JOURNAL OF COMPLEMENTARY NURSING
http://journals.sagamediaindo.org/index.php/JCN

Warm Water Compress Therapy and Ginger Water Decoction Can Reduce Dysminorhea Pain

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Research Article
Volume: 02
Issue: 01
Years: 2023

Editor: IJ

Received: 17/05/2022

Reviewed: 30/01/2023

Published: 04/02/2023

Available Article: (doi)
10.53801/jcn.v2i1.60

Abstract
Introduction: Menstrual pain or what is known as dysmenorrhea is a problem that occurs during menstruation.
Purpose: The purpose of this study was to find out about the effectiveness between warm water compress therapy and ginger water decoction therapy for reducing dysmenorrhea pain at Harapan Bunda Hospital.
Methods: This study used a pre-experimental research design with a one-group pre-test and post-test design with observation sheets. The sample used was 15 people using an accidental sampling technique. Data analysis using the Wilcoxon Signed Ranks Test.
Results: Based on the output of the Wilcoxon Signed Ranks Test, Sig. (2-tailed) of 0.001 <0.05, which means H0 is rejected and Ha is accepted
Conclusion: Based on the results of research conducted, ginger water compress therapy is effective in reducing dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Hospital Jakarta in 2021.

Keywords: dysmenorrhea, ginger, pain, warm water

Introduction

Menstrual pain or also known as dysmenorrhea is a problem that occurs during menstruation.[1] Dysmenorrhea is experienced by many women, but many of them often ignore it without making proper handling efforts.[2] Conditions like this can endanger women's health if left continuously. Dysmenorrhea can be one of the symptoms of endometriosis or other dysmenorrheal diseases, therefore proper efforts are needed to treat dysmenorrhea.[3]

The incidence of menstrual pain (dysmenorrhea) in the world is very large. on average more than 50% of women in every country experience menstrual pain (dysmenorrhea). According to WHO in 2012, there were 1,769,425 women experiencing dysmenorrhea with 10-15% experiencing severe dysmenorrhea, around 75% of women reporting various degrees of discomfort associated with menstruation. Several studies have shown a fairly high incidence of dysmenorrhea, one of which is in Asia with an incidence in East Asia of 68.7%, in Middle

East Asia as much as 74.8% and 54.0% in South Asia. Whereas in Southeast Asia the figures show differences, Malaysia estimates that the number of women experiencing primary dysmenorrhea is 69.4% while in Thailand it is 84.2%.[4] The prevalence of dysmenorrhea in Indonesia does not have a definite number. However, it is estimated that the prevalence of dysmenorrhea in Indonesia is 55% of the number of women of reproductive age.[5] Women of reproductive age who experience menstrual pain greatly interfere with activities. 6 Based on data from the Indonesian Ministry of Health, the incidence of dysmenorrhea in Indonesia is 64.52%, consisting of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea.[4]

If this is allowed to continue, it will interfere with daily activities and can cause several other symptoms such as nausea, vomiting, diarrhea, anxiety, depression, dizziness and headaches, fatigue, and even fainting. Although dysmenorrhea will not be life-threatening, it does not mean that it should be left alone. Seeing the impact of dysmenorrhea, it can be said that dysmenorrhea is a problem for women. Treatment efforts to reduce dysmenorrhea are by administering pharmacological and non-pharmacological therapy. Pharmacological therapy such as analgesic drugs, hormonal therapy, therapy with non-steroidal anti-prostaglandin drugs, and right cervical dilatation.[7] One of the non-pharmacological therapy efforts is by compressing warm water and compressing ginger boiled water. Warm compresses are a non-pharmacological method that is considered very effective in relieving pain. The effect of warm compresses can cause vasodilation in blood vessels which will increase blood flow to tissues. Apart from warm compresses, another non-pharmacological method is a compress made of ginger water. This method is believed to relieve pain because ginger contains natural ingredients such as oleoresin, which consists of zingerone, gingerol, and shogaol.[8] Researchers from the University of Georgia, say ginger is something that can get rid of sore muscles. In China ginger is also very popular as an anti-inflammatory and pain medication. Ginger is known to contain chemicals that work almost the same as non-steroidal anti-inflammatory drugs such as ibuprofen and aspirin. Because it contains Gingerol, Curcumin and essential oils.[9]

