

The Effect of Ginger Compresses on Reducing The Pain Scale of Gout Sufferers (Yani Trihandayani)

The Effect of Ginger Compresses on Reducing the Pain Scale of Gout Sufferers (Literature Review)

Yani Trihandayani¹

¹D3 Nursing Study Program, STIKes Ahmad Dahlan Cirebon, Indonesia

*Corresponding author: yantrhy21@gmail.com

Phone: +62 813 2459 2323

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Abstract

Background: The incidence of gout in the world has reached 335 million people. Uric acid is the result of purine metabolism in the body whose levels should not be excessive. The pain that arises in gout is part of the joints. One of the treatments of pain due to nonpharmacological uric acid is to use traditional remedies such as ginger.

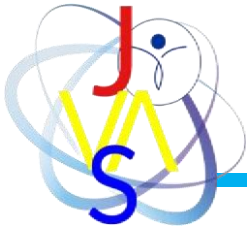
Purpose: The purpose of this literature is to analyze the effect of ginger compresses on reducing the pain scale in gout sufferers.

Methods: This research method is literature review through the google scholar database (2015-2021), using the keywords: "ginger compress AND Pain AND Gout". 9 journals were obtained according to the established inclusion criteria.

Results: Results from 9 journals to be reviewed on average published in 2017/2018, the research design mostly uses experimental Quasi. The sampling technique uses total sampling, with questionnaire instruments. Data analysis using paired t-test. Of the 9 journals reviewed, it was stated that there was an effect of ginger compresses on reducing the pain scale.

Conclusion: From the 9 journals reviewed, there was a significant influence between ginger compresses and pain reduction. The same results stated that there was a significant comparison before and after ginger compresses to the reduction of pain in gout sufferers.

Keywords: ginger compress, Pain, Gout



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1. INTRODUCTION

Gout or it can also be called gout arthritis is the result of purine metabolism in the body whose levels should not be excessive. Includes the group of purines namely adenosine and guanosine. And when DNA is destroyed, purines will also be catabolized (breakdown), this disease is also widespread throughout the world. (Yada & Ka'arayeno, 2019)

The number of gout in the world has reached 335 million people. Where it has been indicated that it reaches 25% the rate of gout continues to increase until 2025. According to the WHO (World Health Organization) states that the world population affected by gout has reached 5-10% with the age of 5 to 20 years and at the age of 55 years around 20% (Astutik, 2020).

Based on Basic Health Research (Riskesdas) in 2018, it is known that the prevalence of joint diseases in Indonesia based on the diagnosis of health workers is 13.3% and based on diagnosis and symptoms, which is 18.9%. Meanwhile, based on the diagnosis area of health workers, Aceh (13.3%) was highest, followed by Bengkulu (13.0%) and Bali (12.7%). (Ministry of Health RI, 2018).

Pain that usually arises in gout is in the joints, muscles, waist, knees, back, and shoulders, and accompanied by swelling, if not treated immediately will cause disruption to daily activities, pain experienced generally in the morning and at night. (Andriani & Asnindari, 2019)

Therapies to lower uric acid levels and reduce pain are divided into 2, namely pharmacological and non-pharmacological therapies. Pharmacologically handling uric acid is to use non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, naproxen and allopurinol. For other supporting efforts to overcome uric acid pain in a non-pharmacological way, namely by utilizing herbal ingredients that have been known for generations by the public with properties to reduce pain, one of which is ginger. (Scientific & Sandi, 2020)

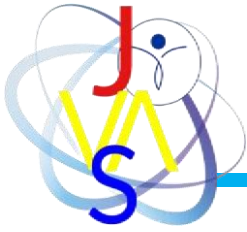
Ginger is an ingredient that is easily found in any area which is a medicinal plant that has been trusted by the community to cure several diseases, but residents do not know that ginger can treat joint and bone pain, one of which is gout. (Roscoe et al., 2016). Ginger (Zingiber Officinale) is one of the plants with roots or rootstocks used for treatment, In traditional Asian medicine, ginger used for arthritis such as Arthritis Ginger has a useful content to reduce pain in gout arthritis because ginger has spicy, bitter and aromatic properties of oleoresins such as zingerone, gingerol and shogaol. (Handa Gustiawan, 2019)

Based on the background description, researchers are interested in finding out more about the effect of ginger compresses on reducing the pain scale of gout sufferers.

