Effectiveness of Young Coconut Water And carrots Juice Against the Scale of Dysmenorrhea on The Teenage Princess

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ABSTRACT

Dysmenorrhea is a pain in the abdomen that originates from cramps in the uterus and occurs during menstruation. Dysmenorrhea is divided into two, called primary dysmenorrhea if the underlying cause is not found, and called secondary dysmenorrhea if the cause is an abnormality. The aim of this study was to find out the difference in the effectiveness of giving young coconut water and carrot juice against the scale of dysmenorrhea in teenage princesses. Pre-experimental research design with research approach two group comparison pre-test and post-test design. The research population was the entire teenage princess of class XI in SMAN 3 City of Kediri with a sample of 32 respondents using purposive sampling techniques. The instruments used are the observation sheet and the FRS pain scale. The data were analyzed using the Wilcoxon and Mann-Whitney tests. The results of the study showed that there was a difference in the effectiveness of the administration of young coconut water and carrot juice against the dysmenorrhea scale with a p-value of 0.047 < α. (0,05). The findings of this study showed that giving young coconut water (p-value 0,000) was more effective in decreasing dysmenorrhea in teenage girls compared to giving carrot juice. (p-value 0,008).

I. Introduction

Dysmenorrhea is a pain in the abdomen that originates from cramps in the uterus, and occurs during menstruation. Dysmenorrhea is divided into two, called primary dysmenorrhoea if the underlying cause is not found, and called secondary dysmenorrhea if the cause is an abnormality of content. (Tsamara, Raharjo and Putri, 2020)

An epidemiological study, the incidence of menstrual pain in the United States is estimated to be around 45-90%. The incidence rate of dysmenorrhea in Indonesia was 64.25% consisting of 54.89% of primary dysmenorrhea, and 9.36% is secondary (Widyanthi, Resiyanthi and Prihatiningsih, 2021) Based on the preliminary survey conducted on 20 pupils in SMAN 3 Kota Kediri on July 27, 2017, there were 13 (65%) people who had dysmenorrhea and 7 (35%) people did not have dysmenorrhea. This data shows that the incidence of dysmenorrhea is still high. Based on the results of interviews conducted with 13 people with dysmenorrhea, 4 (30,76%) people chose to consume drugs purchased from pharmacies, namely mefenamic acid and jams, 5 (38,46%) people swallowed the abdomen and waist until the headache decreased and 4 (30.76%) others did not use any therapy to relieve pain, because they felt that dysmenorrhea pain would heal on its own.

The cause of dysmenorrhea is not fully known, but most are found in the ovulatory cycle of the secretory phase. In the middle phase, there is an increase in progesterone and estrogen levels. (progesteron lebih dominan daripada esterogen). Then the levels of both slowly begin to decrease as the corpus luteum begins to get narrowed. Less than 14 days after ovulation, progesterone and estrogen levels are relatively low, resulting in increased gonadotropin secretion with lower follicle-stimulating hormone (FSH) than luteinizing hormone. (LH). Increased LH increases the secretion of prostaglandins. (Irtawati, Korompis and Betrang, 2018)

The high secretion of prostaglandins at the time of menstruation triggers the occurrence of strong contractions of the myometrium which then leads to endometrial necrosis ending with the onset of pain. Pain in dysmenorrhea is also thought to originate from uterine contractions stimulated by prostaglandins. Pain is felt more intense when a clot or piece of tissue from the lining of the uterus passes through the cervix, especially if the cervical canal is narrow. Other factors that can worsen dysmenorrhea are a backward-facing uterus (retroflection), lack of exercise, psychological stress, or social stress (Sadiman, 2017)

Micro effects in the case of dysmenorrhea, i.e. a decrease in interest in routine activity, discomfort during study, and work, easy to be angry, mood disturbances, difficulty concentrating, and changes in napu eating Symptoms that often appear due to dysmenorrhea are headaches, nausea and sometimes until vomiting The macro effect of dysmenorrhea is on primary dysmenorrhea not found the presence of gynecological abnormalities, while in secondary dysmenorrhea is associated with reproductive disorders, thus causing the number of pain due to dysmenorrhea increases (Fahmiah, Huzaimah and Hannan, 2022)

To reduce pain, you may be given non-steroidal anti-inflammatory drugs, such as mother-proven, naproxen, and mefenamic acid. To deal with nausea and vomiting can be given anti-nausea medication, but nausea and vomits usually disappear if the cramps have been overcome. Symptoms can also be reduced with sufficient rest as well as regular exercise (Wulandari and Kustriyani, 2020) Taking medication too long will cause a lot of damage, i.e. it can cause stomach irritation, intestinal colic, and asthma attacks. To minimize, or even prevent this, then when there is dysmenorrhea, women can consume traditional ingredients including young coconut water (Hilma Husnia et al., 2021,) and also give carrot juice to reduce dysmenorrhea pain (Ifaldi et al., 2022).