Based on this phenomenon, researchers will conduct research on how to reduce dysmenorrhea pain in nurses at Harapan Bunda Hospital using non-pharmacological therapy. Based on a preliminary study that was conducted by interviewing 10 nurses on the 3rd floor of the tulip and orchid room, Harapan Ibu, 8 nurses said that they often experience menstrual pain during menstruation to the point that it interferes with activities, they have been treated with pain relievers but they still often come and go. 2 nurses said they experienced menstrual pain but not too painful. The description of the background above, attracted the interest of researchers to research "The Effectiveness of Warm Water Compress Therapy and Ginger Water Decoction on Reducing Dysmenorrhea Pain in Nurses on the 3rd Floor Room at Harapan Bunda Hospital in 2022".

Method

In this study, the type of pre-experimental research was used with a one-group pre-test post-test design with observation sheets. The sample used was 15 people using the accidental sampling technique. Data analysis using the Wilcoxon Signed Ranks Test. Data analysis techniques in this study were univariate analysis and bivariate analysis. Univariate analysis was used to analyze the characteristics of the respondents which included Warm Water Compress Therapy and Ginger Water Decoction using the mean, minimum and maximum values. Bivariate analysis in this study used the Wilcoxon matched pair test, which is a nonparametric test to measure the significance of the difference between 2 groups of paired data on an ordinal or interval scale but not normally distributed. This research passed the ethical test with the ethical test number 1645/Sket/Ka-Dept/RE/STIKIM/VIII/2020.

Results

Univariate Data Analysis

Table 1. Description of Respondents' Age Characteristics of Warm Water Boiling

Characteristics	Result	
	Frequency	Percentage (%)
Warm Water Boil Respondents		
Age		
Late Teens 17th-25th	10	66,7
Early Adult 26th – 35th	5	33,3
Total	**15**	**100**
Respondents Stew Ginger Water		
Age		
Late Teens 17th-25th	8	53,3
Early Adult 26th – 35th	7	46,7
Total	**15**	**100**

Table 1 shows an overview of the characteristics of the age of the majority of late adolescents 17th – 25th as many as 10 respondents (66.7%). The description of the age characteristics of the majority of late adolescents 17th – 25th was 8 respondents (53.3%).

Table 2. Overview before and after giving warm water compresses and ginger water compresses to reduce dysmenorrhea pain to nurses on the 3rd floor of Harapan Bunda Hospital Jakarta in 2021.

Painful	Warm Compresses											
	Pre-test session 1		Post-test session 1		Pre-test session 2		Post-test session 2		Pre-test session 3		Post-test session 3	
	F	%	F	%	F	%	F	%	F	%	F	%
Severe pain	13	86,7	8	53,3	8	53,3	3	20,0	7	46,7	N/A	N/A
Moderate pain	1	6,7	5	33,3	5	33,3	10	66,7	6	40,0	11	73,3
Mild pain	1	6,7	2	13,3	2	13,3	2	13,3	2	13,3	4	26,7
No pain	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	**15**	**100**	**15**	**100**	**15**	**100**	**15**	**100**	**15**	**100**	**15**	**100**
Painful	**Kompres Air Jahe**											
	Pre-test session 1		Post-test session 1		Pre-test session 2		Post-test session 2		Pre-test session 3		Post-test session 3	
	F	%	F	%	F	%	F	%	F	%	F	%
Severe pain	14	93,3	14	26,7	14	93,3	14	93,3	6	40,0	4	26,7
Moderate pain	N/A	N/A	10	66,7	N/A	N/A	N/A	N/A	8	53,3	10	66,7
Mild pain	1	6,7	1	6,7	1	6,7	1	6,7	1	6,7	1	6,7
No pain	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	**15**	**100**	**15**	**100**	**15**	**100**	**15**	**100**	**15**	**100**	**15**	**100**