2. METHODS

2.1 Literature Search Strategy

Strategies for searching for literature in conducting this literature review include:



The Effect of Ginger Compresses on Reducing The Pain Scale of Gout Sufferers (Yani Trihandayani)

2.1.1 Frameworks used

Framework used in journal search using PICOS format:

1. *Population/problem: the population that will analyze the problem*
2. *Intervention: the act of intervention or execution in the case that occurs as well as its explanation.*
3. *Comparison: a comparison of other management.*
4. *Outcome: a research result*
5. *Study design: research model used for review.*

2.1.2 Keywords

In journal searches using keywords (AND, OR NOT or AND NOT) which are used to be even more detailed in journal disbursement and can make it easier to find the desired journal. The keywords used are "ginger compress AND pain AND Gout".

2.1.3 Database or Search Engine

Secondary data is the data used in conducting this study. Where the data obtained is not directly subject to surveillance but takes from the data of previous research that has been carried out. The data source used uses the Google scholar database, which is an article or journal.

2.2 Inclusion and Exclusion Criteria

The inclusion and exclusion criteria set out in conducting this review are illustrated in table 2.1 below:

Table 2.1 Inclusion and Exclusion Criteria with PICOS format

<i>Criteria</i>	<i>Inclusion</i>	<i>Exclusion</i>
<i>Problem</i>	<i>International and national journals from different databases and related to research variables, namely uric acid</i>	<i>International and national journals from different databases and none related to research variables, namely uric acid</i>
<i>Intervention</i>	<i>Ginger compresses</i>	<i>No intervention</i>
<i>Comparison</i>	<i>No comparison factor</i>	<i>There are comparison factors</i>
<i>Outcome</i>	<i>The effect of ginger compresses on reducing the scale of pain in elderly people with gout</i>	<i>No effect of ginger compresses on the reduction of pain scales in elderly people with gout</i>
<i>Study design</i>	<i>Quasi Experimental, descriptive case study, pretest-posttest control group design</i>	<i>In addition to Quasi Experimental, pre-experimental, descriptive case studies, pretest-posttest control group design</i>
<i>Year of publication</i>	<i>Journals published from 2015 to 2021</i>	<i>Journals published before 2015</i>
<i>Language</i>	<i>Indonesian and English</i>	<i>in addition to Indonesian and English</i>

From the results of a literature review search through the google scholar database that uses the keywords "ginger compress" AND "pain" AND "gout", in a search the researcher found 64 journals and then the journals were selected, there were 5 journals in the exclusion because they were published under 2015 and the language did not use Indonesian. The feasibility assessment of the remaining 16 journals found that there was no inclusion eligibility so that exclusion was carried out and 9 journals were reviewed.

The literature that will be reviewed, grouped similar data according to the results assessed to explore the objectives using the narrative method. Journals that are in accordance with inclusion are collected into one and summarized including the name of the researcher, year of publication, title, method and research results as well as databases

3. RESULT AND DISCUSSION

The results and discussion of literature reviews from 9 journals obtained are as follows:

3.1 Results

3.1.1 General characteristics of literature

Table 3.1 General characteristics of literature

No.	Category	F	%
A. Year of publication			
1.	2015	1	11
2.	2016	1	11
3.	2017	2	22
4.	2018	2	23
5.	2019	1	11
6.	2020	1	11
7.	2021	1	11
Sum		9	100
B. Research design			
1.	Pre eksperimental	2	22
2.	Quasy eksperimental	5	56
3.	Descriptive case studies	1	11
4.	Pretest – posttest control group design	1	11
Sum		9	100
C. Research Sampling			
1.	Total sampling	4	45
2.	Purposive sampling	2	22
3.	Accidental sampling	1	11
4.	Noprobability sampling	1	11
Sum		9	100
D. Research instruments			

The Effect of Ginger Compresses on Reducing The Pain Scale of Gout Sufferers (Yani Trihandayani)

1.	<i>Oberservation sheet</i>	32	33
2.	<i>Questionnaire</i>	5	56
3.	<i>Pain scale measurement</i>	1	11
Sum		9	100
E. Analisis Statistik Penelitian			
1.	<i>Wilcoxon sign rank test</i>	4	44
2.	<i>Mann whitney test</i>	1	11
3.	<i>Paired t –test</i>	3	34
4.	<i>Uji marginal homogenelty</i>	1	11
Sum		9	100

Based on table 3.1 it can be seen that most (23%) were published in 2018. With most (56%) using the *Experimental Quasi* research design. The sampling techniques used mostly (45%) use total sampling techniques. The research instrument in this literature review uses a questionnaire of (56%). The known data analysis test uses *Wilcoxon sign rank-test* of (44%).

