

The Effect Of Compress Therapy With Yellow Ginger Ginger (*Zingiber Officinale*) On The Reduction Of Pain Intensity In Elderly Suffering With Gout Arthritis

Rita Sari, Yosi Handayani, Nurwinda Saputri, Rani Ardina, Herna Nurul Atika

health faculty, Universitas Muhammadiyah Pringsewu Lampung
Corresponding Author: ritasari74@gmail.com

ABSTRACT

Pain is a condition that is more than just a single sensation caused by a particular stimulus, pain is subjective and very individual. Pain occurs when the tissue is damaged and causes the individual to react to relieve the pain. There are several therapeutic ways to deal with pain, one of which is non-pharmacological therapy. One of the non-pharmacological therapies is compress therapy with grated yellow ginger (*zingiber officinale*). This study aims to determine the effect of compresses with grated yellow ginger (*zingiber officinale*) on reducing pain intensity in the elderly suffering from gout arthritis at the Tresna Werdha Bhakti Yuswa Natar Home. This type of research uses the quasi experimental method, the sample in this study was 16 patients who experienced gouty arthritis pain and patients who were willing to become respondents. Sampling using consecutive sampling technique. The data analysis used was the Dependent T Test. The results of the bivariate analysis obtained with a value of $p = 0.000$, this shows that there is an effect between compresses and grated yellow ginger (*Zingiber officinale*) on reducing pain. Therapy using yellow grated ginger (*zingiber officinale*) can reduce the pain scale in patients with gout arthritis. It is hoped that medical personnel can educate patients on how to reduce gouty arthritis pain with a compress of grated yellow ginger (*zingiber officinale*).

Keywords: Compress grated ginger, pain, Gout arthritis

Correspondence:

Rita Sari
health faculty, Universitas Muhammadiyah Pringsewu Lampung
*Corresponding author: Rita Sari email-address: ritasari74@gmail.com

INTRODUCTION

The World Health Organization (WHO) states that Gout Arthritis is one of the rheumatic diseases that has been known since 2000 years ago and is the oldest disease known to humans. Gout arthritis is an inflammation of the joints as a manifestation of the accumulation of crystal deposits (hyperuricemia). Gout was once called the king of disease and disease of king, the common people call it gout disease caused by excess levels of uric compounds in the body, either due to overproduction, under-elimination, or increased purine intake [1]. Not all hyperuricemia sufferers are sufferers of gouty arthritis. but the risk of developing gout arthritis will further increase blood uric acid levels [2].

According to data obtained based on world incidence rates, for example in the United States the prevalence of gout in adults has increased by 8.3 million people in 2010 while hyperuricemia also increased by 43.3 million people from the previous year. Whereas in Indonesia, data on gout arthritis prevalence was obtained for 713,783 people [3], the highest gout arthritis prevalence in Indonesia in 2018 was in Aceh with an incidence rate of 13,389 people [4]. In Lampung gout arthritis ranks seventh with a prevalence of gout arthritis as many as 22,345 people. From the 2018 Riskesdas data shows that the highest area in Lampung suffering from gout arthritis is Lampung Tengah district with 3,434 people, East Lampung ranks second 2,822 and the lowest is in metro city 459 people [4].

Based on the results of the pre-survey conducted by researchers on October 21, 2017, there were 83 elderly people at the Tresna Werdha Bhakti Yuswa Natar Home and based on the health clinic reports at the orphanage that the incidence of Gout Arthritis during January to December 2017 reached (50%). Gout Arthritis if left untreated will have a worse impact, swelling of the joints so that it can cause severe pain and limit their activities. When the researchers conducted interviews, many of the

elderly at the institution complained of joint pain and they only used rubbing oil to reduce the pain. In preventing Gout Arthritis disease, good and sustainable management efforts can be made both pharmacologically and non-pharmacologically. The pharmacological actions of Gout Arthritis include: Non Steroid Anti-Inflammatory Drugs (NSAIDs), Colchicine, Probenecid, Allopurinol, Uricosuric, Corticosteroid, and non-pharmacological actions besides using rubbing oil, one of which is to reduce pain, you can use a compress of grated ginger, because ginger is effective for treatment, the average researcher previously used red ginger but in this study using yellow ginger because yellow ginger is easier to obtain and the price is cheaper than red ginger. Ginger is able to inhibit pain because it contains essential oils consisting of zingiberen, kamfena, lemonin, zingiberol which are anti-inflammatory and can reduce the pain of Gout Arthritis [5]

