

## DIFFERENCES IN THE INTENSITY OF MENSTRUAL PAIN USING WARM COMPRESS THERAPY AND LEMON (Citrus) AROMATHERAPY

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#### ABSTRAK

Tahun 2020, telah dilakukan wawancara terhadap mahasiswi Poltekkes Riau tentang proses menstruasi yang mereka alami. Hasil Survey didapatkan 20 mahasiswi mengalami nyeri menstruasi yang mengganggu aktivitas keseharian mereka. Kondisi ini bahkan mengganggu aktivitas belajar. Tujuan penelitian ini adalah untuk mengetahui perbedaan rata-rata intensitas nyeri menstruasi dengan menggunakan terapi kompres hangat dibandingkan aromaterapi lemon (Citrus). Jenis penelitian ini adalah Quasy Eksperimen. Desain penelitian adalah Pre-Post Test Design adalah . Sampel penelitian diambil dengan menggunakan purposive sampling. 20 mahasiswi yang mengalami nyeri menstruasi/dismenorea diberikan dua jenis terapi kompres dan aroma terapi lemon untuk diketahui apakah terjadi penurunan intensitas nyerinya. Analisis data menggunakan uji statistik Mann Whitney-U pada derajat kepercayaan 95%. Hasil penelitian menunjukkan rata-rata intensitas nyeri menstruasi sebelum dilakukannya kompres hangat adalah sebesar 4,60 (SD = 1,174) dan sesudah dilakukan adalah sebesar 1,60 (SD = 1,075). Rata-rata intensitas nyeri menstruasi sebelum dilakukan aromaterapi lemon (citrus) adalah sebesar 4,20 (SD = 1,309) dan setelah dilakukan adalah sebesar 2,10 (SD = 1,287). Hasil uji statistik dengan Mann Whitney-U menunjukkan tidak ada perbedaan rata-rata kompres hangat dan aromaterapi lemon (citrus) terhadap nyeri menstruasi.

#### ABSTRACT

*In 2020, interviews were conducted with female students from the Riau Poltekkes about the menstrual process they experienced. The survey results found that 20 female students experienced menstrual pain that interfered with their daily activities. This condition even interferes with learning activities. The purpose of this study was to determine the average difference in the intensity of menstrual pain using warm compresses compared to lemon (Citrus) aromatherapy. This type of research is Quasy Experiment. The research design is the Pre-Post Test Design. The research sample was taken using purposive sampling. 20 female students who experienced menstrual pain/dysmenorrhea were given two types of compress therapy and lemon aromatherapy to find out whether there was a decrease in the intensity of the pain. Data analysis used the Mann Whitney-U statistical test at 95% confidence level. The results showed that the average menstrual pain intensity before applying warm compresses was 4.60 (SD = 1.174) and after it was carried out it was 1.60 (SD = 1.075). The average intensity of menstrual pain before lemon (citrus) aromatherapy was performed was 4.20 (SD = 1.309) and after it was performed it was 2.10 (SD = 1.287). The results of statistical tests with Mann Whitney-U showed no average difference between warm compresses and lemon (citrus) aromatherapy on menstrual pain.*

*Keywords: Menstrual Pain, Warm Compress, Lemon (citrus) Aromatherapy*

### INTRODUCTION

In the menstrual cycle, not a few adolescents complain of pain (dysmenorrhea) in the first days of menstruation and causes disturbances in carrying out daily activities because of the pain they feel. This condition can last 2 days or more, from the length of the menstrual

phase that is experienced every month. The impact caused by dysmenorrhea itself is affecting concentration in class, sports, socialization, homework, besides that dysmenorrhea can make a woman absent at work or school (Anurogo, 2011)

Changes that women usually face when experiencing menstruation are anxiety, stress,

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depression and are usually accompanied by symptoms of menstrual cramps or the medical language is dysmenorrhea (Sukarni & Wahyu, 2013). Menstrual pain occurs mainly in the lower abdomen, but can spread to the lower back, waist, pelvis, upper thighs, and calves. Pain can also be accompanied by severe stomach cramps. These cramps come from very intense uterine muscle contractions when removing menstrual blood from the uterus. Pain is a complex, unique, universal and individual sensation. It is said to be individual because individual responses to pain sensations vary and cannot be equated with one another (Asmadi, 2008).

The pain that is felt can be described in general as a result of dysrhythmic myometrial contractions that display one or more symptoms, ranging from mild to severe pain. The effect of stress on pain during menstruation can occur because stress involves neuroendocrinology as a system that has a large influence on the reproductive system in women, this menstrual pain involves integrative regulation that affects biochemical and cellular processes throughout the body including the brain and psychology (Kusmiran E, 2014).

