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# The Effect Of Giving Pineapple Juice And Honey On Reducing Menstrual Pain (Dysmenorrhea) In Adolescent Women At SMPN 1 Rangkasbitung Lebak Banten

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### Abstract

Painful menstruation (Dysmenorrhea) is the most common cause of repeated absences from school. Several studies have shown that adolescents with dysmenorrhea experience a decrease in academic achievement, social and sports activities. Pain management pharmacologically, menstrual pain can be treated with analgesic therapy, which is the most commonly used method for pain relief (Potter and Perry, 2006). Meanwhile, Harahap's research (2020) found the effect of giving pineapple juice and honey on a decrease in menstrual pain in female adolescents. The purpose of this study was to determine the effect of giving pineapple juice and honey on reducing menstrual pain in young women at SMPN 1 Rangkasbitung Lebak Banten. The samples taken were 32 people with the criteria of being menstruating and dysmenorrhea, the data is not normally distributed then use the willcoxon test. Statistical test results using the SPSS 21 for Windows program obtained a Z value of -3.873 with a p value of 0.000, at alpha 0.05 it was known that  $p < \alpha$ , it could be concluded that there was an effect of giving pineapple juice and honey on menstrual pain in young women.

**Keywords :** Menstrual Pain, Pineapple Juice, Honey, Young Women

## I. INTRODUCTION

Adolescence is a phase of change from childhood to adulthood where there are changes in physical growth and secondary sexual changes, one of which is the occurrence of menstruation.[1].

The first menstruation is usually experienced by girls around the age of 10, but it can also be earlier or later. Menstruation indicates that a woman is able to produce offspring and of course this is highly expected by all women (Juliana, 2018).

Primary dysmenorrhea is a condition that is associated with the ovulation cycle and begins to arise since the first menstruation comes and complaints of pain decrease slightly after the woman in question gets married and becomes pregnant[2].

Primary dysmenorrhea occurs soon after menarche, usually in the first six to twelve months and is always associated with the ovulation cycle. Dysmenorrhea affects 40% to 70% of women of reproductive age and is one of the most frequent causes of school absences. Most dysmenorrhea sufferers are young women (Sarni, 2019).

Dysmenorrhoe sufferers really need serious treatment. If dysmenorrhoea is not immediately treated properly, it will cause apprehensive conditions because severe pain can cause endometriosis or infertility, especially for students, their learning process will be disrupted (Prawirohardjo and Winkjsastro, 2009).

Almost all women and also including young women must have experienced disturbances during menstruation in the form of dysmenorrhea with various levels, ranging from just aches and pains. Dysmenorrhea can be treated with pharmacological and non-pharmacological treatment. Pharmacological therapy generally provides side effects on the liver, heart, kidneys and other organs in the long term. Meanwhile, non-pharmacological therapies, including: Mozart music therapy, aerobics, relaxation and herbs which do not have harmful effects on the body. The treatment that is usually done by the community is by drinking herbs that can reduce pain. Menstrual pain management is divided into two categories, namely pharmacological and non-pharmacological approaches. Pain management pharmacologically menstrual pain can be treated with analgesic therapy which is the most commonly used method for pain relief (Potter and Perry, 2006).

Non-pharmacological pain management includes warm compresses, drinking lots of water, regular exercise breaks, eating nutritious foods, doing activities to reduce pain such as yoga (Irianti et al, 2017), and using herbal ingredients that are efficacious in reducing pain due to disorders menstruation (Harmanto, 2006). Among them are pineapple juice and honey.

Pineapple is a plant that has an analgesic effect due to the bromelain enzyme content. Several studies have confirmed that pineapple has an analgesic effect due to the presence of the bromelain enzyme. Bromelain is a proteolytic enzyme obtained from *Ananas comosus* L (Amalia et al, 2017).

According to Muqorobin (2019), non-pharmacological relief of dysmenorrhea pain can be done by giving pineapple juice. Pineapple juice has anti-inflammatory pain relief for dysmenorrhea. Pineapple fruit (*Ananas comosus*) contains several nutrients, including vitamin A, calcium, phosphorus, magnesium, iron, sodium, potassium, dextrose, sucrose (cane sugar), and the enzyme bromelain (bromelain) which is 95% a mixture of cysteine proteases, which can hydrolyze proteins (proteolysis) and are heat resistant. The benefits of young pineapple fruit can be used to overcome late menstruation (Silaban, Irfan and Soraya Rahmanisa, 2016).

Giving honey in smaller amounts (2 tablespoons/day) for 14 days is also proven to reduce the intensity of dysmenorrhea. In a clinical trial study using bee propolis, it was shown that bee propolis taken two days before menstruation until the third day of menstruation (5 days in total) can reduce primary dysmenorrhea (Bustamam, 2021)

According to Dawood's research (2006), honey containing vitamin E in honey can reduce menstrual pain, through inhibition of prostaglandin biosynthesis where vitamin E will suppress the activity of the phospholipase A and cyclooxygenase enzymes so that it will inhibit the production of prostaglandins. Honey is a non-pharmacological therapy which includes herbal therapy, and has had many nutrients since ancient times (Hermalatha, 2015). According to several studies, honey is used in various modern medicines because it has therapeutic effects, namely having a high viscosity, having a low pH. Honey is a non-pharmacological therapy which includes herbal therapy, and has had many nutrients since ancient times (Hermalatha, 2015).

