activities in the elderly, besides that gout can affect sleep patterns, causing comfort disturbances in the elderly (3). Gout is a disease that contributes to the occurrence of joint pain in the elderly. The prevalence of joint pain events at the age of 55-64 years with a percentage of 15.5%, ages 65-74 with a percentage of 18.6% and aged 75 years and over with a prevalence of 18.9% (4) In Central Java, the prevalence of joint pain in the elderly was recorded at 6.78% with a total of 67,977 people and a contributor to joint pain in Rembang Regency was recorded as much as 9.61% of joint pain sufferers (5).

Joint pain can be caused by several diseases, one of which is gout arthritis or gout. There are 2 methods of managing gout arthritis, namely pharmacological and nonpharmacological methods. One of the nonpharmacological methods to reduce joint pain due to gout arthritis is massage. Massage is a massage and sequencing technique in the limbs that is useful for stimulating blood circulation and metabolism in tissues so that it can provide comfort to the area where the massage is performed. Massage on the joint area can reduce muscle tension so that it can reduce anxiety and provide stimulation of large muscle fibers so that it can block and reduce pain impulses.

Massage is one of the choices in nonpharmacological methods to reduce joint pain because massage is a simple method that can be done by anyone. Massage is one of the nonpharmacological methods in complementary therapy that can reduce pain without causing side effects by choosing the appropriate technique for massage that can be done on the joint area, especially in the knee joint (6). This massage can be combined with several ingredients, namely red ginger essential oil which has many compounds that contain antioxidants that are good to be combined in treating diseases (7). As well as the selection of VCO oil as a carrier to retain moisture on the skin and reduce more evaporation of water when done massage.

## **2. METHOD**

This case study was obtained using the random sampling method, data collection was carried out by setting inclusion criteria for elderly clients with gout arthritis. The inclusion criteria taken are :

- a. Elderly who have experienced joint pain in the knee due to gout arthritis for the past 1 month;
- b. Aged 60-85 years;
- c. Feeling joint pain on a scale of 3-10;
- d. Can communicate well;
- e. No mental abnormalities.

The application of massage with red ginger essential oil was carried out on elderly clients with gout arthritis in Sale District, Rembang Regency by conducting nursing care to clients and families which included assessment, diagnosis, intervention, implementation and evaluation. Massage with red ginger essential oil for clients with gout arthritis is done for 5 days with the application of massage for 20 minutes in one meeting. In measuring the client's joint pain scale using the Numeric Rating Scale (NRS) or a scale of numbers 1-10 (8).

The data collection method is carried out administratively, namely including an application permit obtained from the DIII Nursing Study Program signed by the Head of Study Program, conducting random sampling according to the inclusion criteria and uric acid measurements carried out at the elderly post in collaboration with the puskesmas, providing permission letters to respondents and conducting informed consent for respondents' approval, then conducting an assessment and application of massage with ginger essential oil red.

### 3. RESULT

The application of this case study is carried out by conducting family nursing care which begins with an assessment, diagnosis, intervention, implementation, and evaluation. The family assessment was carried out on June 20, 2022, in Wonokerto Village, Sale District, Rembang Regency. The case study was conducted on 3 elderly respondents according to the inclusion criteria, with family involvement in the provision of nursing care.

On June 20, 2022, a pain assessment was carried out on the client and obtained the following data:

*Tabel 1 Pain Scale Assesment*

Responden	Provocative (P)	Quality (Q)	Region (R)	Scale (S)	Time (T)
R1	When standing	As in the punctures	Right and left knees	5	Continuously
R2	When standing and walking	As in the punctures	Right and left knees	5	Continuously
R3	When walking	As in the punctures	Right and left knnes radiate to calves	4	Continuously

Table 1 shows the results of the pain scale assessment of 3 respondents conducted before applying massage with red ginger essential oil to reduce pain. The pain scales obtained are scale 5 and scale 4 with the same cause and location of pain and the same time.

From the assessment of pain, the main diagnosis can be formulated, namely chronic pain (D.0078) (9). From the results of pain assessment and diagnosis formulation, the application of massage using red ginger essential oil is an option as a complementary therapy to reduce pain in clients. Massage with red ginger essential oil is done on the quadriceps femoris, gracillis, and biceps femoris areas of the thighs using effleurage, tappotement, and friction techniques which are done for 20 minutes for 5 days or 5 meetings. This massage is done by combining red ginger essential oil with coconut oil as a search oil / lubricant. Red ginger essential oil will provide a warm sensation that can dilate blood vessels so that it can reduce pain impulses (10). While VCO coconut oil functions as a carrier oil or lubricant to reduce evaporation of water and maintain skin moisture during massage (11).

The massage was carried out for 5 meetings with the beginning of pain assessment then doing massage and teaching the family to apply massage with red ginger essential oil to reduce joint pain in clients. Client and family responses when conducting case studies can be well received and can follow the example of application.

After a massage for 5 days by always conducting a pain assessment on the client, the results of reduction in the pain scale were obtained.

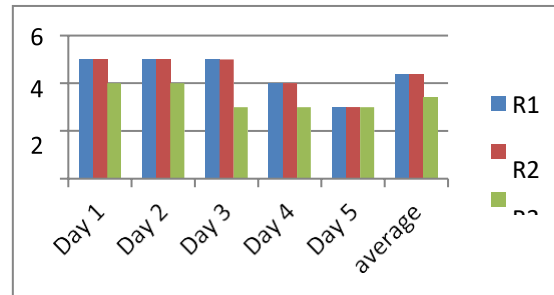


Table 1 illustrates about the reduction in the client's pain scale after a massage during 5 meetings. Client pain decreased on a scale of 3 that occurred on days 3 and 4. This suggests that massage with a combination of red ginger essential oil and VCO can lower the scale of joint pain in clients with gout arthritis.