There are two ways to reduce dysmenorrhea, namely pharmacology and non-pharmacology. Pharmacologically, namely by administering analgesics, hormonal therapy and drugs. Non-pharmacologically, you can do warm compresses or warm baths, massage, physical exercise, adequate sleep, hypnotherapy, distractions such as listening to music and relaxation such as yoga and deep breathing (Muttaqin, 2013). In Natalia's research (2018) concerning the effect of giving warm compresses to reducing menstrual pain in class X students at SMK YPIB Majalengka,

Majalengka Regency, it was found that before warm compresses less than half (29.4%) of students experienced severe pain intensity, while after warm compresses more than half (52.9%) of Class X students at SMK YPIB Majalengka, Majalengka Regency in 2018 experienced moderate pain intensity. it can be concluded that there is an effect of warm compresses on reducing menstrual pain in class X students of SMK YPIB Majalengka, Majalengka Regency.

In the study of Sefty Rompas and Lenny Gannika (2019) concerning the effect of lemon (Citrus) aromatherapy on reducing menstrual pain in nursing students at the Faculty of Medicine, Sam Ratulangi University, Manado, it was found that giving lemon (Citrus) aromatherapy found that menstrual pain before being given lemon (Citrus) aromatherapy moderate scale (4-6), menstrual pain after being given lemon (Citrus) aromatherapy on a mild scale (1-3), there is an effect of lemon aromatherapy on reducing menstrual pain female students of Nursing, Faculty of Medicine, Sam Ratulangi University, Manado.

From an initial survey at the Riau Ministry of Health Poltekkes Dormitory in January 2020, based on interviews with 20 female students who experienced dysmenorrhea, 9 of them said that efforts to treat dysmenorrhea were carried out by applying eucalyptus oil to painful areas and resting and waiting for the pain to be felt disappeared, and 3 other people said they were taking analgesic drugs such as paracetamol, 5 people used warm compresses and the rest just let it go and never handled it. Based on the background above, the researcher is interested in conducting research on "The Difference between Warm Compress and Lemon (Citrus) Aromatherapy on the Intensity of Menstrual Pain in Student Dormitories of

the Riau Polytechnic of the Ministry of Health in 2020"

## METHODS

The research design used in this study was quasi-experimental with a pre-post test nonequivalent control group design approach. This research was conducted at SDN Dadaprejo 1 with a class V population who had not experienced menstruation in April-June as many as 32 children. The sampling technique used was total sampling with a sample of 32 female students. Data collection in this study used MANTAP booklet media instruments, UNICEF Menstruation Pocket Book Media and questionnaires. Analysis of statistical test results using the Paired Sample T test and the Independent Sample T Test.

## RESULT AND DISCUSSION

**Table 1. Characteristics of Respondents by Age**

Age (Year)	Treatment group		Control Group	
	F	%	F	%
10	1	6,3	1	6,3
11	11	68,8	11	68,8
12	4	25,0	4	25,0
<b>Total</b>	<b>16</b>	<b>100,0</b>	<b>16</b>	<b>100,0</b>

From table 1 it can be seen that the characteristics of respondents based on age found that the highest age was in the treatment group, namely 11 years at 68.8% and the lowest, namely 10 years at 6.3%, while the age in the control group was the most, namely 11 years at 68.8 % and the lowest is 10 years old at 6.3%.

**Table 2. Readiness to menarche before and after giving health education to the treatment group and the control group**

Readiness to menarche	Treatment group				Kelompok kontrol			
	Pretest		Posttest		Pretest		Posttest	
	F	%	F	%	F	%	F	%
Not ready	11	68,8	1	6,3	10	62,5	2	12,5
ready	5	31,3	15	93,8	6	37,5	14	87,5
<b>Total</b>	<b>16</b>	<b>100,0</b>	<b>16</b>	<b>100,0</b>	<b>16</b>	<b>100,0</b>	<b>16</b>	<b>100,0</b>

Based on table 2, it shows that the readiness of respondents to face menarche in the treatment group before being given health education there were 11 respondents who were not ready (68.8%), after being given health education using booklet media there was 1 respondent who was not ready (6.3%). While readiness to face menarche in the control group before being given health education there were 10 respondents who were not ready (62.5%), after being given health education using pocket books there were 2 respondents who were not ready (12.5%).

**Table 3. Effect of Health Education in the treatment group and control group on menarche**

Group	Readiness to menarche	Mean	SD	SE	t <sub>test</sub>	p value
Treatment group	Pretest	61,69	7,418	1,855	8,141	0,000
	Posttest	73,75	5,961	1,490		
Control Group	Pretest	63,19	5,980	1,495	5,123	0,000
	Posttest	70,81	6,544	1,636		

Based on table 3 shows the readiness of female students in facing menarche after being given health education from the two groups there was an average increase. In the treatment group, the average readiness value of students before being given health education was 61.69 with a standard deviation of 7.418 and after being given health education using the MANTAP booklet of 73.75 with a standard deviation of 5.961. Whereas in the control group the average value of readiness before being given health education was 63.19 with a standard deviation of 5.980 and after being given health education using the UNICEF

menstruation pocket book was 70.81 with a standard deviation of 6.544.

In the treatment group the results of the  $\rho$  value were  $0.000 < 0.05$ , there was an average difference in the results of pretest and posttest readiness, which means  $H_a$  was accepted and  $H_0$  was rejected, namely there was an effect of health education using MANTAP booklet media on student readiness. In the control group the  $\rho$  value was  $0.000 < 0.05$ , there was an average difference in the results of pretest and posttest readiness, which means that  $H_a$  was accepted and  $H_0$  was rejected, that is, there was an effect of health education using the UNICEF pocket book media on student readiness.

