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## **The Effect Of Green Coconut Water On The Levels Of Dysmenorrhea Pain Among Adolescent Girls In Berekah Village Sukabumi Regency In 2021**

**Triana Indrayani\*, Siti Hasanah Fikria, Sri Dinengsih**

*Universitas Nasional, Jakarta, Indonesia*

\* Correspondent Author: [trianaindrayani@civitas.unas.ac.id](mailto:trianaindrayani@civitas.unas.ac.id)

### **ABSTRACT**

Menstruation is periodic bleeding from the uterus which starts about 14 days after ovulation periodically due to the detachment of the uterine endometrial lining. The incidence of dysmenorrhea in West Java was quite high, the results of the study found that 54.9% of women experienced dysmenorrhea, consisting of 24.5% experiencing mild dysmenorrhea, 21.28% experiencing moderate dysmenorrhea and 9.36% experiencing severe dysmenorrhea. One of the treatment for menstrual pain with other non-pharmacological therapies can be used by consuming coconutwater. This study aimed to determine the effect of giving green coconut water on dysmenorrhea pain among adolescent girls in Berekah village, Sukabumi district in 2021. This study was a Quasi Experiment using a pretest-posttest design with a control group. The sampling technique used was purposive sampling which consisted of 30 adolescent girls who experienced dysmenorrhea every menstruation. The data were analyzed using the Paired T-Test to determine the difference in scores in one group and the Independent T-Test to determine the difference in scores between groups. The results showed that there was a significant difference in the dysmenorrhea pain scale before and after being given green coconut water ( $p < 0.05$ ). Green coconut water has an effect on reducing the dysmenorrhea pain scale among adolescent girls in the village of Berekah, Sukabumi district. It is hoped that green coconut water can be applied thoroughly as a traditional treatment in dealing with dysmenorrhea pain in adolescent girls.

**Keywords:** Green Coconut Water, Dysmenorrhea Pain, Adolescent

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**BACKGROUND**

Adolescence is a transition period marked by physical, emotional and psychological changes. The growth that is relatively the same at the age of children, suddenly increases when entering adolescence (Aisyaroh, Midwifery, & Unissula, 2010). In adolescent girls, puberty is marked by the onset of menstruation, namely periodic bleeding from the uterus that begins about 14 days after ovulation due to the detachment of the uterine endometrial lining (Rahmi, Husna, & Andika, 2019). The normal length of the menstrual cycle is 28 days, but the variation is quite wide, not only between several women but also within the same woman (Lily Yulaikhah, 2008).

Dysmenorrhea according to Bruner (1996) in Wianti (2008) is divided into two, namely primary dysmenorrhea which is very painful menstruation, without identifiable pelvic pathology—and secondary dysmenorrhea which is characterized by cramping pain that begins before or immediately after menstrual flow and continues during 48 to 72 hours of menstruation (Wianti & Karimah, 2018).

Dysmenorrhea can cause the sufferer to become weak and powerless so it has negative impacts on daily activities (school, work, etc.)(Goddess, 2019). Dysmenorrhea tends to occur more often in adolescents who experience anxiety, tension and worry (Khotimah, Kirnantoro, & Cahyawati, 2014).

For the treatment of menstrual pain, there are pharmacological and non-pharmacological therapies; non-pharmacological therapies that can be used include consuming green coconut water (Wahyuni, 2020), acupressure (Indrayani & Antiza, 2021), yoga (TR Lestari, Wati, Juanamasta, Thrisnadewi, & Sintya, 2019), dysmenorrhea exercise, warm compress (Dahlan & Syahminan, 2017), also Spiritual Emotional Freedom Technique (SEFT) therapy (Zakiyyah, 2013).

Green coconut water can be used to treat various health problems such as menstrual pain. The great benefits of green coconut water are because it contains many substances that are important for maintaining body health (Sariati, Manda, & Nugroho, 2018).