Tabel 2: overview of the decrease in the joint pain scale

Responden	Day 1		Day 2		Day 3		Day 4		Day 5		Average		
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	
R1	5	5	5	5	5	4	4	3	3	3	3	4,4	4
R2	5	5	5	5	5	4	4	3	3	3	3	4,4	4
R3	4	4	4	4	4	3	3	3	3	3	3	3,4	3,4

#### 4. DISCUSSION

The results of this case study show that massage with red ginger essential oil can lower the pain scale in clients with gout arthritis. The results of this study are the same as the results of other studies that explain that Swedish massage with effleurage, petrissage, friction, and tappotement techniques can reduce the level of hand joint pain because it can help flow blood better because blood vessels are dilated so that it can reduce tension in muscles and can increase comfort (12) Similar studies on massage conducted for people with rheumatoid arthritis also showed a decrease in the pain scale, from moderate pain on a scale of 4-6 to mild pain on a scale of 1-3 (13) Another study on swedish massage conducted on clients with osteoarthritis also showed a decrease in the pain scale with the application of massage for 15 minutes in a day (14).

The decrease in pain in clients after massage occurs due to relaxation in the muscle area around the joint due to the inhibition of large muscle fibers so that it can block and reduce pain impulses. The intensity of pain will decrease after a 5-day salama massage because massage can improve blood circulation properly, dilating blood vessels which can reduce tension in muscles and nerves so that it can reduce pain. The reduction in pain will be significant if the massage is carried out in accordance with the standard operating procedures that are the guide and the right time and location of the massage. The massage technique also affects the effectiveness of massage work in reducing joint pain which is carried out in the muscle area around the knee joint.

## 5. CONCLUSIONS

The implementation of massage with red ginger essential oil is able to reduce the scale of knee joint pain in elderly clients with gout arthritis. This is supported by several studies from journals that are literature in this case study. Knee joint pain due to gout arthritis that is applied is on a moderate pain scale of 4-6 and after a massage for 5 days with the technique of massage effleurage, tappotement, and friction drops to a mild scale of 1-3. Massage can be the right complementary therapy option to do family nursing care, because it can be done at home independently.

## REFERENCES

- [1] Lingga LP. Bebas Penyakit Asam Urat Tanpa Obat. 1st ed. DP T, editor. Jakarta Selatan: PT AgroMedia Pustaka; 2012. 2–3 p.
- [2] Rahayu D, Irawan H, Santoso P, Susilowati E, Atmojo DS, Kristanto H. Deteksi Dini Penyakit Tidak Menular pada Lansia. *J Peduli Masy.* 2021;3(1):91–6.
- [3] Widiany FL. Pemeriksaan Kesehatan Lansia di Posyandu Lansia Dusun Demangan Gunung, Pleret, Bantul. *J Pengabdian Dharma Bakti.* 2019;2(2):45.
- [4] Kemenkes. Laporan Riskesdas 2018.
- [5] Riskesdas. Laporan Provinsi Jawa Tengah Riskesdas 2018.
- [6] Aryanti PI, Haryanto J, Ulfiana E. Red Ginger (*Zingiber officinale* var. *rubrum*) Massage Reduces Stiffness and Functional Disability in Elderly with Osteoarthritis. *J Ners.* 2019;13(2).
- [7] Redi Aryanta IW. MANFAAT JAHE UNTUK KESEHATAN. *Widya Kesehatan.* 2019;1(2).
- [8] Wittoek R, Kroon FPB, Kundakci B, Abhishek A, Haugen IK, Berenbaum F, et al. Report from the hand osteoarthritis working group at OMERACT 2018: Update on core instrument set development. *J Rheumatol.* 2019;46(9):1183–7.
- [9] PPNI PSD. Standar Diagnosa Keperawatan Indonesia. Edisi 1. Jakarta: Dewan Pengurus Pusat; 2017.
- [10] Wahyurianto Y, Sendi N. Effect of Massage To Decrease Joint Pain in Elderly. *Jurnal keperawatan.* 2017;X(1):33–7.
- [11] Sari ED. Pengaruh Pemberian Virgin Coconut Oil (VCO) pada Area Tertekan Untuk Mencegah Luka Tekan pada Pasien Tirah Baring. *J ProNers.* 2018;3(1):1–15.
- [12] Zahratunnisa E, Yasmina A, Agustina R. Masase swedia terhadap tingkat nyeri sendi tangan pada penderita arthritis di puskesmas sungai besar banjarbaru. *Dunia Keperawatan.* 2013;01(01):8–15.
- [13] Rispati BH, Susanti D, Hajri Z. Pengaruh Penerapan Masase Kaki Terhadap Penurunan Nyeri Pada Pasien Rheumatoid Arthritis. *J. Ilmu Kesehatan Pencerahan.* 2021;10(2):232–9.
- [14] Abbasi Z, Abadi MHN, Ganji R, Asali R, Nabavi SH, Rezaeean SM, et al. The effect of effleurage massage therapy on symptoms of osteoarthritis in elderly women with osteoarthritis: A cross-clinical trial. *Open Access Maced J Med Sci.* 2021;9:244–50.