Table 2 The frequency distribution of the pre-test from session 1 to session 3, the majority of sessions 1 13 respondents experienced severe pain responses (86.7%), and post-test sessions 1 to session 3 experienced a decrease in pain response, the majority of post-test sessions 3 11 respondents (73.3%), warm water compresses to reduce dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Jakarta Hospital in 2021. Table 2 shows the frequency distribution of pre-test descriptions from sessions 1 to session 3, the majority in sessions 1 and 2 there were 14 respondents (26.7%) of respondents experienced a response to severe pain, and post-test sessions 1 to session 3 experienced a decrease in pain response the majority of post-test session 3 10 respondents (66.7%), warm water compresses to reduce

dysmenorrhea pain in nurses 3rd floor of Harapan Bunda Jakarta Hospital in 2021.

Bivariate Data Analysis

Wilcoxon Signed Ranks Test

Table 3. The effectiveness of warm water compress therapy in reducing dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Hospital Jakarta in 2021

Warm Compresses	N	Mean Rank	Sum of Ranks	Ranks Test	
				Z	P-Value
NEGATIVE	(+) 14	,00	,00	- 3,557	**0.000**
POSITIVE	(-) 0	7,50	105,00		

Based on table 3 above, shows that the Mean Rank value of warm water compresses is a positive value of 7.50 after getting warm water compress therapy, there is a significant change in the pain scale decreasing. Based on the output of the Wilcoxon Signed Ranks Test, the value of Sig. (2-tailed) of 0.000 <0.05, it can be concluded that there is the effectiveness of warm water compress therapy in reducing dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Jakarta Hospital in 2021, which means H0 is rejected and Ha is accepted.

Table 4. The effectiveness of ginger water decoction compress therapy in reducing dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Hospital Jakarta in 2021.

Ginger Water Boiled Compress	N	Mean Rank	Sum of Ranks	RanksTest	
				Z	P-Value
POSITIVE	(+)15	8.00	,120.00	- 3,542	**0.000**
NEGATIVE	(-) 0	,00	,00		

Based on table 4 above, shows that the Mean Rank Compress of ginger water is Positive by 8.00 after receiving warm water compress therapy, the pain scale decreases significantly. Based on the output of the Wilcoxon Signed Ranks Test, compressed ginger water, the Sig. (2-tailed) of 0.000 <0.05, it can be concluded that there is the effectiveness of ginger water compress therapy for reducing dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Jakarta Hospital in 2021, which means H0 is rejected and Ha is accepted.

Discussion

Univariate analysis

Description of the characteristics of respondents based on age at Harapan Bunda Hospital Jakarta 2021.

Based on the results of the study, it was known that the majority of respondents in the intervention group of warm water compresses and ginger water boiled compresses were late adolescents aged 17 years - 25 years with a total of 19 respondents (63.3%). The age of 17-25 years, which is the reproductive age, usually experiences several symptoms that are varied in nature and tend to get worse in the moments leading up to and during the process of menstrual bleeding in the body. For some women menstrual pain is mild, but for some other women, the pain can be more severe.

Based on Asmita's research, 2017 with the research title The Effect of Warm Compress Therapy on Menstrual Pain (Dysmenorrhea) in Simpang Haru Padang Banking Vocational School Students, the average age of respondents is 16 years (56%). 10 According to Sri Mintarsih's research, 2018 with the research title Compress Ginger is Efficacious for Reducing