**METHODS**

The research design used was quasi-experimental with pre and post-test design without control group. The sample in this study were 30 young women with dysmenorrhea pain. The sampling technique used in this study was purposive sampling with a questionnaire using the Numeral Rating Scale (NRS) scoring system.

**RESULTS****1. Age Characteristics of Adolescent Girls in Berekah Village, Sukabumi****Table 1. Age Characteristics of Respondents**

Age	Treatment		Control	
	N	%	N	%
16 years old	3	20%	2	14%
17 years old	2	14%	2	14%
18 years old	6	40%	5	34%
19 years old	4	27%	6	40%
Total	15	100%	15	100%

Based on the table above, it can be seen that the age of most of the sample is 18 years old with as much as 40% respondents in the treatment group and 19 years old with as much as 40% respondents in the control group.

## 2. Frequency Distribution of Dysmenorrhea Pain Scale for Adolescent Girls in Berekah Village, Sukabumi

**Table 2. Frequency Distribution of Pain Scale in the Treatment Group**

Category	Treatment			
	<i>Pretest</i>		<i>Post-test</i>	
	N	%	N	%
No Pain	0	0%	8	54%
Mild Pain	1	7%	6	40%
Moderate Pain	6	40%	0	0%
Controlled Severe Pain	8	54%	1	7%
Uncontrolled Severe Pain	0	0%	0	0%
Total	15	100%	15	100%

Based on the table above, it is known that of the 15 respondents who were given green coconut water, there were 1 adolescent girl respondent (7%) with mild pain scale, 6 respondents (40%) with moderate pain scale, and 8 respondents (54%) with controlled severe pain scale before being given treatment. However, after being given treatment in the form of green coconut water there were changes to 8 respondents (54%) with no pain scale and 6 respondents with moderate pain (40%). Then from the 15 respondents who were not given green coconut water on the pre-test, 4 respondents (27%) experienced mild pain scale.

## 3. Dysmenorrhoea Pain Level Before and After Intervention on the Level of Dysmenorrhea based on the NRS Scale

**Table 3. Dysmenorrhea Pain Level Before and After Intervention**

Group	Giving Green Coconut Water			Std. Deviation	Std. Error mean	P - Value
		mean	N			
Treatment	<i>Pretest</i>	6.2667	15	2.25093	0.58119	0.000
	<i>Post-test</i>	1.5333	15	2.19957	0.56793	0.000
Control	<i>Pretest</i>	5.2000	15	1.56753	0.40473	0.027
	<i>Post-test</i>	4.5333	15	1.88478	0.88478	0.027

Based on the table above, the analysis test results using the paired t-test showed a p-value of 0.000 < 0.05 with an average difference of 4.7334; it can be concluded that giving green coconut water treatment has an effect on reducing dysmenorrhea pain intensity. Meanwhile, in the control group, the results of the analytical test using the paired t-test showed a p-value of 0.027 with an average difference of 0.6667, which means that there was no effect on the control group whose respondents were not given green coconut water.

#### 4. The Effect of Green Coconut Water on the Level of Dysmenorrhea based on the NRS Scale in the Treatment and Control Groups

**Table 4. The Effect of Green Coconut Water on the Level of Dysmenorrhea Based on the NRS Scale in the Treatment and Control Groups**

Group	mean	N	Std. Deviation	Std. Error mean	P -Value
Treatment	1.5333	15	2.19957	0.56793	0.000
Control	4.5333	15	1.88478	0.48665	0.000

Based on the table above, after the independent t-test was carried out, the average result of pain intensity after being given green coconut water was 4.5333 in the control group and 1.5333 in the treatment group and the obtained p-value was 0.000, thus it can be concluded that there were differences in the level of dysmenorrhea pain in adolescent girls after being given green coconut water.