3.1.2 Characteristics of Research Results

Table 3.2 characteristics of research results

No	Category	F
A. ginger compress		
1.	<i>Compress ginger water bath</i>	4
2.	<i>Compress ginger solution</i>	1
3.	<i>Compress grated ginger</i>	2
4.	<i>Extra ginger compress</i>	1
5.	<i>Soak the feet with ginger water</i>	1
B. Pain Scale		
1.	<i>Pain scale</i>	9

Based on table 3.2, it can be seen from the 9 journals that will be reviewed, there are 4 journals that look at the effect of ginger water bath compresses, while 2 journals are seen from ginger grated compresses, while 3 journals are seen from ginger solution compresses, extra ginger compresses and soaking feet with ginger water, to assess the pain scale of all journals that will be reviewed 9 journals from the decrease in the pain scale of gout.

3.1.3 Research Analysis

Tabel 3.3 Research Analysis

No	Variables studied	Literature Analysis	Empirical Sources
1.	- Independent variable: ginger water bath compresses - Dependent variable: pain scale	The results of the five empirical sources state that there is an effect of ginger bath water compresses on the reduction of the uric acid pain scale in the elderly.	- Putri, Senna Qobita Dwi Rahmayanti, Devi Diani, Noor (2017) Vol.5 No. 2 - Ratnasari, N. Y., & Febriana, T. (2020) Vol. 9 No. 1 - Siti Dina Ita Purnamasari1, n.d. (2015) Vol.2 No.2 - Sriwiyati, Lilik Noviyanti, Dwi (2018) Vol. 6 No. 1
.	- Independent variable: ginger solution compress - Dependent variable: pain scale	The results of this study showed that there was an effect of ginger solution compresses (<i>zingiber officinale roscoe</i>) on uric acid pain.	Pistanty, Mingle A Nur, Universitas An (2021) Vol. 10 No. 1
3.	- Independent variable: ginger grated compress - Dependent variable: pain scale	Results from two empirical sources state that there was a significant effect of giving warm compresses using grated red ginger (<i>Zingiber officinale roscoe var rubrum</i>) on reducing the scale of pain in people with gout arthritis.	- Abri Madoni (2018) Vol. XII no. 79 - Samsudin, A. Kundre, R. Onibala, F. (2016) Vol. 4 No. 1
4.	- Independent Variables : Ginger Extra Compress - Dependent variables: pain scale	The results of this study showed that ginger extract compresses had an effect on the elderly who suffered from joint pain with gout.	Anggraini, Silvia Nora Yanti, Novry Fitri (2017) Vol : 7 No : 2
5.	- Independent variable : Soak feet with ginger water - Dependent variables: pain scale	The results of this study show that soaking the feet with warm water has the same effectiveness in reducing gouty arthritis pain	Sundari, yulanda. a Wahyuni, nurul sri Nurhidayat, Saiful (2019) Vol. 0 No. 2

Based on table 3.3 it can be seen that 9 journals that were reviewed stated *Ha* or its alternative hypothesis was accepted. It can be seen that the presence of ginger water bath compresses, ginger solution compresses, ginger grated compresses, extra ginger compresses, and foot baths with ginger water is characterized by a decrease in the pain scale.

3.2 Discussion

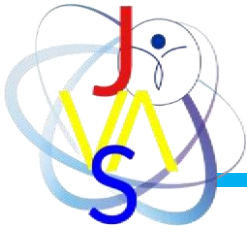
3.2.1 Description of Pain Scale Reduction Before and After Ginger Compress

Based on the 9-literature reviewed, an overview of changes in the scale of pain before and after compresses can be seen from table 3.4 below.

Table 3. 4 Pictures of pain scales before and after ginger compress.