Based on research conducted by Purnamasari and Listyarini, there was an effect of ginger soaking water on the decrease in the pain scale, the average pain decreased by 5.35 in gout elderly in Cengkalsewu Village [6], besides that there was a significant effect of giving warm compresses using grated red ginger. (*Zingiber officinale* var *rubrum* rhizoma) on reducing pain scale in Gout Arthritis sufferers in Tateli Dua village, Madolang district, Minahasa district. This means that all respondents who were given red ginger compresses experienced a decrease in the intensity of Gout Arthritis pain [7].

Judging from several cases of Gout Arthritis at the Tresna Werdha Bhakti Yuswa Natar Home and the results of previous studies, that non-pharmacological therapy is needed for Gout Arthritis sufferers in the home because the elderly in the home have never compressed ginger grated. The aim of this study was to determine the effect of compress therapy with yellow ginger (*Zingiber officinale*) on reducing pain intensity in the elderly with gout arthritis.

The Effect Of Compress Therapy With Yellow Ginger (*Zingiber Officinale*) On The Reduction Of Pain Intensity In Elderly Suffering With Gout Arthritis

METHOD

In this study using a research design that is comparative numerical dependent (paired) analytical research which aims to achieve the influence between the variables studied using a quasi-experimental approach, namely a research that is usually used in the field, in this study it does not have strict restrictions on randomization and when the same can control for validity threats [8]. In this study, the research design used was pre and post test without control (self-control), in this design the study only intervened in the group without comparison, the effectiveness of the treatment was assessed by comparing the pre-test and post-test scores [9].

RESULT

The effect of compresses with grated yellow ginger (*Zingiber Officinale*) on reducing pain intensity in elderly people with gout arthritis at the Tresna Werdha Bhakti Yuswa Natar Home and there were 16 respondents. The research results:

1. Characteristics of Respondents

The characteristics of the respondents for each variable are displayed in the form of a frequency distribution. This table will be presented in the form of a table of research results followed by an explanation or description of the research results table.

Table 1
Characteristics of Gender and Respondents' Education

Characteristics	Frequency	Presentation
Gender		
Male	7	43,8%
Famale	9	56,3%
Education		
Sd	6	37,5%
Junior high school	4	25 %
High school	6	37,5%
Total	16	100%

Based on table 1 shows 16 respondents with 7 male respondents (43.8%) and 9 female respondents (56.3%) who experience pain due to arthritis gout. Female respondents are higher than male respondents. Primary and high school education respondents (37.5%) and the lowest with junior high school education (25%).

Table 2
Characteristics of Respondents Age

N	M	Me	Std.	Mini	Maxi
---	---	----	------	------	------

Table 5
The Effect of Gouty Arthritis Pain Before and After Giving a Compress of Yellow Ginger (*Zingiber Officinale*) at the Tresna Werdha Bhakti Yuswa Natar Home

Pain	Intervention			T	T Test	
	N	Mean	SD		df	P
Before being given a compress of grated ginger	16	6,19	1,377	12,355	15	0,000
After being given a compress of grated ginger	16	3,38	1,628	12,355	15	

	ea n	dia n	deviatio n	mu m	mum
1	77	73,5	9,832	63	102
6	,	0			
	56				

Based on table 2, it shows that the average age of the elderly is 77.56, with a standard deviation of 9.832, with the lowest age of 63 and the highest age of 102.

