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THE EFFECTIVENESS OF GIVING GINGER BOILED WATER AGAINST DYSMENORRHEA IN ADOLESCENTS

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ABSTRACT

This study aims to determine the effectiveness of giving boiled ginger water to reduce the intensity of menstrual pain in adolescents in Palmerah District, RW 003. This study was conducted using a quasi-experimental research method with a pre- and post-test design with a control group. Results: The dysmenorrhea scale before being given boiled ginger water in adolescent girls averaged 6.1 (moderate pain scale), after being given boiled ginger water in adolescent girls averaged 2.9 (mild pain scale). Giving boiled ginger water was effective against the dysmenorrhea scale in adolescents in Palmerah District, West Jakarta with a p-value of 0.000. Conclusion: Giving boiled ginger water was effective against the dysmenorrhea scale in adolescents in Palmerah District, West Jakarta.

Keywords: Dysmenorrhea, Boiled Ginger, Adolescents

INTRODUCTION

Adolescence is a stage of growth and development that begins between the ages of 10 and 19, during which puberty occurs. In women, puberty is marked by menstruation (Amaliyah & Khayati, 2023; Fatmawati & Rejeki, 2021). Menstruation is the process of shedding the endometrium, accompanied by bleeding (Wardani, 2023; Zuniawati, 2019). During menstruation, some women experience pain known as dysmenorrhea. Dysmenorrhea is a complaint of abdominal cramps that occur during menstruation and is often experienced by women two to three years after menarche (Syaiful & Naftalin, 2018).

Dysmenorrhea is classified into two types based on its cause: primary dysmenorrhea, which occurs naturally due to hormonal changes in the body, and secondary dysmenorrhea, which is menstrual pain caused by a pathological condition (Anggraini et al., 2022). World Health Organization (WHO) data from 2017 showed that the number of dysmenorrhea cases reached 1,769,425 (90%), with 10-16% categorized as severe dysmenorrhea (Syafriani et al., 2021). In Indonesia, 64.25% of the dysmenorrhea cases were recorded, with 54.89% being primary dysmenorrhea and 9.36% being secondary dysmenorrhea (Syamsuryanita & Ikawati, 2022). Meanwhile, in Central Java, approximately 56% of adolescent girls experience dysmenorrhea (Dewi et al., 2022).

Menstruation can cause pain or aching in the abdominal area, known as dysmenorrhea, and it often occurs in women of childbearing age. Women with dysmenorrhea can have prostaglandin levels tenfold higher than those without dysmenorrhea. More than 50% of women in every country experience dysmenorrhea (Manuaba, 2015).

Dysmenorrhea can be caused by prostaglandins, substances that cause uterine muscle contractions. For some women, menstrual pain is mild, while others experience severe pain that can interfere with daily activities. Many adolescents experience nausea, vomiting, headaches, and fainting (Hutabarat & Kesumawati, 2021; Yeh et al., 2013).

Menstrual pain (dysmenorrhea) can be managed pharmacologically and non-pharmacologically. Pharmacological treatment can involve taking anti-inflammatory drugs instead of steroids, specifically Nonsteroidal Anti-Inflammatory Drugs (NSAIDs), which inhibit the production and action of prostaglandins. These drugs include formulations of aspirin and ibuprofen. Non-pharmacological methods that can help reduce menstrual pain include certain herbs, warm compresses on the back or lower abdomen, or even warm baths, exercise, aromatherapy, listening to music, reading books, or watching movies (Ramli & Santy, 2017).

Herbal therapy can be performed using traditional medicines derived from plant ingredients. Several plant ingredients are believed to reduce pain, including turmeric, tamarind, cinnamon, cloves, and ginger. One plant that is easily obtained and widely marketed is ginger (Zingibers Officinale Rosc.), whose rhizome functions as an analgesic, antipyretic, and anti-inflammatory. Ginger is as effective as mefenamic acid and ibuprofen in reducing dysmenorrhea. Red ginger is a ginger variant with a higher essential oil and oleoresin content than other ginger variants. Therefore, red ginger is usually used in traditional medicine, most often given in the form of ginger drinks.

