

The Effect Of Warm Chocolate Drinking On Reducing Menstrual Pain In Adolescent Girls At SMP Swasta Yapim Air Bersih

Yuka Oktafirnanda¹, Mila Syari², Rizawati³, Winda Agustina⁴, Marlina Marlina⁵

^{1,2,4,5} Program Studi Profesi Bidan, Fakultas Farmasi dan Kesehatan, Institut Kesehatan Helvetia, Medan, Indonesia

³ Program Studi Kebidanan, Sekolah Tinggi Ilmu Kesehatan YPAK, Padang, Indonesia

yukaoktafirnanda@helvetia.ac.id

ABSTRACT

Menstrual pain is pain that is felt during menstruation and interferes with the sufferer's activities. Menstrual pain can be treated with non-pharmacological treatment. The prevalence of dysmenorrhea reached 64.25% consisting of primary dysmenorrhea 54.89% and secondary dysmenorrhea 9.36%. Based on data from WHO, the incidence of dysmenorrhea is 1,769,425 people (90%) of women who experience dysmenorrhea with 10-16% of them experiencing severe dysmenorrhea. This research was conducted with the aim of finding out the effect of hot chocolate drinks in reducing menstrual pain in young women at Yapim Air Bersih Private High School. This research uses a pre-test design and one-group pre-test method. The statistical population of this research is female teenagers in grades 8 to 9 at Yapim Air Bersih Private High School, namely 25 people with purposive sampling of 15 people. This data was analyzed using the Wilcoxon test. The results of the study showed that there was a difference in the average decrease in menstrual pain before and after drinking hot chocolate, namely from 2.60 to 1.67 with an average increase of 9.3. The Wilcoxon test results show the A-symp Sig (2-tailed) p-value of 0.000. Consuming dark chocolate can be recommended to relieve pain during menstruation.

Keywords: Menstrual Pain, Chocolate Drink, Young Women

INTRODUCTION

Dysmenorrhea is an important condition in life and often occurs in everyday life. Cancer is most often found in pregnant women, and most cases of cancer first occur between the ages of 13 and 25 years. The effects of dysmenorrhea include loss of concentration and motivation in activities such as working and studying. However, many people do not know how to prevent dysmenorrhea pain.

Dysmenorrhea is pain during menstruation experienced by women in the first days of menstruation. Symptoms of dysmenorrhea are usually pain that occurs irregularly, one of the gynecological problems that affects women of all ages. Many factors can affect dysmenorrhea

including psychology, diet and lifestyle. (1)

The incidence of dysmenorrhea in the world is very high, on average more than 50% of women suffer from it. According to research results in America, the prevalence of dysmenorrhea is around 60%, and 30-50% of women of childbearing age will experience it, and 10-15% of them will lose work opportunities and study at school, thus disrupting family life. (2)

According to data from the World Health Organization (WHO) in 2020, the prevalence of cancer was 1,769,425 (90%) women suffering from cancer, and 10-16% of them suffered from severe cancer (3). The prevalence of cancer in Indonesia reached 64.25%, consisting of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea. In the last 50 years, 75% of women have experienced menstrual pain, North Sumatra Province in the city of Medan reported that 85.9% of adolescents had experienced dysmenorrhea (4).

The prevalence of dysmenorrhea is 84.1% in Italy and 80% in Australia. The prevalence is 84.2% in Asia, 68.7% in Southeast Asia, 74.8% in Middle East Asia, and 54.0% in Southeast Asia. The number of countries in South Asia also varies, with the prevalence of dysmenorrhea in Malaysia reaching 69.4%, Thailand 84.2%. According to the 2019 South Sulawesi Provincial Health Report, the prevalence of dysmenorrhea is very high, namely mild pain levels of 57.7%, and mild pain of 38.55%. The most pain is 3.8%. This shows that many young women suffer from dysmenorrhea. Realizing this, many countries such as Indonesia, South Korea, Taiwan, Japan, and Zambia provide menstrual leave rights to female workers. In Japan, which has regulated menstrual leave since 1947, African countries and Zambia have adopted menstrual leave laws in 2015. Indonesia also states that women are allowed to take menstrual leave, and this is stated in Law No. 13 Part 1 Chapter 81 of 2003. who sings; "Female employees/staffs who are sick during menstruation and notify the employer are not required to work on the first and second days of menstruation (5)..

Many cases of dysmenorrhea in adolescents must be treated with medication and non-medication. There are many ways to treat dysmenorrhea including treatment with narcotic pain relievers such as morphine or codeine and non-narcotic pain relievers such as aspirin, paracetamol or ibuprofen, but non-medication treatments can include massage, regular exercise, yoga, and hot water for the stomach. In addition, another way to reduce menstrual pain is to use dark chocolate (6).