2. Univariate Analysis

Univariate analysis of each variable from the research results, both the dependent and independent variables. The results of research on each variable are displayed in the form of a frequency distribution.

Table 3

Average pain before being given a compress of grated yellow ginger (*Zingiber Officinale*) at the Tresna Werdha Bhakti Yuswa Natar

N	Me an	Medi an	Std. deviation	Mini mum	Maxi mum
1	6,	6,00	1,377	3	8
6	19				

Table 3 shows the pain before being given a compress of grated yellow ginger (*zinggiber officinale*) to the elderly at the Tresna Werdha Bhakti Yuswa Natar Home with an average pain intensity of 6.19 with a standard deviation of 1.377, with the lowest pain scale 3 and the highest pain scale 8.

Table 4

Average pain after being given a compress of grated yellow ginger (*Zinggiber Officinale*) at the Tresna Werdha Bhakti Yuswa Natar Home

N	Me an	Medi an	Std. deviation	Mini mum	Maxi mum
1	3,	3,00	1,628	0	7
6	38				

Table 4 shows the pain intensity after being given a compress of grated yellow ginger (*zinggiber officinale*) to the elderly at the Tresna Werdha Bhakti Yuswa Natar Home that the average pain intensity was 3.38, with a standard deviation of 1,628, with the lowest pain scale 0 and the highest pain scale 7.

3. Bivariate Analysis

Bivariate analysis on the results of the study of the two variables as follows:

Based on table 5, it is found that the average pain intensity before being given a compress of grated yellow ginger is 6.19 and the average pain intensity after being given a compress of grated yellow ginger is 3.38, the p value is $0.000 < \alpha (0.05)$. This means that H_a is accepted, which means that there is an effect of compresses of grated yellow ginger (*Zingiber Officinale*) on the reduction of pain intensity in the elderly with gouty arthritis at the Tresna Werdha Bahkti Yuswa Natar Home.

DISCUSSION

The results of statistical test analysis in this study indicate that there is an effect of compresses with grated yellow ginger (*Zingiber officinale*) on the reduction of pain intensity in elderly people with gout arthritis at the Tresna Werdha Bahkti Yuswa Natar Home, it is found that the average pain intensity before being given the compress of grated yellow ginger (*officinale*) of 6.19, and after being given a compress of grated yellow ginger (*Zingiber officinale*) of 3.38, with a p value of $0.000 < (0.05)$.

In line with the research conducted by Purnamasari and Listyarini that there was an effect of ginger soaking water on the decrease in the pain scale, the average pain decreased by 5.35 in elderly gout in Cengkasewu Village, besides that Samsudin et al stated in their research that there was a significant effect of giving warm compresses. using grated red ginger (*Zingiber officinale var rubrum rhizoma*) to reduce the pain scale in people with Gout Arthritis in Tateli Dua village, Madolang district, Minahasa district. This means that all respondents who were given red ginger compresses experienced a decrease in the intensity of Gout Arthritis pain [10].

In line with the results of research conducted by Syarifatul Izza that there is a difference in the effectiveness of giving warm water compresses and ginger compresses against reduction in the elderly in the Wening Wardoyo Ungaran Social Rehabilitation Unit [11] and according to research that giving warm compresses uses ginger to relieve pain scales in gout patients. arthritis in Kedungwungu Village, Tegowanu District, Grebongan Regency, that there is an effect of warm compresses using ginger on reducing pain in arthritis gout in Kedungwungu Village, Tegowanu District, Grebongan Regency [12].

Giving ginger compress really needs to be socialized to all circles, especially to the elderly because in addition to being affordable, it is also very effective to be used as a compress on joint areas that experience pain due to various diseases, both rheumatism, gout and joint complaints with other diseases [13]. Warm water compresses and ginger compresses have an effect in reducing gout pain / arthritis gout [14].