From the phenomena obtained from the field, it is known that dysmenorrhea sufferers need serious attention. If dysmenorrhea disorder is not treated, it will result in worrisome conditions such as severe pain and can cause disruption of daily activities, especially for students who will be able to disrupt their learning activities. The purpose of this study was to determine the effect of pineapple juice and honey on reducing menstrual pain (dysmenorrhea) in young women at SMPN 1 Rangkasbitung Lebak Banten. Menstrual pain management is divided into two categories, namely pharmacological and non-pharmacological approaches. Pain management pharmacologically, menstrual pain can be treated with analgesic therapy, which is the most commonly used method for pain relief (Potter and Perry, 2006).

In the current study, several have conducted similar research in other regencies/cities, but no research has been conducted in Lebak District in 2022. Setianingsih, conducted a study entitled *The Effect of Giving Pineapple Juice and Honey on Reducing Menstrual Pain (Dysmenorrhea) in Young women at Tri Tunggal II Middle School Surabaya*, with the results of the study showing that in the treatment group the average pain level before being given pineapple juice and honey was 3.58 and after giving pineapple juice and honey was 2.12 with a p-value ( $0.000 < 0.05$ ), whereas in the control group the average pain level before giving pineapple juice and honey was 2.62 and after giving pineapple juice and honey that was 3.75 with a p-value ( $0.001 < 0.05$ ). The conclusion in this study was that there was a difference in the decrease in menstrual pain (dysmenorrhea) between the treatment group and the control group. In 2020, research was carried out by Harahap, et al entitled *The Effect of Giving Pineapple Juice and Honey on Reducing Menstrual Pain for Young Girls at SMP YP Singosari Delitua* in 2020, the results obtained from 17 respondents showed that there was an effect of giving pineapple juice and honey on reducing menstrual pain young women at SMP YP Singosari Delitua in 2020. And according to research by Bustaman, et al (2021), concerning the *Effect of Honey on Dysmenorrhea Pain Levels and the Quality of Life of Female Students at the Faculty of Medicine at the National Veterans Development University Jakarta*, the results of research conducted by the Wilcoxon test also show that honey can reduce dysmenorrhea disorders in general activity, mood, ability to walk, work, relationships with other people, sleep, and enjoy life ( $p = 0.001$ ). The purpose of this study was to determine the effect of pineapple juice and honey on reducing menstrual pain (dysmenorrhea) in young women at SMPN 1 Rangkasbitung Lebak Banten.

## II. METHOD

The design used in this study was a quantitative research design, with a Quasy Experimental research design with pre and post tests without control (self-control). The location of this study was at SMPN 1 Rangkasbitung, Lebak, Banten. This study consisted of two variables, namely the independent variable in this study was the administration of pineapple juice and honey and the dependent variable in this study was the decrease in menstrual pain (dysmenorrhea). The measurement method in this study was using an observation sheet which was carried out for 5 (five) days with the amount of juice that is equal to one glass of pineapple juice mixed with honey. The sample in this study were female students at SMPN 1 Rangkasbitung Lebak Banten who were

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menstruating and experiencing dysmenorrhea, namely 32 people with the criteria of being menstruating and having dysmenorrhea.

Sampling in this study used a non-probability sampling method with consecutive sampling technique, namely sampling is done by selecting samples that meet the research criteria for a certain period of time until the number of samples is fulfilled. The data collection tool used in this study was a Numeric Rating Scale pain scale questionnaire (NRS Pain Scale). This measurement tool uses a code and is given a certain color to make it easier for respondents to understand. The data collected is primary data, namely data taken directly by researchers. In the preparatory stage, the researcher first asked permission from the institution where the research was conducted. At the implementation stage, the researcher first explained the research objectives to the respondents who met the inclusion criteria and then the respondents were asked to sign an informed consent sheet. The first analysis technique is to carry out a normality test before the data is processed based on the proposed research models. The normality test used is the Shapiro-Wilk test. Univariate analysis was carried out to determine the scale distribution and presentation of each variable studied (Sugiyono, 2014). The bivariate analysis used in this study used the *Willcoxon* test.

### III. RESULTS AND DISCUSSION

As for the distribution of pain frequency menstruation (dysmenorhea) for young women, namely as follows:

**Table 1. Frequency Distribution of Menstrual Pain (dysmenorhea)**

No	Painful	Pretest		Posttest	
		f	%	f	%
1.	Light	12	37.5	25	78.1
2.	Currentl y	17	53,1	6	18,8
3.	Heavy	3	9,4	1	3,1
	<b>Total</b>	32	100.0	32	100.0

Source: Research Data

Based on Table 1. it can be seen that before the intervention the highest number of pain was in the moderate category, namely 17 people (53.1%), then the pain was in the mild category, 12 people (37.5%) and the lowest was in the severe category, namely 3 people (9.4%) . Meanwhile, after the intervention, the highest pain was in the mild category, namely 25 people (78.1%), then 6 people (18.8%), and the lowest was pain in the severe category, namely 1 person (3.1%).