II. Methods

Pre-experimental research design with research approach two group comparison pre-test and post-test design. The instruments used are the observation sheet and the FRS pain scale. The data were analyzed using the Wilcoxon and Mann-Whitney tests.

Before treatment, an assessment of the degree of dysmenorrhea pain is made using the FRS pain scale. Young coconut water was given to respondents 240cc for 2 days in a row and carrot juice was given to the respondents 250g of carrots mixed with 200cc of water and enough sugar was then blended and given for two days. After 2 hours of administration on the second daan, a FRS pain scale and an observation sheet were given again to assess the level of pain the respondents felt.

III. Results and Discussion

Table 1 Characteristics of Respondents Based on Age, Menarche Age, Activity, Long Suffering from Dysmenorrhea, Ever Having Treated Dismenorrhoea.

Characteristic	N	%
Age		
11-14 Years	0	0
15-17 Years	32	100
17-21 Years	0	0
Age *Menarche*		
< 10 Years	7	22
11-13 Years	21	66
>14 Years	4	12
Activity		
Frequently sports	8	25
Rarely sporting	21	66
not sports	3	9
Dysmenorrhea		
< 1 Year	5	16
1-5 Years	27	84
>5 Years	0	0
Have previously been treated		
Ever	15	44
Never	17	56

Table 2 Characteristics of Variable Degrees of Dismenorean Pain Before and After Young Coconut Water

Characteristic	N	%
Before		
without pain	0	0
slightly pain	3	19
Pain is	9	56
Heavy pain	4	25
Pain is very heavy	0	0
After		
without pain	5	31
slightly pain	9	56
Pain is	2	13
Heavy pain	0	0
Pain is very heavy	0	0

Table 3 Characteristics of Variable Degrees of Dismenorean Pain Before and After Corn Juice Carrot

Characteristic	N	%
Before		
without pain	0	0
slightly pain	7	44
Pain is	6	37
Heavy pain	3	19
Pain is very heavy	0	0
After		
without pain	2	13
slightly pain	7	44
Pain is	7	44
Heavy pain	0	0
Pain is very heavy	0	0

Table 4 Results of statistical testing of the influence of young coconut water giving on the scale of dysmenorrhea in teenage girls of class XI in SMAN 3 Cities using Wilcoxon test

Test Statistics[b]	
	After-Before
Z	-3.704[a]
Asymp. Sig. (2-tailed)	.000

Table 5 Results of statistical testing of the influence of carrot juice administration on the scale of dysmenorrhea in teenage girls of class XI in SMAN 3 City of Kediri using Wilcoxon test.

Test Statistics[b]	
	After-Before
Z	-2.646[a]
Asymp. Sig. (2-tailed)	.008

Table 6 Results of statistical test differences in the effectiveness of young coconut water and carrot juice administration against the scale of dysmenorrhea in teenage girls of class XI in SMAN 3 City Kediri using the Mann Withney test

Test Statistics[b]	
	After Treatment
Mann-Whitney U	79.500
Wilcoxon W	215.500
Z	-1.991
Asymp. Sig. (2-tailed)	.047

Dysmenorrhea pain scale before giving young coconut water

The results of the study showed that of the 16 respondents, the majority (56%) or 9 respondents experienced moderate pain.

Cross-tabulation results showed that the majority (68.8%) or 11 respondents rarely exercise. lack of exercise can also aggravate dysmenorrhea because during exercise there is an increase in strength and endurance and flexibility of the body it can reduce back pain during menstruation caused by the increase in the hormone prostaglandin (Guimarães & Póvoa, 2020)

Dysmenorrhea pain scale after giving Young coconut water

The results of the study showed that of the 16 respondents after giving them fresh coconut water, the majority (56%) or 9 respondents experienced mild pain.

According to the researchers, the calcium and magnesium content contained in coconut water can inhibit the occurrence of uterine contractions and cause a decrease in dysmenorrhea after the administration of young cocoa water. Menstrual pain occurs because there is an increase in prostaglandins resulting in uterus contraction and vasoconstriction of blood vessels so that the uterus does not get an adequate supply of oxygen causing pain (Pattiiha & Suciawati, 2021)

Dysmenorrhea Pain Scale Before Giving Carrot Juice

Based on the results of the study showed that of the 16 respondents, almost half (44%) or 7 respondents experienced mild pain.