The above research is supported by the results of a literature study which states that pain due to gout arthritis can be reduced by administering compresses with grated ginger because ginger rhizomes contain essential oils that can relieve joint pain, one of which is for the treatment of gout arthritis and muscle tension that occurs. Ginger can also inhibit prostaglanin production. Prostaglanin itself is a hormone that can cause inflammation that occurs in the human body. Ginger contains several active substances including essential oil consisting of zingiberen, camphor, lemonin, zingiberol. In ginger contains volatile essential oils and gives ginger a distinctive smell. This oil contains main components such as zingiberen and zingiberol, which contain compounds

that are useful in reducing pain. Ginger compresses are applied to people with gouty arthritis pain because they can reduce joint pain, reduce compression or compression of joint pain, so that after applying ginger compresses can relax stiff muscles and can flex connective tissue. So that ginger compresses can inhibit the pain receptor mechanism in large nerve fibers which will result in a change in the mechanism, namely the gate that will modify and change the sensation of pain causing pain perception and muscle receptors so that pain can be reduced [15,16,17,18,19]

Based on research that has been conducted by researchers for 1 week and the study was carried out 15 minutes every day, because in the span of 15 minutes the essential oil begins to break down so that blood vessels widen to facilitate blood flow and are able to relax painful and stiff joint muscles, all the elderly Those who became respondents were given the same treatment by giving a compress of grated yellow ginger, before being given intervention by the elderly, the pain scale was first measured because the pain range for each elderly in the orphanage was different. After measuring the pain scale of the elderly, they are given a compress of grated yellow ginger on the part experiencing joint pain.

After being given a compress of grated ginger, the researchers re-measured the respondent's pain scale so that the measurement was carried out until the 7th day and the researcher grouped the respondents so that the researcher could see a decrease in pain intensity in each respondent at the orphanage. Each respondent who was given a compress of grated yellow ginger on average experienced a decrease in pain intensity, at the time of the study there were respondents who experienced a drastic reduction in the pain scale from pain scale 3 to pain scale 0, but there was 1 respondent who experienced a decrease in pain scale reduction with respondents who Another, the respondent only experienced 1 reduction in the pain scale from 8 to 7 because the respondent was accustomed to using rubbing oil every day when feeling pain, and the respondent was still within the severe pain scale limit with chronic pain criteria and the effectiveness of the pain scale limit after a pain scale of not more than a scale of 6 is given to grated yellow ginger. So that when given the grated yellow ginger, the respondent experienced a different heat response between respondents who rarely used rubbing oil and those who had never been given grated ginger.

Based on this, the researchers concluded that all respondents were given the same treatment by being given a compress of grated ginger on the part that experienced joint pain experienced a decrease in pain intensity because ginger is a traditional treatment without chemicals and which is able to overcome pain in the elderly with gout arthritis. make blood vessels open so that it can facilitate blood circulation and a better supply of food and oxygen so that joint pain can be reduced. Therefore, the researchers advised the elderly in social institutions to use ginger traditional medicine, because ginger is easy to obtain, without side effects, effective, and cheap.

CONCLUSION

Therapy using yellow grated ginger (*zingiber officinale*) can reduce the pain scale in patients with gout arthritis. Can determine the effect of compresses with grated yellow ginger (*zingiber officinale*) on reducing pain

The Effect Of Compress Therapy With Yellow Ginger (*Zingiber Officinale*) On The Reduction Of Pain Intensity In Elderly Suffering With Gout Arthritis

intensity in patients with gout arthritis and can compare theory with direct application