The results of previous research conducted by Maylan Adytia (2020) related to "The effect of dark chocolate in reducing menstrual pain (primary dysmenorrhea) in fourth-grade nursing students at Stikes Bhakti Husada Mulia Madiun, Taman Kota Madiun District observed a

decrease in menstrual pain by giving 85 grams of dark chocolate for 2 days. The results of the Wilcoxon statistical analysis test showed that there was a significant difference between respondents before and after consuming dark chocolate with a p value <0.000 p. -value $<\alpha$ means that dark chocolate is effective in reducing menstrual pain. According to the first study conducted by researchers at Yapim Air Bersih in May, 25 female students in grades VIII and IX suffered from primary cancer. Treatment for dysmenorrhea is the use of pain relievers, the use of eucalyptus oil, rest and just left alone.

RESEARCH METHODS

The design used in this study is a quasi-experimental with a one group pre-test - post-test approach. Experimental studies are conducted on only one group without a comparison or control group. The measurement method is by using a pre-treatment test and a post-treatment test. The population in this study were 25 female adolescents in grades VIII and IX at SMP Swasta Yapim Air Bersih Medan. The sample for this study was selected using the purposive sampling method, which is a random sampling method in which researchers select samples by determining certain characteristics based on research objectives in order to answer research problems, the sample for this study was 15 people.

RESULTS AND DISCUSSION

Univariate Analysis

Table 1. Respondent Characteristics

Age	f	%
13	4	26.7
14	7	46.7
15	4	26.7
Total	15	100

Respondent Characteristics: The data in table 1 are mostly girls aged 14 years, 7 people (46.7%), 4 people (26.7%) aged 13 years, and 4 people (26.7%) aged 15 years.

Table 2. DistributionFrequency of Menstrual Pain Before Drinking Hot Chocolate

Pain Level

0 = No Pain	.0
1-3= Mild Pain	.0
4-6= Moderate Pain	.7
7-9= Severe pain	1
10=Very Severe Pain	1
Total	0

*DistributionFrequencyPre Test:*The data in table 2 menstrual pain before being given hot chocolate drink in female adolescents at SMA Swasta Yapim Air Bersih from 15 respondents, the majority in the previous test were 9 respondents (60.0%). Mild pain level, 4 respondents (26.7%) with moderate pain level, 1 respondent (6.7%) with high pain level and 1 respondent (6.7%) with very painful pain level.

Table 3. *DistributionFrequency of Menstrual Pain After Drinking Hot Chocolate*

Pain Level	f	%
0= No Pain	7	46.7
1-3= Mild Pain	6	40.0
4-6= Moderate Pain	2	13.3
7-9= Severe Pain	0	0.0
10= Very Severe Pain	0	0.0
Total	15	100

*DistributionFrequencyPost Test:*The data in table 3 shows the frequency distribution of menstrual pain reduction after giving hot chocolate drinks to female adolescents at SMP Yapim Air Bersih is 7 out of 15 respondents, most of whom were post-test. Participants (46.7%) saw a reduction in pain and no pain level, 6 responses (40.0%) with low pain levels, 2 responses (13.3%) with low pain levels.

Bivariate Analysis

Table 4. Influence of the Providerian Hot Chocolate Drink on Reducing Menstrual Pain

	N	Min	Max	Mean	Std. Deviation	Z	Asymp.Sig. (2-tailed)
Pre-test	15	2	5	2.60	0.910	-3.500b	0.00
Post-test	15	1	3	1.67	0.724		

The data in Table 4 shows the average value of menstrual pain reduction before consuming hot chocolate drinks is 2.60 with a minimum value of 2, a maximum value of 5 and a standard deviation of 0.910. After the intervention in the form of drinking hot chocolate, the results of the analysis of the average value were 1.67 with the lowest value of 1, the highest value of 3 and a difference of 0.724. These data show that the average decrease in menstrual pain after consuming hot chocolate drinks increased by an average of 9.3.

The results of the Wilcoxon test showed an Asymp.Sig.(2-tailed) value of $0.00 < 0.05 \alpha$ (There is an effect) which means that hot chocolate is effective in reducing menstrual pain in female adolescents at Yapim Air Bersih Private Middle School.

DISCUSSION

Based on a similar study conducted by Sriandini, Veena et al. (2021). The effect of drinking dark chocolate drinks in reducing the pain scale of primary dysmenorrhea has been mentioned. This study used a quasi-experimental design with a one-group pre-test-post-test design. Respondents 53 people, pre-test results 6396, post-test results 1566. The p value is $0.000 < 0.05$. Therefore, it can be concluded that consumption of dark chocolate drinks has an effect on reducing the pain scale of primary dysmenorrhea in female students of STIKES Widyagama Husada Malang.