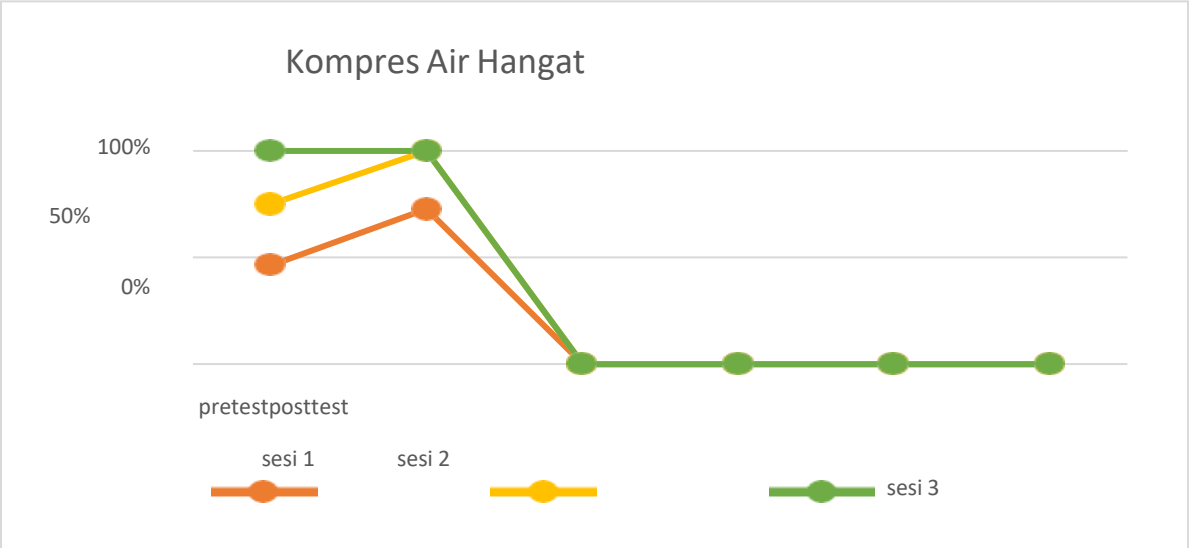
Primary Menstrual Pain, with a total of 15 respondents aged 14 years (26.7%), 15 years (40%), 16 years (13.3).[11]

According to the researchers' assumptions, it can be concluded that age is a variable that affects pain, especially in adolescents. Overcoming the problem of dysmenorrhea pain can be overcome with pharmacological measures, namely, the administration of drugs and non-pharmacology, one of which is by intervening with warm water compresses and ginger water compresses. is expected to be able to provide changes to dysmenorrhea pain experienced by respondents.

Overview before and after giving warm water compress therapy to reduce dysmenorrhea pain to nurses on the 3rd floor of Harapan Bunda Hospital Jakarta in 2021.

The results of the frequency distribution of the pre-test intervention group based on table 2 above for nurses on the 3rd floor of Harapan Bunda Hospital in 2021 found severe pain (7-10) in 13 respondents (43.3%). After being given a post-test warm water compress on the 3rd floor of Harapan Bunda Hospital in 2021 the majority had mild pain (1-3) 10 respondents (16.7%).

Figure 1. Graph of Warm Water Compresses



Warm compresses can provide a warm feeling to the client by using fluids or tools that cause warmth to the parts of the body that need it. Warm compresses are a method of using local warm temperatures which cause several physiological effects. The effects of warm therapy on the body include increasing blood flow to the injured part of the body; increasing the delivery of leukocytes and antibiotics to the wound area; increasing muscle relaxation and reducing pain due to spasms or stiffness; increasing blood flow; and also enhances the movement of wastes and nutrients. This study is in line with research conducted by Amrina Oktaviana (2016) obtained an average decrease in pain in the warm compress group by 2 degrees on the VAS scale with a p-value of 0.001 (<0.005). Because the P-value < 0.05 so that H0 is rejected this shows that there is a significant effect before and after warm compresses are applied.[12] According to Potter and Perry, (2006), the mechanism for reducing pain due to warm compresses is that when heat is received by receptors, impulses will be forwarded to the posterior hypothalamus, a reflex reaction of sympathetic inhibition will occur which will dilate blood vessels thereby helping to increase blood flow to the lower abdomen. who experience pain/dysmenorrhea, heat relieves pain by removing inflammatory products such as bradykinin, histamine and prostaglandins which cause localized pain.[13]

