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The Effect of Ginger Compresses on Dysmenorrhea in Young Women in The Semanggi Village Surakarta

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Abstract

Background: Most of teenage girls who are menstruating experience several symptoms and the largest number of these symptoms is heartburn or menstrual pain (dysmenorrhea). One of the therapies that can be done for women who experience dysmenorrhea is ginger compresses. The general content in ginger can also provide a warm effect and cause enlargement of the veins which will increase blood circulation to the cell membrane so that the uterine muscles relax. **Objective:** To determine the effect of ginger compresses on dysmenorrhea in young womens in Semanggi Village. **Methods:** Quantitative research with quasi experiment design using one group pre-test – post-test design, non-probability sampling technique, using purposive sampling method with a sample of 43 respondents, research instrument through NRS (Numeric Rating Scale) questionnaire. **Results:** After analyzing the data using the wilcoxon test, the p-value (0.000)<0.05 was obtained. **Conclusion:** There is an effect of ginger compresses on dysmenorrhea in young women in the Semanggi Village, Surakarta.

Keywords: Menstruation, Dysmenorrhea, Ginger compress

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1. BACKGROUND

Menstruation is a natural process that occurs in every woman. Menstruation occurs as a result of regular uterine bleeding, which indicates that the reproductive system is functioning properly. The first menstruation (menarche) generally occurs at the age of 12-16 years (Astuti et al., 2022). There are several symptoms that often appear during menstruation, such as acne on the face, stomach ulcers (dysmenorrhea) and pain when urinating, increased emotions, swollen breasts, headaches, and vaginal discharge. The greatest number of symptoms that appear during menstruation are heartburn or menstrual pain (Dismorrhea) (Wenda & Mahanani, 2018). The incidence of dysmenorrhea in the world is quite large, almost 50% of

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women in every country experience dysmenorrhea pain. The prevalence of dysmenorrhea in Indonesia consists of primary dysmenorrhea of 54.89% and 9.36% experiencing secondary dysmenorrhea. The prevalence of dysmenorrhea in Central Java reaches 56% (Indah & Susilowati, 2022). Meanwhile, the prevalence of dysmenorrhea in Surakarta is quite large, reaching 87.7% (Wrisnijati et al., 2019). The impact of dysmenorrhea is very detrimental for those who experience it. Dysmenorrhea will have an impact on young women including fatigue, pain in the lower back, feelings of anxiety and tension, dizziness, confusion, nausea, vomiting, diarrhea, stomach cramps and abdominal pain and disrupted activities. The location of this pain is also felt in the lower abdomen, the thighs and back of the pelvis. The problems that occur have an effect on the quality of life of young women who experience dysmenorrhea or menstrual pain (Oktavianto et al., 2018).

From several pharmacological and non-pharmacological treatments, ginger compress is an alternative for dysmenorrhea. Ginger is one of the herbal plants that is believed to reduce pain, because the rhizome contains iron, calcium, vitamin C, essential oils, and gingerols which function as analgesics, antipyretics, and anti-inflammatories (Sari & Listiarini, 2021). From previous research, warm compresses of ginger can be used as a pain reliever for the lower back (low back pain) for pregnant women in the third trimester, because ginger has a spicy and hot effect which can work by stimulating non-nociceptors so that can relieve acute pain and muscle spasm in pregnant women who experience low back pain (Kusumawati et al., 2019). In addition, the gingerol content in ginger can also provide a warm effect and cause enlargement of the veins which will increase blood circulation to the cell membrane so that the uterine muscles relax (Bulu, 2022).

A preliminary study conducted at 5 public health care (PUSKESMAS) in the Surakarta City area in February 2023, found that Semanggi Village was the village with the most of young women experiencing dysmenorrhea in 2022, namely 64 young women. From the interview method used, there are 7 out of 10 young women who experience dysmenorrhea (painful menstruation). The young woman who experienced dysmenorrhea said that she had never used ginger compresses to treat dysmenorrhea. Based on the description above, the researcher is interested in analyzing " The Effect Of Ginger Compresses On Dismenorrhea In Young Women In The

Semanggi Village Surakarta ". This study aims to determine the effect of ginger compresses on dysmenorrhea in young women in the Semanggi Village.