Research conducted by Sri Noor Asiah, Ike Ate Juviska, Austriana (2020), stated that the effect of dark chocolate can reduce menstrual pain in girls. The respondents were 30 female adolescents and the average menstrual pain before being given dark chocolate was 5.53 with a standard deviation of 0.507. The score after receiving chocolate treatment was 3.5 with an average difference of 0.572. So it can be concluded that dark chocolate has an effect on reducing menstrual pain with a p-value of $0.000 < 0.05 \alpha$.

Symptoms of dysmenorrhea vary. Common symptoms include abdominal cramps that usually occur 24 hours before menstrual bleeding and can last for 24-36 hours. Cramps can be centered in the lower abdomen that spreads to the back and legs. Other symptoms felt include headaches, aches and pains in the legs and waist for several hours. The cause of primary dysmenorrhea is

very strong myometrial contractions during menstruation. These contractions function to expel the functional layer of the uterus. These contractions are influenced by the hormone prostaglandin secreted by the endometrium. If the endometrium is very thick, prostaglandin secretion is also high and uterine contractions become strong.(19).

Chocolate contains theobramine and phenylethylamine. Both substances play an important role in regulating feelings of happiness in a person. Feelings of happiness are caused by increased serotonin in our brains which are usually referred to as the happiness hormone. The happiness hormone is also influenced by dopamine, oxytocin, and endorphins. The process of happiness or sadness of our feelings will be regulated by these hormones. When consuming chocolate, the happiness hormone will be triggered by chocolate to be released in our bodies. Endorphins function to make us comfortable and relieve stress. Pleasant feelings are produced by the hormone dopamine in response to consuming chocolate. Oxytocin functions to build trust and build healthy relationships.

The assumption of chocolate drink research has an effect that can reduce menstrual pain, this chocolate can be a non-pharmacological medicine that can be consumed without side effects if consumed correctly, besides that chocolate is easy to find anywhere and affordable prices. Choosing quality chocolate is by looking at the high content of cocoa content compared to sugar and vegetable content.

The research process was conducted by interviewing respondents regarding menstrual pain, and some of the respondents responded that the pain felt could last for 1-2 days of menstrual pain, and respondents also said that when they menstruate sometimes a lot and sometimes a little. In addition, researchers also observed the attitudes of respondents when experiencing menstrual pain and there were several attitudes seen by researchers, namely staying still, moving a lot and resting in the UKS.

This was done by respondents with the aim that menstrual pain would not get worse, and some also said that moving a lot could relieve menstrual pain. During the study, researchers also looked at the duration of menstrual pain reduction in respondents after consuming hot chocolate drinks and the duration obtained was 15 to 30 minutes after consuming the chocolate drink.

In this study, there were respondents who experienced severe pain and very severe pain. The researcher interviewed 2 respondents who experienced severe pain and very severe pain, from the interview results obtained by the researcher that the respondents often consumed snacks sold in front of the school, besides that the respondents also liked to eat fast food. The researcher also saw that body weight can be a major factor that causes severe pain during menstruation.

Previous researchers claimed that there are factors that can affect menstrual pain including early menarche, long menstrual cycles, smoking or alcohol, lack of activity or exercise, nutrition or obesity, and stress. Nutrition or obesity is a factor that affects the occurrence of abdominal pain or dysmenorrhea. This is supported by the habit of consuming inappropriate foods such as snacks or junk food. Consuming fatty foods can increase the hormone prostaglandin which can cause pain in the lower abdomen or dysmenorrhea.(20).

According to researchers, changes in uneven menstrual pain are caused by differences in the scale of pain felt by respondents, so that giving hot chocolate drinks can be concluded that hot chocolate drinks are not a medicine that cures menstrual pain but rather a medicine to relieve menstrual pain.

During the research, the researcher encountered an obstacle where the composition of the hot chocolate drink initially only used two ingredients, namely cocoa powder and sugar, but after further consideration, the hot chocolate drink was given additional sweetened condensed milk, so that respondents could consume the hot chocolate drink properly and make the chocolate drink an alternative medicine to reduce menstrual pain.

This level of knowledge can be influenced by the intensity of attention and perception of a particular object. A study in India showed that early marriage, under 18 years, is often associated with a lack of knowledge about reproductive health, indicating that health education is essential to improve this knowledge.

This finding supports the results of Ludwig's study (2015), which showed a significant increase in knowledge after being given health education. This is in line with a study conducted by Frisa B and colleagues (2013) on the effectiveness of reproductive health counseling on student knowledge at SMAN 6, Pontianak Timur District, which also showed a significant increase in knowledge after counseling. This underlines the importance of reproductive health counseling in increasing knowledge, in accordance with Notoatmodjo's view (2010), that health education is a planned effort to influence the behavior of individuals, families, groups, or society as a whole in achieving optimal health goals.