The results of this study are supported by (Lowdermik et al, 2013), where pain can be reduced with non-pharmacological therapy in the form of warm water compresses, namely

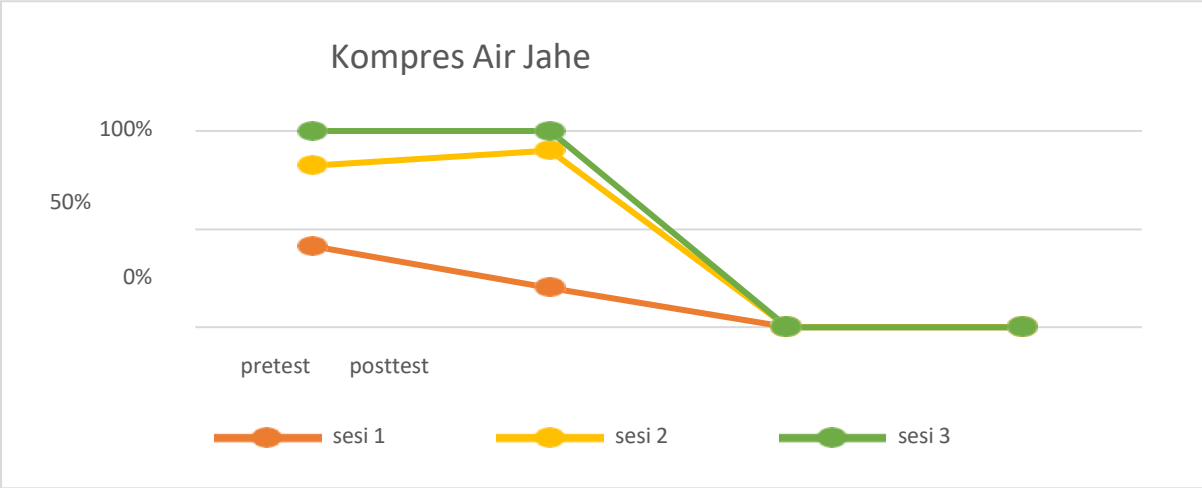
giving respondents a sense of security by using fluids or tools that cause warmth to the parts of the body that need them. This results in the transfer of heat to the stomach so that what is compressed becomes warm, dilation of the blood vessels occurs in the part that is experiencing pain and increases blood flow in that area so that the pain in dysmonere that is felt will decrease or disappear.[14]

According to the researchers' assumptions, warm water compresses are very useful in reducing dysmenorrhea pain where muscle relaxation occurs and reduces uterine ischemia so that pain can be reduced or lost. This can be seen in the results of the study which showed that before the warm water compress therapy treatment was carried out, many female students were on the moderate pain scale and after the warm water compress was carried out there was a decrease, many of which were on a scale of 0 (no pain).

Overview before and after giving ginger water compress therapy to reduce dysmenorrhea pain to nurses on the 3rd floor of Harapan Bunda Jakarta Hospital in 2021.

The results of the frequency distribution of the pre-test intervention group based on nurses on the 3rd floor of Harapan Bunda Hospital in 2021 found severe pain (7-10) and 14 respondents (46.7%). After being given a ginger water compress post-test on the 3rd floor of Harapan Bunda Hospital in 2021, the majority had mild pain (1-3) and 8 respondents (26.7%).

Figure 2. Graph of compressed ginger water



The results of this study also showed that after taking the form of ginger boiled water, the menstrual pain experienced by respondents was reduced as indicated by an increasingly large pain scale between the first day before giving treatment and the second day after giving treatment, namely the majority of mild pain (1-3) 8 respondents (26.7%). This shows that giving treatment in the form of ginger-boiled water affects the difference in menstrual pain with a larger difference in scale. The difference in these scales also provides an interpretation that the greater the difference in the menstrual pain scale, the lighter the menstrual pain experienced by the respondent.