The scale of dysmenorrhea depends on the assumption of the sufferer. In this case, the psychology of a person greatly affects the scale of dysmenorrhea. Stress factors during menstruation will increase the level of prostaglandins, which will result in the scale of dysmenorrhea increasing (Utami et al., 2018)

Scale of Dismenorrhea Pain After Giving Carrot Juice

Based on the results of the study showed that of the 16 respondents, almost half (44%) or 7 respondents experienced mild pain and moderate pain.

According to the researchers, the vitamin E contained in carrots is the main cause of decreased scale of dysmenorrhea after the administration of carrots juice. Carrot (Daucus carota) is one of the most beneficial vegetables. Carrots contain sugar, carotene, pectin, asparagin, fiber, fat, carbohydrates, calcium, phosphorus, iron, sodium, amino acids, essential oils, and betacarotene. Carrots also contain many vitamins A, B, C, D, E and K. One of the benefits of vitamin E is that it can help block the formation of prostaglandins and vitamin E can also help cope with the effects of increased production of the hormone. Prostaglandin is a hormone that affects the occurrence of dysmenorrhea. Prostaglandins are E2 (PGE2) and F2n. (PGF2n) (Latifah, 2021)

Difference in Effectiveness of Young Coconut Water and Carrot Juice Over Dysmenorrhea Scale

Based on the results of statistical tests using the Mann-Whitney test, the U result was 79,500, the W value was 215,500, and the Z value -1,991. A sign or p-value is given asymp. Sign 0.047 where the p value is < 0.05 (0.047 < 0.05) then Ho is rejected and H1 is accepted. This shows that there is a significant difference between giving young coconut water and carrot juice against a decrease in the scale of dysmenorrhea in teenage girls of class XI in SMAN 3 City Kediri. It can also be known that giving young coconut water is more effective than giving carrots juice because the p-value value in giving young Coconut Water is 0,000 or < 0,05 while the p -value in giving carrot juice is 0.008 or < 0.05 but > p-valued in giving fresh coconut Water (0,000 < 0,008). Thus, it can be concluded that giving young coconut water is more effective in lowering the scale of dysmenorrhea than giving carrot juice.

Primary dysmenorrhea often causes physical symptoms and psychological symptoms. Each individual can experience both physical and psychological symptoms at the same time, but can also experience only one of the symptoms, either physical or psychological. Signs of symptoms that can appear such as discomfort in the body, fatigue, nausea and vomiting, diarrhea, lower back pain, headache, sometimes accompanied by vertigo, feelings of anxiety, unrest, up to loss of balance and loss of patience (Latifah, 2021)

In coconut water contains calcium that serves to reduce muscle tension and also contains magnesium that has a direct effect on blood vessel pressure and regulates the entry of calcium into smooth muscle cells so that it can affect contractilation, tension and relaxation of smooth uterus muscles. Carrot juice is a vegetable plant material that contains the production of the hormone prostaglandin, where this hormone affects the reduction of pain in dysmenorrhea (Kotangon et al., 2020)

The decrease in the intensity of menstrual pain experienced by respondents is due to the presence of calcium and magnesium contained in the green coconut water that can relax the uterine muscles due to increased prostaglandins that cause myometrium ischemia and hypercontractivity of the uterin muscles leading to dysmenorean pain. In addition, vitamin C contained in green coconut water is also a natural anti-inflammatory substance that helps relieve pain caused by menstrual cramps by inhibiting the enzyme cyclooxygenase that has a role in promoting the process of formation of prostaglandins (Kotangon et al., 2020)

100 grams of carrots contain 754 mcg of beta-carotene. In addition to being an antioxidant, beta-carotene also has analgesic and anti-inflammatory effects. (anti peradangan). The magnesium content in carrots can be used for bone strength, activate B vitamins, relax muscles and nerves, blood clotting and energy production. Carrots also contain natural analgesics that act as analgesic drugs (e.g. ibuprofen) and as anti-inflammatory. Taking vitamin E 2-3 days before and 2-3 days after menstruation can reduce cramps and anxiety in pre-menstrual syndrome. (PMS). Vitamin E can lower

the level of pain and can reduce the amount of menstrual blood out. This is done by balancing hormones in the body, so that the menstrual cycle can be regulated. Nutrients that can help relieve dysmenorrhea are calcium, magnesium as well as vitamins A, E, B6, and C. One of the non-medical methods used is by using fruit or vegetable juice. To relieve menstrual pain in a non-pharmacological way, one of them is the administration of carrot juice (*Nurdahliana 1 , Fitriani 2*, 2021)

IV. Conclusion

There was a difference in the effectiveness of giving young coconut water and carrot juice against the dismenorean scale in teenage girls in SMAN 3 Cities with a p-value of 0,047. Giving young coconut water is more effective in lowering the scale of dysmenorrhea than giving carrots juice

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