Hutabarat & Kesumawati (2021) stated that menstrual pain before being given boiled ginger water, the intensity of severe pain decreased after two days of intervention. The conclusion of the t-test experiment showed that the t-value of 24.106 had a relevance level (p) of 0.000, meaning that boiled ginger water has the potential to relieve menstrual pain. A similar finding was found in research by Karomah & Yuliani (2022); Bingan (2021), which showed a Z value of -7.047, indicating that administering red ginger herbal drink 7,047 times can help reduce menstrual pain. The statistical test results obtained a p-value of 0.001 ($p < 0.05$), indicating that red ginger decoction has an effect on reducing menstrual pain intensity. Red ginger decoction can help reduce menstrual pain intensity.

Some things that can be done to reduce pain in adolescents include abdominal massage, warm compresses using a hot water bottle, drinking herbal remedies from a nearby shop, and never using red ginger decoction. Based on this description, the authors are interested in conducting a study using an intervention of administering red ginger decoction to adolescent girls experiencing dysmenorrhea, entitled "The Effectiveness of Giving Ginger Tea on Dysmenorrhea in Adolescents in Palmerah Village, RW 003, West Jakarta."

RESEARCH METHODS

The research design using *Quasi Experimental used in this study was* Two Group pretest posttest Design, *the sample in this study was* adolescents who were menstruating as many as 40 respondents. The sampling of this research is using purposive sampling techniques, this research will be carried out in RW 003 in Palmerah District, West Jakarta.

RESULTS

Table. 1
The Effectiveness of Giving Ginger Boiled Water (Case)
on the Scale of Dysmenorrhea in Adolescents

Group	n	Intervention	Control	*P*
		Mean ± DS	Mean ± DS	
Pre-Test *Pain level before warm compreses*	20	6.1 ± 0.75	6.05 ± 0.99	0,910
Post-Test *Pain level after warm compreses*	20	2.9 ± 0.60	4.40 ± 0.75	0,000

Based on the data in table 1 shows that the average scale of dysmenorrhea before consuming ginger decoction is 6.05 and after application it becomes 3.15. So there was a decrease in the pain scale by 2.9 points. The paired test results obtained p valu 0.000 means that the provision of ginger boiled water (Case) is effective against the scale of dysmenorrhea in adolescents in Palmerah District, West Jakarta

Table. 2
Scale of Dysmenorrhea Reduction
without Ginger Decoction (Control) in Adolescents

Pain Scale	N	Mean	SD	Difference	P value
Pre Test control group	20	6.10	1.07		
Post Test control group	20	5.10	0.96	1,0	0,000

Based on the data in table 2 shows that from the results of the first observation, the average scale of dysmenorrhea that was not given ginger decoction seebsar 6.10 and after the second observation was 5.10. So there was a decrease in the pain scale by 1.0 points. The paired test results obtained p valu 0.000 means that there is a decrease in the first observation with the second observation in adolescents who were not given ginger decoction (Case) in adolescents in Palmerah District, West Jakarta.

Table. 3
Differences in Dysmenorrhea Scale after Being Given Ginger Decoction (Case Group) and Post Test without Ginger Decoction (Control Group) in Adolescent Girls

Pain Scale	N	Mean	SD	Difference	P value
Post Test (Intervention)	20	3.15	0.67	1,95	0,000
Post Test (control)	20	5.10	0.96		

Based on the data in table 3 shows that the average dysmenorrhea scale in the intervention group after being given ginger decoction was 3.1 (mild), then the pain scale in the control group was 5.1 (moderate pain). So there is an average difference in decreasing the scale of dysmenorrhea by 1.95 points. The results of the independent test obtained a p value of 0.000, meaning the difference in the scale of dysmenorrhea after being given ginger decoction (case group) and post test without ginger decoction (control group) in adolescent girls in Palmerah District, West Jakarta.

DISCUSSION

Dysmenorrhea is pain during menstruation. It is one of the most common gynecological complaints experienced by adolescent girls who visit clinics or doctors. Nearly all women experience discomfort during menstruation, such as lower abdominal discomfort, usually accompanied by nausea, dizziness, and even fainting. If the pain is not promptly addressed, it can disrupt sleep patterns, reduce appetite, disrupt interactions with others, and disrupt activities. Dysmenorrhea can have adverse effects, such as without signs of infection or pelvic disease, decreased motivation to learn and academic performance, and if not promptly addressed, can persist through pregnancy and childbirth (Tamsuri, 2015).