No	Research	Pain Scale before treatment	Pain Scale After Treatment	Information
1.	Sundari, yulanda. a Wahyuni, nurul sri Nurhidayat, Saiful.	4	2-3	There is a decrease in the pain scale
2.	Ratnasari, N. Y., & Febriana, T.	9	1-6	There is a decrease in the pain scale
3.	Putri, Senna Qobita Dwi Rahmayanti, Devi Diani, Noor	5	1-4	There is a decrease in the pain scale
4.	Anggraini, Silvia Nora Yanti, Novry Fitri.	8	1-5	There is a decrease in the pain scale
5.	(Siti Dina Ita Purnamasari l, n.d.)	9	1-3	There is a decrease in the pain scale
6.	Abri Madoni	6	1-3	There is a decrease in the pain scale
7.	Samsudin, A. Kundre, R. Onibala, F.	4	2-3	There is a decrease in the pain scale
8.	Pistanty, Mingle A Nuur, Universitas An.	8	2-3	There is a decrease in the pain scale
9.	Sriwiyati, Lilik Noviyanti, Dwi.	5	1-4	There is a decrease in the pain scale

Based on table 3. 4 data can be seen most of the picture of the pain scale before compressing is in the scale range of 4-9, while the pain scale after the ginger compress is in the range of scale 1-6. In general it can be seen that the decrease in the pain scale from before the compress is done with after the compress.



The Effect of Ginger Compresses on Reducing The Pain Scale of Gout Sufferers (Yani Trihandayani)

This is supported by the theory of Andriani & Asnindari, (2019) said that one of the ways to reduce pain is to be able to use non-pharmacology, one of which can include herbal ingredients that are efficacious in reducing pain, one of which is ginger. In addition, it is also supported by Khoiroh Umah, et al., (2020) who states that the factors that affect pain are age, gender, knowledge, behavior, attitude

3.2.2 Analysis of the Effect of Ginger Compresses on Reducing the Pain Scale of Gout Sufferers

Of the 9 journals reviewed according to (Samsudin et al., 2016) said that there was a significant relationship between ginger pressure and pain reduction. It is in accordance with a related study conducted by Yada & Ka'arayeno, (2019) that there is a significant influence of these results due to pain compresses. In addition, the same results were obtained by Khoiroh Umah et al, (2020) with the title "The effectiveness of warm compresses of ginger and cinnamon decoction, there is a decrease in the level of joint pain in the elderly experiencing gout" stated that there was a significant comparison before and after the ginger warm compress to a decrease in pain levels in the elderly who experienced gout. Ginger warm compresses are more efficient than cinnamon warm compresses against the reduction of pain levels in advanced age who have gout.

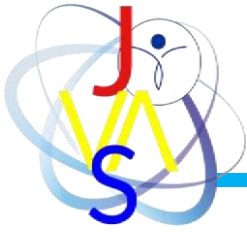
Supported by (Yada & Ka'arayeno, 2019) The content of ginger is useful for reducing pain in uric acid because ginger has a spicy taste, is warm and contains chemicals including gingerol, flying oil, limonene, acid aspartic, this compound inhibits the appearance of pain. Apart from these two compounds (gingerol and shagaol), the decrease in the joint pain intensity score is also influenced by the spicy taste and warm properties possessed by ginger

4. CONCLUSION

Based on the results of the literature review from 9 journals, the following conclusions can be drawn:

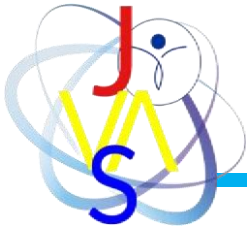
- 4.1 The description of the pain scale before ginger compresses were performed on respondents was in the range of pain scales 4-9. While the pain scale after compresses is in the range of 1-6 scales. In general, there is a reduction in the scale of pain felt by respondents from before the compress and after the ginger compress.*
- 4.2 All journals reviewed state that the effect of ginger water bath compresses, ginger solution compresses, ginger grated compresses, extra ginger compresses, and foot baths with ginger water is characterized by a decrease in pain scale.*

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The Effect of Ginger Compresses on Reducing The Pain Scale of Gout Sufferers (Yani Trihandayani)

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The Effect of Ginger Compresses on Reducing The Pain Scale of Gout Sufferers (Yani Trihandayani)

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