2. METHODS

This research is included in this research is the Quasi Experiment Design with the One Group Pre-test – Post-test Design which was conducted in Semanggi Village from June to July 2023.

The population in this study were young women in Semanggi Village who experienced dysmenorrhea with a total of 64 people. The sample in this study amounted to 43 respondents who were calculated using a non-probability sampling technique with a purposive sampling method based on inclusion and exclusion criteria. The number of samples is calculated using the Slovin formula with a 10% drop out.

The independent variable and the dependent variable in the study consisted of compressed ginger (independent variable) and the dysmenorrhea scale (independent variable). The research instrument was in the form of a questionnaire which was distributed directly to the respondents. The measurement tools and research materials used were the NRS (Numeric Rating Scale) from a scale of 0-10 with no pain category on a scale of 0, mild pain on a scale of 1-3, moderate pain on a scale of 4-6, and severe pain on a scale of 7-10. Validity test and reliability test were not carried out in this study because of the instrument is standard and valid.

Data collection in this study was carried out for six weeks starting from June 11 2023 to July 22 2023 with a total of 43 samples of respondents in young women who were intervened with ginger compresses for dysmenorrhea. This research was conducted in Semanggi Village, Surakarta City, Central Java. Semanggi Village has several public facilities such as Integrated Healthcare Center (posyandu) which are quite adequate and may be used for public purposes such as conducting current research. The research location is also close to the market making it easier for researchers if they need additional raw materials in research, namely ginger.

The results of this study are displayed in the form of univariate analysis which is used to analyze the existing variables descriptively by using categorical data. In addition, the form of bivariate analysis is also displayed which is used to determine the effectiveness of giving ginger compresses for Dysmenorrhea in Young Womens in Semanggi Village, Surakarta.

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3. RESULTS

Table 1. Characteristic of Respondents (N=43)

Characteristic	Frequency	Percentage (%)
Age		
10 years	3	7,0
11 years	3	7,0
12 years	1	2,3
13 years	6	14,00
14 years	2	4,7
15 years	7	16,3
16 years	5	11,6
17 years	9	20,9
18 years	5	11,6
19 years	2	4,7
Age of Menarche		
10 years	20	46,5
11 years	12	27,9
12 years	7	16,3
13 years	3	7,0
14 years	1	2,3
Durations of Menstruation		
‹ 5 days	0	0
5 days	8	18,6
6 days	17	39,5
7 days	9	20,9
8 days	8	18,6
9 days	1	2,3
10 days	0	0
› 10 days	0	0

Based on Table 1 the results of the frequency distribution based on the age of Young Womens, it was found that Young Womens with the highest frequency of dysmenorrhea were at the age of 17 yearss (20.9%) and Young Womens with the least dysmenorrhea at the age of 12 (2.3%). The results of the frequency distribution based on the age of menarche, most of the respondents experienced their first menstruation (menarche) at the age of 10 yearss (46.5%) and experienced the least age of menarche, namely at the age of 14 yearss (2.3%). The results of the frequency distribution based on the length of menstruation, most of the young women in the Semanggi Surakarta Sub-District experienced menstruation for 6 days (39.5%), and the least menstruation was 9 days (2.3%).

Univariate analysis was used to find out the average of the characteristics of the

respondents and to find out the overall average of each variable studied, namely the level of dysmenorrhea pain scale before being given ginger compresses and after being given ginger compresses.

Table 2. Dysmenorrhea Before Ginger Compresses in June - July 2023 (N=43)

Age	Frequency	Percentage (%)
10 years	3	7.0
11 years	3	7.0
12 years	1	2,3
13 years	6	14.00
14 years	2	4,7
15 years	7	16,3
16 years	5	11,6
17 years	9	20,9
18 years	5	11,6
19 years	2	4,7

Based on Table 2 it can be seen that dysmenorrhea from 43 respondents before being given the ginger compress treatment obtained results with a mild pain scale of 10 respondents (23.3%), moderate pain of 25 respondents (58.1%), and severe pain of 8 respondents (18.6%).