The decrease in the intensity of dysmenorrhea experienced by respondents was caused by the warm impulses produced by ginger extract applied to the painful lower abdomen. The warmth from ginger is responded to by nerve endings in the skin that are sensitive to temperature. This stimulation sends impulses from the peripheral nerves to the cerebrum, generating awareness of the surrounding temperature and triggering the body's response to maintain a normal body temperature. Based on the research results, the average dysmenorrhea scale before consuming the ginger decoction was 6.05 and after it was 3.15. This resulted in a 2.9-point reduction in pain. The paired-test results yielded a p-value of 0.000, indicating that the administration of ginger decoction (case group) was effective in reducing dysmenorrhea in adolescents in the Palmerah District, West Jakarta. Furthermore, the independent test results yielded a p-value of 0.000, indicating a difference in dysmenorrhea scores after the administration of ginger decoction (case group) and the post-test without ginger decoction (control group) in adolescent girls in the Palmerah District, West Jakarta.

The data indicate that menstrual pain remained unchanged in the treated respondents. The difference in the average menstrual pain scores before and after the administration of ginger decoction suggests that the administration of ginger decoction can significantly reduce menstrual pain. This is evident from the before-

after difference, which shows a larger difference in pain scores between the first day before treatment and the second day after treatment, with a scale range of 3.15 points. The decrease in pain intensity experienced by respondents in the experimental group was due to the presence of impulses that suppress pain, thus reducing pain.

The aleoresin content in red ginger rhizomes is known to have antioxidant activity similar to gingerol, which is superior to vitamin E. Gingerol in ginger has anticoagulant properties, meaning it can prevent blood clotting. This is very helpful in menstrual blood production. Other sources state that ginger can reduce the production of prostaglandins, the main cause of menstrual pain (Mariza & Sunarsih, 2019). Aleoresin works by inhibiting the cyclooxygenase (COX) reaction, thereby inhibiting inflammation, which in turn reduces uterine contractions (Julaecha et al., 2025; Utari, 2017).

The results of this study align with the findings of Pujiana & Andayu (2019), who found that the difference in average scores before and after the red ginger boiled water intervention was 7.00 and after the red ginger boiled water intervention was 4.00. This indicates a difference in pain intensity between female students before and after the red ginger boiled water treatment. Based on research conducted by Siagian & Ritonga (2021) red ginger supplementation significantly reduced dysmenorrheal pain intensity.

Hutabarat & Kesumawati (2021) reported that menstrual pain before administration of ginger decoction reduced after two days of intervention. The t-test showed a t-value of 24.106 with a relevance level (p) of 0.000, indicating that ginger decoction has the potential to relieve menstrual pain. A similar finding was found in Bingan's (2021) study, which showed a Z-value of -7.047, indicating that administering red ginger herbal drink 7,047 times can help reduce menstrual pain. The statistical test yielded a p-value of 0.001 ($p < 0.05$), indicating that red ginger decoction has an effect on reducing menstrual pain intensity. Red ginger decoction can help reduce menstrual pain.

Based on the research results and description above, the researcher believes that the comparison of the average difference in pain on the first day and the second day after giving boiled ginger water has a significant effect on the difference in menstrual pain with a large ratio. Thus, consuming boiled red ginger water regularly during dysmenorrhea can significantly reduce its intensity in adolescents, because red ginger contains a lot of gingerol, oleoresin, and essential oils so that it can reduce intensity of dysmenorrhea.

CONCLUSION

Consumption of red ginger boiled water given regularly during dysmenorrhoea can have an effect on reducing the intensity significantly in adolescents in RW 003 Palmerah District, West Jakarta, because red ginger contains many gingerols, oleoresins, and high essential oils so as to reduce the intensity of dysmenorrhoea.

SUGGESTIONS

It is hoped that adolescent posyandu officers will routinely provide education to adolescent girls about how to overcome menstrual problems, one of which is how to

overcome dysmenorrhea with non-pharmacological therapy, namely ginger water or other non-pharmacological therapies that are easy to obtain and can be done by adolescent girls.

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