According to the researchers' assumptions, there is an effect of ginger compresses in reducing pain in primary dysmenorrhea. Ginger water compresses will have an effect on the uterus from heat conduction, namely softening the muscle tension of the uterine wall due to the dystrimic contractions earlier and dilating narrowed blood vessels or vasodilation of blood vessels so that oxygen will circulate easily. Thus menstrual blood will come out easily followed by a decrease in prostaglandin concentration levels so that menstrual pain will decrease.

Bivariate Analysis

The relationship between the effectiveness of warm water compress therapy for reducing dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Hospital Jakarta in 2021.

The results of the analysis showed that the Mean Rank warm water compress pretest was 8.00 after receiving warm water compress therapy, it was found that the pain scale decreased significantly by .00. Based on the output of the Wilcoxon Signed Ranks Test, the value of Sig. (2-tailed) of 0.000 <0.05, it can be concluded that there is the effectiveness of warm water compress therapy for reducing dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Jakarta Hospital in 2021, which means H0 is rejected and Ha is accepted.

In theory, one of the non-pharmacological therapies is by compressing warm water and compressing ginger boiled water. Warm compresses are a non-pharmacological method that is considered very effective in relieving pain. The effect of warm compresses can cause vasodilation in blood vessels which will increase blood flow to tissues.[15]

According to the researchers' assumptions, this method is believed to relieve pain because the heat that stimulates the skin will inhibit impulses from the area (Substansia Gelatinosa) so that the sensation of pain will be reduced or not even transmitted to the brain.

The relationship between the effectiveness of ginger water compress therapy for reducing dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Hospital Jakarta in 2021.

The results of the analysis showed that the Mean Rank Compress ginger water pre-test was 8.00 after receiving warm water compress therapy, it was found that the pain scale decreased and increased significantly by .00. Based on the output of the Wilcoxon Signed Ranks Test, the value of Sig. (2-tailed) of 0.000 <0.05, it can be concluded that there is the effectiveness of ginger water compress therapy for reducing dysmenorrhea pain in nurses on the 3rd floor of Harapan Bunda Jakarta Hospital in 2021. Which means H0 is rejected and Ha is accepted.

Research has described the benefits of boiling ginger water with compresses of ginger water for relieving menstrual pain in junior high school students, and also reducing pain in gout. However, this study is different from previous studies, namely wanting to know the effectiveness of ginger water decoction with ginger water compresses for reducing dysmenorrhea pain in nurses at Harapan Bunda Hospital.

Ginger (Zingiber Oficinale) is a medicinal plant that has long been known and is very popular, especially often used to treat musculoskeletal disorders, arthritis and gastrointestinal disorders. The ginger rhizome contains several chemical components that are beneficial to health. used as an anti-vomiting (antiemetic), anti-cough (antitussive/expectorant), fresh ginger stimulates sweating, and warms the body anti-inflammatory (inflammatory), reducing joint pain.[16]

The results of this study on giving warm compresses of ginger decoction to reduce dysmenorrhea menstrual pain from statistical test results obtained significant results. students or respondents but can also be given to the community, especially women who experience menstrual pain.

Conclusion

Based on the results of research on the effectiveness of warm water compress therapy and ginger water compresses on dysmenorrhea pain in nurses in the 3rd-floor room at Harapan

Bunda Hospital 2021, it can be concluded that the description of the age characteristics of nurses who experience dysmenorrhea pain in nurses on the 3rd-floor room at Harapan Bunda Hospital the majority of Late Teenagers 17th – 25th; The description of dysmenorrhea pain before being given warm water compresses and ginger water boiled compresses to nurses on the 3rd-floor room at Harapan Bunda Hospital, the majority of severe pain scale (7-10); Description of dysmenorrhea pain after being given warm water compresses and ginger water compresses to nurses in the 3rd-floor room at Harapan Bunda Hospital, the majority of pain is mild (1-3) and there is the effectiveness of warm water compresses and ginger water boiled compresses for dysmenorrhea pain in room nurses 3rd floor at Harapan Bunda Hospital p-value 0.000 <0.05.

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