

Giving a Herbal Drink “Hot Ginger” to Relieve Menstrual Pain to Students at the Islamic Boarding School Kediri

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ABSTRACT

Menstruation is a natural physiological change that occurs in every woman and is influenced by reproductive hormones, FSH (estrogen) or LH (progesterone). When you are menstruating, usually women will experience pain or cramps in the lower abdomen; this is called dysmenorrhea. One of the treatments for menstrual pain is traditional medicine using ginger ale. To analyze the effectiveness of giving ginger wedang to reduce the intensity of dysmenorrhea pain in female students in islamic boarding schools. This study uses a type of research. quasi-experimental, that is, with a one-group pretest-posttest design. With a population of students at the Islamic boarding school kediri as many as 86 students. The sampling was carried out by purposive sampling, so a sample of 31 respondents was obtained. Meanwhile, data analysis uses the Wilcoxon Signed Rank Test formula. The results showed that the intensity of dysmenorrhea on day 1 before being given ginger tea had most of the respondents on a pain scale of 7-9 with an average pain scale of 6.9, and after being given ginger tea on day 2, the pain intensity scale of most respondents decreased between 1- 3 with an average of 1.9. The results of the Wilcoxon Signed Rank Test obtained a significance value of 0.003. Giving wedang jahe during menstrual pain is believed to reduce the intensity of dysmenorrhea pain

Keywords:

dysmenorrhea, hot ginger drink, menstruation, students boarding school.

1. INTRODUCTION

Every teenager aged 9-12 and above will usually experience menstruation. Menstruation is a physiological change that occurs in every woman which is generally natural, usually used as a sign that she is an adult. Menstruation is influenced by the reproductive hormones FSH-Estrogen or LH-Progesterone. Menstruation will last on average for 2 - 7 days with an average cycle of 28 days, but sometimes every woman has a different menstrual cycle every 21 - 35 days (Culture, 2017).

During menstruation, the problem that many women experience is discomfort or severe pain, which is usually called dysmenorrhoea. There are two types of dysmenorrhea, including primary dysmenorrhea and secondary dysmenorrhea (Rafique & Al-Sheikh, 2018). Primary dysmenorrhea is pain during menstruation that is not followed by a pathological condition. During dysmenorrhea, women not only experience pain, but also experience back cramps, dizziness, nausea and diarrhea (Armour et al., 2019). Meanwhile, secondary dysmenorrhea occurs due to pathological conditions such as endometriosis, salpingitis, abnormalities in the uterine cavity, etc. (Sugiharti, Rosi Kurnia; Sundari, 2018).

According to (Ballantyne & Cousins, 2013) more than 50% of women experience dysmenorrhea during menstruation. The prevalence of dysmenorrhoea varies from country to country. However, the prevalence of dysmenorrhea varies between 45 and 95 percent of menstruating women worldwide (Iacovides et al., 2015). In Indonesia itself, the incidence of dysmenorrhea is still relatively high. The results of research (Fasya et al., 2022) by Ningsih R. describe the prevalence of dysmenorrhea in Indonesia as 64.25%, consisting of primary dysmenorrhea 54.89% and secondary dysmenorrhea 9.36%.

According to Health Info in (Diyaningsih, 2018) research, the prevalence of dysmenorrhea in Indonesia is 64.25%, which includes primary dysmenorrhea of 54.89% and secondary dysmenorrhea of 9.36%. The pain that often occurs in teenagers is primary dysmenorrhea.

(Trisnawati, 2020) research show that the incidence of dysmenorrhoea among students is quite high, around 53% - 86%. If this problem is not addressed immediately, it will have an impact on reducing learning activities, social activities and student achievement.

Dysmenorrhea can be treated with two therapies, namely pharmacological therapy and non-pharmacological therapy. Pharmacological therapy is therapy carried out by administering NSAIDs (Nonsteroidal Anti-inflammatory Drugs) which are believed to relieve dysmenorrhea, namely by blocking prostaglandins which cause dysmenorrhea. This pharmacological therapy can cause dangerous effects such as damage to body organs. Meanwhile, non-pharmacological therapy is therapy that is more directed towards traditional medicine, for example, exercise, warm compresses, relaxation, positioning, and also giving herbal concoctions (Sugiharti, 2017). This herbal concoction usually uses basic ingredients from plants. One of the plants that relieves dysmenorrhea is ginger (*Zingiber officinale*). Ginger is a traditional plant that has effectiveness in pharmacological and physiological medicines such as antioxidant, anti-inflammatory, analgesic, anti-carcinogenic, non-toxic and non-mutagenic (Sugiharti & Sundari, 2018).

Ginger contains chemical compounds such as gingerol, shogaol, and zingerone which can provide pharmacological and physiological effects. Ginger contains many gingerol compounds which have been proven to be antipyretic, antitussive, hypotensive, anti-inflammatory and analgesic. Ginger also contains 3-7% phenolic compounds such as flavonoids and alkaloids. The alkaloids in ginger are able to inhibit the synthesis and release of leukotrienes so they can reduce pain (Febriani et al., 2018).