Based on the results of the analysis of the normality test results for pain scale data before and after menstrual pain (dysmenorhea) as follows:

**Table 2. Pain Scale Data Normality Test Before and After**

	test	Statistic	Df	Significan t
1.	Pretest	0.634	32	0.007
2.	Posttest	0.508	32	0.000

Source: Research Data

Table 2 shows that the significance value of the pain scale data before the intervention was 0.007 ( $p < 0.05$ ), and the significance value of the pain scale data after the intervention was 0.000 ( $p < 0.05$ ). So based on the Shapiro-Wilk normality test, the two data are declared to be not normally distributed.

Based on the results of data analysis, the results of bivariate analysis obtained the effect of giving pineapple juice and honey on menstrual pain (dysmenorhea) in young women as follows:

**Table 3. Effects of Giving Pineapple Juice and Honey Against Menstrual Pain (dysmenorrhea)**

	Painful	Means	Stand ard Deviati on	Standa rd error	Z	p- values
1.	Before intervention	1.72	0.634	0.809	-3,873	0.000
2.	After intervention	1.25	0.508	0.809		

Source: Research Data

Based on table 3. The analysis in this study used the Willcoxon test. It can be seen in the table that the average pain before receiving intervention was 1.72 with a standard deviation of 0.634, whereas after receiving intervention it decreased to 1.25 with a standard deviation of 0.508. Statistical test results obtained a Z value of -3.873 with a p value of 0.000, at alpha 0.05 it was known that  $p < \alpha$ , it can be concluded that there is an effect of giving pineapple juice and honey on menstrual pain (dysmenorrhea) in young women at SMPN 1 Rangkasbitung Lebak Banten.

Based on the results of this analysis, it can be seen that before the intervention, the highest number of pain was in the moderate category, namely 17 people (53.1%), then the pain was in the mild category, 12 people (37.5%) and the lowest was in the severe category, namely 3 people (9.4%). Meanwhile, after the intervention, the highest pain was in the mild category, namely 25 people (78.1%), then 6 people (18.8%), and the lowest was pain in the severe category, namely 1 person (3.1%). From the results above it can be seen that there is a decrease in the pain scale of the respondents. This is according to Harmanto (2006) and uses herbal ingredients that have the effect of reducing pain due to menstrual disorders, including pineapple juice and honey.

In accordance with what was said by Abdul (201) that the risk factors for dysmenorrhea from the results of research conducted included menarche age, menstrual cycle, length of menstruation, family history, and physical activity. These factors can affect a person experiencing dysmenorrhea, but this can be reduced by administering pineapple juice and honey to reduce this painful condition.

The results showed that the average pain before receiving intervention was 1.72 with a standard deviation of 0.634, while after receiving the intervention it decreased to 1.25 with a standard deviation of 0.508. From these results it can be seen that there was a decrease between before the intervention and after the intervention. It can be seen from the average number that fell from 1.72 to 1.25. This indicates that on average there was a decrease.

Statistical test results obtained a Z value of -3.873 with a p value of 0.000, at alpha 0.05 it was known that  $p < \alpha$ , it can be concluded that there was an effect of giving pineapple juice and honey on menstrual pain in young women at SMPN 1 Rangkasbitung Lebak Banten. These results are in accordance with the research of Silaban, Irfan and Soraya Rahmanisa (2016) that non-pharmacologically it can be done by giving pineapple juice. Pineapple juice has anti-inflammatory pain relief for dysmenorrhea. According to researchers, pineapple (anas comosus) young pineapple fruit can be used to treat late menstruation. This is called bromelin content which functions to reduce this pain.

The pain of dysmenorrhea disrupts daily activities, misses subjects or lectures, endometriosis, and psychological disorders (Khotimah and Kimantoro, 2014). There are so many primary dysmenorrhea sufferers that the impact can partly affect absenteeism and cause material losses, because respondents experience temporary "paralysis" to carry out activities. Dysmenorrhea is not too dangerous but it is always experienced by sufferers every month, so that it interferes with the activities of those who experience it. This should not be allowed to happen because this condition is one of the causes of endometriosis symptoms, where it can significantly reduce the health, quality of life and fertility of women (Anwar, 2015).

#### IV. CONCLUSION

Based on the research objectives and research results obtained regarding the effect of pineapple juice and honey on menstrual pain (dysmenorrhea) in young women at SMPN 1 Rangkasbitung Lebak Banten, several conclusions can be drawn as follows:

1. Before the intervention of giving pineapple juice and honey to young girls at SMPN 1 Rangkasbitung Lebak Banten, the majority of respondents felt pain in the moderate category, namely 17 people (53.1%).
2. After the intervention of giving pineapple juice and honey to young girls at SMPN 1 Rangkasbitung Lebak Banten, the majority of respondents felt pain in the mild category, namely 25 people (78.1%),
3. There is an effect of giving pineapple juice and honey to young girls at SMPN 1 Rangkasbitung Lebak Banten (P = 0.000)

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