Table 3. Dysmenorrhea After Compressing Ginger In June - July 2023 (N=43)

Dysmenorrhea After Intervention	Frequency	Percentage (%)
No pain	3	7.0
Mild pain	31	72,1
Moderate pain	9	20,9
Severe pain	0	0

Based on Table 3. it can be seen that dysmenorrhea after compressing ginger was obtained on a scale of 0 (no pain) for 3 respondents (7.0%), scale 1 (mild pain) for 31 respondents (72.1%), and scale 2 (moderate pain) as many as 9 respondents (20.9%).

In this study the data normality test was carried out before data analysis was carried out. This is to find out the difference in the level of pain scale in dysmenorrhea before and after giving ginger compresses to Young Womens in the Semanggi Village, so a data normality test is done first using the Shapiro-Wilk test, with a significant (95%).

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Table 4. Frequency Distribution of Data Normality est for July 2023

Variable	P-value
Pre-test dysmenorrhea	0.000
Post-test dysmenorrhea	0.000

Based on (table 4) the data normality test shows a P-value of 0.000 or ‹0.05 in the data before and after the ginger compress intervention, so that the data is declared to be not normally distributed and data analysis techniques can be performed with the Wilcoxon test as follows:

Table 5. Analysis of Dysmenorrhea Before and After Ginger Compresses in Young Womens in Semanggi Village, Surakarta in July 2023

Variable	P-value
Dysmenorrhea (Pre-test and post-test)	0.000

Based on the results of the Wilcoxon test in (table 5) the results of dysmenorrhea before and after the ginger compress intervention with a P-value of 0.000 ‹0.05, this means that there is a difference in the dysmenorrhea values before and after the ginger compress intervention. This means that the hypothesis is accepted, namely that there is a significant effect of ginger compresses on dysmenorrhea in Young Womens in the Semanggi Village, Surakarta.

4. DISCUSSION

Based on the results of research conducted in the Semanggi Village, Surakarta, it is known that the value before the intervention of ginger compress was 2 (moderate pain category) and after being given ginger compress was 1 (mild pain category). It can be interpreted that the hypothesis is accepted or the ginger compress intervention treatment can affect dysmenorrhea in adolescents in the Semanggi Village, Surakarta.

According to previous research, ginger compresses have quite an effect on reducing the dysmenorrhea pain scale. This is supported by the statement (Karomika et al., 2019) that the ginger flavored heat carrier components are gingerol, shogaol, and zingeron which have anti-inflammatory activity. The function of anti-inflammatory itself is to inhibit the production of prostaglandins so that it can reduce pain. In addition, the components of volatile oil and oleoresin in ginger can be used as a cold medicine, analgesic, antipyretic, anti-inflammatory, and reduce stress which is effective when used to

reduce menstrual pain. Giving ginger compresses for dysmenorrhea can be done for 20 minutes on the first and second days during menstruation (Sasongko, 2019).

Research conducted in the Semanggi Village, Surakarta with the intervention of ginger compresses has been carried out according to the correct procedure, which is carried out for 20 minutes so that the ingredients in ginger such as gingerol, shogaol, and zingeron can be absorbed properly so that the pain of dysmenorrhea can be reduced.

5. CONCLUSION

Based on the results of data analysis and discussion, the conclusions drawn in this study were that dysmenorrhea in young women in the Semanggi Village, Surakarta, before the ginger compress intervention was carried out was 2 in the moderate pain category and after the ginger compress intervention was 1 in the mild pain category. So that there is an effect of ginger compresses on dysmenorrhea in young women in the Semanggi Village, Surakarta.

AUTHOR CONTRIBUTIONS

Substantial contributions to conception, writing and data analysis: Fitri Nur Shinta, under the guidance and revision by Tri Susilowati

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CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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