CONCLUSION AND SUGGESTIONS

Conclusion

There is an effect of chocolate drinks on reducing menstrual pain in female adolescents at SMP Swata Yapim Air Bersih with a p-value of $0.00 < \alpha 0.05$. With the results of the study, it is

expected that adolescents can consume dark chocolate to reduce menstrual pain that can interfere with activities and reduce pharmacological treatment.

Suggestion

It is expected that the school can establish cross-program cooperation with the local health center in terms of counseling. With this, it is expected to increase the knowledge and attitudes of young women about how to reduce menstrual pain. So that the discomfort and menstrual pain felt by teenagers during activities can be minimized, and they will be more focused on studying.

BIBLIOGRAPHY

- Laila Ms. Smart Menstruation Book. First Printing. Sampangan Gg. Perkutut No. 325-B Jl. Wonosari, Baturetno Banguntapan Yogyakarta: Blue Book; 2014.
- Asih Sn, Yuviska Ia, Astriana A. The Effect of Dark Chocolate on Reducing Menstrual Pain in Adolescents at Tri Sukses High School, Natar, South Lampung 2019. J Obstetrics Malahayati. 2020;6(4):497–503.
- World Health Organization Dysmenorrhea 2022. Who. Swi. 2022;
- Hamdayani D. The Effect of Giving Turmeric and Tamarind Drinks on Reducing Primary Dysmenorrhea in Second Year Female Students of the Nursing Study Program, Mercubaktijaya Health College, Padang. Menara Ilmu. 2018;Xii(80):24–9.
- Wahtini S, Hidayah F, Wahyuntari E. Dark Chocolate Reduces Dysmenorrhea Pain. Biomedicine. 2021; Available From: <https://journals.ums.ac.id/index.php/biomedika>
- Sriandini W. The Effect of Dark Chocolate Drink Consumption on Reducing Primary Dysmenorrhea Pain Scale. Media Husada J Nurs Sci. 2021
- Wahyuni Lt. The Effect of Dark Chocolate Consumption on Reducing Menstrual Pain Levels (Primary Dysmenorrhea). Menara Ilmu. 2018; Available From: <https://jurnal.umsb.ac.id/index.php/menarailmu/article/viewfile/513/452>
- Pamungkas Pad, Hadi Spi, Ananti Y. The Secret of Orange (Carrot) to Reduce Menstrual Pain [Internet]. Nem Publisher; 2022. Available From: <https://books.google.co.id/books?id=Hd55eaaqbaj>
- Anggraeni E, Fitriani R, Naimah A, Setiana Em, Sulaimah S, Argaheni Nb, Et Al. Women's

- Reproductive Health. Global Technology Executive; 2022. Available From: <https://books.google.co.id/books?id=Bjoheaaaqbaj>
- Dr. Heni Setyowati Er Skmk, Kartika Wijayanti Mk, Prasetyo Aa, Press U. Acupressure for Women's Health Based on Research Results. Unimma Press; 2018. Available From: <https://books.google.co.id/books?id=Lghwdwaaqbaj>
- Oktaviana A, Imron R. Reducing Pain with Warm Compresses. J Nursing [Internet]. 2017;VIII(2):137–41. Available From: <https://ejurnal.poltekkes-tjk.ac.id/index.php/jkep/article/view/155>
- Sodwijo Us. Chocolate is Beneficial for Health [Internet]. Elementa Media; 2023. Available From: https://books.google.co.id/books?id=R-G_Eaaaqbaj
- Ide P. Dark Chocolate Healing [Internet]. Elex Media Komputindo; Available From: <https://books.google.co.id/books?id=D-Lt0o9lu8qc>
- Saras T. The Sweet World of Chocolate: History, Benefits, and Uses of Chocolate in Everyday Life [Internet]. Tiram Media; 2023.
- Prof. Dr. H. Sumantri Skmmk. Health Research Methodology [Internet]. Prenada Media; 2015.
- Dr. Febri Endra Budi Setyawan Mk. Introduction to Research Methodology: (Practical Statistics)
- Indah F, Susilowati T. Description of Dysmenorrhea During Classroom Learning Activities. J Locus Researcher and Devotee. 2022;
- Mardhiyah U, Rosidi A, Purwanti Ia, Semarang Um, Masyarakat Fk, Semarang Um. Primary Dysmenorrhea Pattern in Adolescents in Man 1 Semarang. 2015;260–4.
- Pratiwi H, Rodiani R. Obesity as a Risk Factor for Exacerbating Dysmenorrhea in Adolescents. Med J Lampung Univ. 2015;4(9):108–12.