Ginger is as effective as mefenamic acid and ibuprofen in reducing menstrual pain. The traditional treatment is to drink ginger tea.

2. METHOD

This research uses a type of quasi-experimental research, namely a one-group pretest-posttest design. With a population of 86 students in Islamic boarding schools. And the sample was taken using purposive sampling so that a sample of 31 respondents was obtained.

In this research, a non-probabilistic sampling technique was used, namely in the form of Purposive Sampling which is based on previously known characteristics or properties of the population.

This research uses a method in the form of examination before and after administering ginger tea, namely on a scale between 1-10. Meanwhile, data analysis uses the Kolmogorov-Smirnov test formula to determine normality. Meanwhile, to test the hypothesis, use the Wilcoxon Signed Rank Test.

3. RESULTS

The characteristics of the respondents used in this study were starting from age, menarche, length of menstruation, and menstrual pain before and after being given ginger tea to students at the Islamic boarding school.

Table 1 Characteristics of Respondents

Variable	Frequency (n)	Percentage (%)
Age		
o 18 y.o	5	16
o 19 y.o	16	52
o 20 y.o	5	16
o 21 y.o	5	16
Menarche		
o 10 y.o	4	13
o 12 y.o	10	32
o 13 y.o	7	23
o 14 y.o	5	16
o 15 y.o	5	16
Length of Menstruation		
o 5 days	5	16
o 6 days	4	13
o 7 days	14	45
o 8 days	4	13
o 9 days	4	13

From table 1 shows that most of the respondents were 19 years old, namely 16 respondents (52%). From the age of menarche, it shows that the majority experienced menarche at the age of 12 years, as many as 10 respondents (32%), while from the menstrual length variable, it showed that the majority of respondents experienced menstruation with a duration of 7 days, as many as 14 respondents (45%).

Table 2 Differences in Dysmenorrhea Intensity Before and After Giving Ginger Wedang Day 1 and Day 2 to Female Islamic Boarding School Students in Kediri.

Day 1						Day 2					
Before			After			Before			After		
Dysmeno- rrhea intensity	Amoun- t	%	Dysmen- orrhea intensity	Amoun- t	%	Dysmeno- rrhea intensity	Amoun- t	%	Dysmen- orrhea intensity	Amou- nt	%
5	6	19.36	2	5	16.13	0	3	9.69	0	3	9.68
6	6	19.36	3	9	29.03	4	6	19.35	1	5	16.13
7	11	35.48	4	9	29.03	5	11	35.48	2	15	48.38
8	3	9.67	5	3	9.68	6	11	35.48	3	8	25.81
9	5	16.13	7	5	16.13						

Table 2 shows that the average dysmenorrhoea pain on day 1 before being given ginger tea was 6.8. The first day after being given ginger tea, the average intensity of dysmenorrhoea pain decreased to 4. On the second day before being given ginger tea, the intensity of dysmenorrhoea pain showed an increase in the intensity of dysmenorrhoea with an average scale of 5, then after being given ginger tea the average intensity of dysmenorrhoea decreased with a pain scale of 2.

Table 3 Differences in Dysmenorrhea Scale on Day 1 Before and Day 2 After Giving Ginger Wedang to Female Islamic Boarding School Students in Kediri City.

Day 1 (Before)			Day 2 (After)		
Dysmenorrhea intensity	Amount	%	Dysmenorrhea intensity	Amount	%
5	6	19.36	0	3	9.68
6	6	19.36	1	5	16.13
7	11	35.48	2	15	48.38
8	3	9.67	3	8	25.81
9	5	16.13			

From table 3, it shows that on day 1 before being given ginger tea, the intensity of dysmenorrhoea pain was between 7-9, where this scale can be classified as severe pain. After the second day of administering ginger tea, the dysmenorrhoea pain intensity scale showed a significant decrease with an average of 1.9.

Table 4 Data Normality Test Results using the Kolmogorov-Smirnov test formula

Variable	Mean	SD	Z	Asymp. Sig. (2-tailed)
Before Day 1	6,91	1,375	0,201	0,200
After Day 1	4	1,732	0,227	0,117
Before Day 2	4,73	1,737	0,290	0,01
After Day 2	1,91	0,944	0,266	0,029

Based on data analysis using the Kolmogorov-Smirnov test formula from the variables before administering ginger tea, on day 1 the Z value was 0.201 with an Asymp Sig of 0.200 and for day 2 the Z value was 0.290 with an Asymp Sig of 0.01. Meanwhile, from the variables after giving ginger tea, on the 1st day the Z value was 0.227 with an Asymp Sig of 0.117 and on the 2nd day the Z value was 0.266 with an Asymp Sig of 0.029.

Table 5 Test Results with the Wilcoxon Signed Rank Test

Variable	p-value
Before & After	0.003

The test results using the Wilcoxon Signed Rank Test showed a significant value of 0.003.