## DISCUSSION

### Characteristics of Adolescent Girls in Berekah Village, Sukabumi

From each group, it can be concluded that the age of the majority of respondents is 18 years old with as many as 6 people (40%) in the treatment group, and 19 years old with as many as 6 people (40%) in the control group. This is in line with research conducted by Dannik Kumala Sari (2012), which states that at 16-25 years old there is an optimization of uterine nerve function so that prostaglandin secretion increases and causes pain during dysmenorrhea because at that age the hormones are still unstable. According to the researchers' assumption, this age period is the late adolescence period where this is a period of imaginary thinking in adolescents so that guidance on menstruation is needed such as on this dysmenorrhea problem.

### Frequency Distribution of Dysmenorrhea Pain Scale for Adolescent Girls in Berekah Village, Sukabumi

In this study it was found that of 30 respondents—15 respondents in the treatment group there were 1 adolescent girl respondent (7%) with mild pain scale, 6 respondents (40%) with moderate pain scale, and 8 respondents (54%) with controlled severe pain scale before being given green coconut water. However, after being given treatment in the form of green coconut water there were changes to 8 respondents (54%) with no pain scale and 6 respondents with moderate pain (40%).

Pain intensity is a description of the level of pain felt by a person. Measurement of pain intensity is subjective and individual. Measurement of pain level with an objective approach is done by using the physiological response of the body to the pain felt by a person (Fauziah, 2015). The decrease in the intensity of menstrual pain experienced by respondents was due to the presence of calcium and magnesium contained in green coconut water which can relax the uterine muscles due to increased prostaglandin that cause myometrial ischemia and hyper contractivity of the uterine muscle causing dysmenorrhea pain. Besides, green coconut water also contains vitamin C which is natural anti-inflammatory substance that help relieve pain due to menstrual cramps inflammation by inhibiting ezimcyclooxygenase which has a role in promoting the process of prostaglandin formation (Wahyuni, 2020).

This is in accordance with Lestari's research (2015) that after giving green coconut

water it was shown that no one experienced very severe and severe menstrual pain, 12 respondents (66.7%) experienced mild menstrual pain and 6 respondents (33.3%) experienced moderate menstrual pain (F. Lestari & Sarwinanti, 2015). According to the researchers' assumptions, each individual's pain intensity is influenced by the individual's description of pain, perception and experience of pain. Everyone gives a different perception and reaction from each other about the pain that is felt by each person. This is because pain is a subjective feeling that only the individual themselves knows the level of pain they feel. Meanwhile, the researchers only depended on the instrument used to measure the respondent's pain.

### **The Effect of Green Coconut Water on Reducing Dysmenorrhea Pain**

The results of the statistical test showed that there was an effect of giving green coconut water on the intensity of dysmenorrhea pain in adolescent girls in Berekah village, Sukabumi. According to Sumino, Fransiska Arie Nursanti (2010), during menstruation the body excretes fluid and blood. Folic acid contained in green coconut water is also useful to replace the blood that comes out. Folic acid is one of the components needed in the production of red blood cells, with sufficient blood production it will facilitate blood circulation. Smooth blood circulation will suffice the cells for oxygen and nutrient needs, and with this condition the body will be more resistant to the pain sensations caused during dysmenorrhea (Sumino, Nursanti, & Trisnawati, 2012).

The results of this study are in line with research that has been carried out by (Rismaya, 2020) that in respondents who have been treated, it was found that there is a decrease in menstrual pain after being given green coconut water, this is because during menstruation the body excretes fluid and blood (Rismaya & Rosmiyati, 2020).

According to the researchers' assumption, there is an effect of giving green coconut water on the intensity of menstrual pain because respondents who were given green coconut water were more likely to experience a decrease in pain intensity. Green coconut water contains several substances such as vitamins, folic acid and minerals. Besides, green coconut water is also thought to stimulate the body to stabilize the production of the prostaglandin hormone when women are menstruating, so that it can prevent prostaglandin from working in the uterus and ultimately reduce pain during menstruation.

### **CONCLUSION**

From the results of this study, it can be concluded that green coconut water can reduce the intensity of dysmenorrhea pain in adolescent girls in Berekah village.

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