REFERENCES

1. Helmi, Z. (2012). *Buku Ajar Gangguan Muskuloskeletal* (A. Susila Ed.). Jakarta: Salemba Medika.
2. Noor Zairin, d., Sp.OT(K), M.M. (2012). *Buku Ajar Gangguan Muskuloskeletal* (P. P. Lestari Ed.). Jakarta: Salemba Medika.
3. Setiani, D., & Karnasi, W. (2010). Efektifitas Air Rebusan Cengkeh Terhadap Penurunan Asam Urat.
4. Riskesdas. (2018). *Riset Kesehatan Dasar Tahun 2018*.
5. Herliana. (2013). Penyakit Asam Urat Kandas Berkat Herbal. <https://ejournal.unsrat.ac.id/index.php/jkp/article/view/12128>
6. Purnamasari, S. D. I., & Listyarini, A. D. (2015). Kompres Air Rendaman Jahe dapat Menurunkan Nyeri pada Lansia dengan Asam Urat di Desa Cengkasewu Kecamatan Sukolilo Kabupaten Pati. *Jurnal Keperawatan dan Kesehatan Masyarakat Cendekia Utama*, 4(2).
7. Anna R. R. Samsudin, Rina Knundre, & Franly Onibala. (2016). Pengaruh Pemberian Kompres Hangat Memakai Parutan Jahe Merah (*Zingiber Officinale* Roscoe Var Rubrum) Terhadap Penurunan Skala Nyeri Pada Penderita Gout Arthritis. <https://ejournal.unsrat.ac.id/index.php/jkp/article/view/12128>
8. Sugiyono. (2016). *Statistika Untuk Penelitian*. Bandung: Alfabeta.
9. Dharma, Kusuma, Kelana (2011). *Metodologi Penelitian Keperawatan*. Jakarta: Trans Info Media.
10. Samsudin, A. R., Kundre, R., & Onibala, F. (2016). Pengaruh Pemberian Kompres Hangat Memakai Parutan Jahe Merah (*Zingiber Officinale* Roscoe Var Rubrum) Terhadap Penurunan Skala Nyeri Pada Penderita Gout Arthritis Di Desa Tateli Dua Kecamatan Mandolang Kabupaten Minahasa. *Jurnal Keperawatan*, 4(1).
11. Izza, Syarifatul. (2016). Perbedaan Efektifitas Pemberian Kompres Air Hangat dan Pemberian Kompres Jahe dan Penurunan Nyeri Sendi Pada Lansia. https://scholar.google.co.id/scholar?hl=id&as_sdt=0%2C5&q=Perbedaan+Efektifitas+Pemberian+Kompres+Air+Hangat+dan+Pemberian+Kompres+Jahe+dan+Penurunan+Nyeri+Sendi+Pada+Lansia
12. Rusnoto, R., Cholifah, N., & Retnosari, I. (2015). Pemberian Kompres Hangat Memakai Jahe Untuk Meringankan Skala Nyeri Pada Pasien Asam Urat Di Desa Kedungwungu Kecamatan Tegowanu Kabupaten Grobogan. *Jurnal Ilmu Keperawatan dan Kebidanan*, 6(1).
13. KN, T. S. (2016). PEMBERIAN KOMPRES JAHE DALAM MENGURANGI NYERI SENDI PADA LANSIA DI UPT PSTW KHUSNUL KHOTIMAH PEKANBARU. *Photon: Jurnal Sain dan Kesehatan*, 6(02), 13-16.
14. Zuriati, Z. (2017). EFEKTIFITAS KOMPRES AIR HANGAT DAN KOMPRES JAHE TERHADAP PENURUNAN NYERI PADA PASIEN ASAM URAT DI PUSKESMAS LUBUK BEGALUNG TAHUN 2017. *THE SHINE CAHAYA DUNIA S-1 KEPERAWATAN*, 2(2).
15. Andarmoyo. (2013). *Konsep & Proses Keperawatan Nyeri*. Yogyakarta: Ar-Ruzz Media.
16. Mumpuni, Yekti, & Wulandari, Ari. (2016). *Cara Jitu Mengatasi Asam Urat* (Maya Ed.). Yogyakarta: Rapha Publishing.
17. Ning sih, Nurna, Lukman. (2012). *Asuhan Keperawatan Pada Klien dengan Gngguan Sistem Muskuloskeletal* (Aklia Ed.). Jakarta: Salemba Medika.