4. DISCUSSION

Based on the age characteristics of the respondents, the research results obtained were that on average respondents aged over 12 years had experienced menstruation. According to (Sudarti M Judha, 2012), in research by Jehani Fajar Pangestui et al (2020), primary dysmenorrhoea often occurs in young women who have just experienced menstruation. Meanwhile, women who menstruate in old age are likely to have their cervix dilated, so primary dysmenorrhoea is rare.

Based on the characteristics of respondents' menarche, the research results obtained were that the majority of respondents were 12 years old with a percentage of 32%. From the results of the research above, it can be concluded that one of the causes of dysmenorrhea is menarche. According to (Sudarti M Judha, 2012), in research by Jehani Fajar Pangestui et al (2020), primary dysmenorrhea usually occurs 12 months or more after menarche. Menarche at a very early age, namely less than 11 years, the number of primary ovary follicles is still small so the estrogen hormone produced is still low.

Based on the characteristics of the length of menstruation of respondents, the results obtained were that the length of menstruation for most respondents was 7 days with a percentage of 45%. The results of this research are in accordance with research conducted by Ulfa (2018) which stated that the duration of menstruation for some respondents was 7 days, amounting to 14 students with a percentage of 45%. From the results of the research above, it can be concluded that one of the causes of primary dysmenorrhea is long menstruation. According to (Sudarti M Judha, 2012) in research by Jehani Fajar Pangestui et al (2020), longer periods of menstruation can cause excessive uterine contractions resulting in the release of a lot of prostaglandin hormones. Excessive prostaglandin hormones can cause pain and also result in continuous uterine contractions, causing dysmenorrhoea because the blood supply to the uterus stops.

Based on the characteristics before and after giving ginger tea, the research results obtained showed that there were differences in the same menstrual scale, namely a 5 point scale, which came from before the 1st day and after the 2nd day. It can be concluded that dysmenorrhea will persist even if given treatment. Thus, it can be concluded that giving ginger tea can relieve dysmenorrhea, even if only slightly. This is proven by the difference in the scale of dysmenorrhea before and after administering ginger tea.

Dysmenorrhea that is not treated quickly will have bad consequences for sufferers, such as difficulty carrying out daily activities, disturbed sleep patterns, poor appetite, as well as disrupted interactions with other people. Apart from that, the worst effects of menstrual pain are cramps, pelvic cavity disorders and uterine contractions.

According to Potter & Perry in research by Anggi Retno (Wilis, 2011), suppressing impulses can reduce the level of dysmenorrhea. What is called an impulse is a warm feeling from wedang jare that hits the lower stomach which feels painful. Stimulation of nerve roots in the skin that are sensitive to temperature is one way to respond to heat. This stimulus conveys impulses originating from the periphery to the hypothalamus that can cause awareness of local temperature and maintain adaptive responses to normal body temperature.

Based on the results of the hypothesis test using the Wilcoxon Signed Rank Test, it shows that the level of significance is (p) at 0.003. Thus, it can be concluded that there is an influence of giving ginger tea on the level of dysmenorrhea in Kediri Islamic boarding school students. This is proven by the difference in the level of dysmenorrhea before and after administering ginger tea. According to Sonyaza in research by (Natasya et al., 2022), ginger has a spicy taste and distinctive aroma that can make the body feel warm and sweaty. The results of this research are in line with research conducted by (Sari & Listiarini, 2021) in her research showing the effectiveness of ginger drinks in reducing the intensity of menstrual pain/dysmenorrhea in young women and at PAB 5 Klambir Lima Private Vocational School.

The results of this study prove that teenagers who drink ginger tea during menstruation can experience positive changes in pain levels. Ginger drink, which has a distinctive aroma with a slightly spicy taste, will function to warm the body and excrete sweat from the body. And it contains essential oil which has the function of eliminating pain, is sensitive to inflammation, and most importantly, the juice is anti-bacterial (Adib Rad et al., 2018).

5. CONCLUSION

The level of menstrual pain on the first day before giving ginger tea to Islamic boarding school students was between 5-9 with an average value of 6.9, whereas after giving ginger tea it decreased with an average pain of 4.

The level of menstrual pain on the second day before giving ginger tea to Islamic boarding school students was between 2 - 5 with an average value of 4.7 and after giving ginger tea it decreased with an average pain of 1.9. There is an effect of giving ginger tea on the level of menstrual pain in Islamic boarding school students which is shown by showing a significant level (p) of 0.003

ACKNOWLEDGEMENTS

The results of this research can be used to socialize the effectiveness of ginger tea in reducing menstrual pain so that it can reduce student complaints in dealing with menstrual pain. For students: the results of this research can be used to reduce menstrual pain so that student activities are not disrupted because giving ginger tea is believed to be able to overcome pain during menstruation. For researchers: from the results of this research, it is hoped that further research can be carried out using more samples.

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