**Table 4. Differences in readiness to menarche in the treatment group and the control group**

Group	$t_{hit}$	$\rho$ value	summary
Treatment	1,327	0,194	not signifikan
Control	1,327		

Based on table 4, the results of the Independent Sample T Test for readiness between the treatment group and the control group obtained 1.327 and a significant level ( $\rho$  value) of 0.194, where  $0.194 > 0.05$ , meaning that  $H_0$  is accepted and  $H_a$  is rejected. It can be concluded that there is no difference in health education using the MANTAP booklet media and the UNICEF menstrual pocket book on the readiness of young women in facing menarche.

#### **Readiness to face menarche before and after being given health education using the mantap booklet media**

Based on research that has been conducted on 16 respondents in the treatment group, it shows that the readiness of respondents in facing menarche before being given health education using booklet media, there were 11 respondents who were not ready to face menarche (68.8%) and 5 respondents who were ready to face menarche (31.3%). While readiness to face menarche after being given health education using booklet media, there were 15 respondents who were ready to face menarche (93.8%) and 1 respondent who was not ready to face menarche (6.3%).

In the treatment group, the average readiness value of students before being given health education was 61.69 with a standard deviation of 7.418 and after being given health education using the MANTAP booklet of 73.75 with a standard deviation of 5.961. The  $\rho$  value is  $0.000 < 0.05$ , there is an average difference in the results of pretest and posttest readiness, which means that  $H_a$  is accepted and  $H_0$  is rejected, that is, there is an effect of health education using MANTAP booklet media on student readiness.

Readiness to face menarche in female students using booklet media from before and after being given treatment has increased. This is in line with the theory (Kholid, 2012) which says booklets are special prints, with more presentation and content compared to books in general, and the arrangement of booklets with material as attractive as possible, and the display side of the booklet that can attract attention. If you want to be competent in understanding the contents of the reading, booklet media is an effective choice to use. The results of the study (Lubis, et al. 2022) also say that providing counseling using booklet media can increase knowledge and information that is effectively understood by

respondents, so that the value before and after being given counseling increases. Therefore, booklets about menstruation are one of the learning media that can be read repeatedly and can increase knowledge and change a more positive attitude related to menstruation.

There is a change in readiness in dealing with menstruation in young women because respondents get additional information or knowledge through the MANTAP booklet media. Change occurs because of a process that is receiving new information. However, this booklet does not fully increase the readiness of all respondents.

#### **Readiness to face menarche before and after being given health education using pocket books (UNICEF)**

Based on the results of research conducted on 16 respondents, it showed that the readiness of respondents to face menarche in the control group before being given health education using pocket books, there were 10 respondents who were not ready to face menarche (62.5%) and 6 respondents who were ready to face menarche (37, 5%). While readiness after being given health education using the UNICEF menstrual pocket book media, there were 14 respondents who were ready to face menarche (87.5%) and 2 respondents who were not ready to face menarche (12.5%).

Whereas in the control group the average value of readiness before being given health education was 63.19 with a standard deviation of 5.980 and after being given health education using the UNICEF menstruation pocket book was 70.81 with a standard deviation of 6.544. The  $p$  value is  $0.000 < 0.05$ , there is an average difference in the results of pretest and posttest readiness, which means that  $H_a$  is accepted and  $H_0$  is rejected, that is, there is an effect of health education using the

UNICEF pocket book media on student readiness.

The results of this study are in line with research conducted by Badi'ah and Mandiri (2018) which stated that there was an effect of using a pocket book about menarche on readiness for menarche in young women at Patran Gamping Sleman Elementary School, Yogyakarta. Providing information through the method of using pocket book media prioritizes the quality of pocket book writing and the method of delivery which prioritizes the independence of young women to understand it, so that the respondent's mastery of the information provided becomes more effective.

The use of the UNICEF menstrual pocket book is in the form of a comic so that the delivery of information is through conversations between individuals. For those who don't like reading comics, the message conveyed in it is difficult to accept. However, the pictures provided attract attention so that young women are interested in reading it.

#### **Differences in the effect of health education on readiness for menarche using booklets and pocket books**

The results of the study showed that there were differences in the value of readiness in facing menarche before and after being given health education to students of SDN Dadaprejo 1 Junrejo, Batu City. Respondents experienced increased readiness in facing menarche after being given health education. It was concluded that there was an effect of health education on readiness for menarche in both the treatment group and the control group.

The results of the questionnaire obtained before being given health education about menstruation were that many respondents felt afraid and worried when facing their first menstruation such as being afraid when blood came out of the genitals, afraid of having their

activities disrupted, feeling worried about the process of their first menstruation, embarrassed if their friends found out when they were menstruating, ashamed to talk about menstruation with friends or teachers, considering menstruating women to be dirty, uncomfortable and troublesome. Many respondents did not know and were confused about what to do when facing their first menstruation, such as how to use pads properly and how to care for and dispose of used pads. This unpreparedness is due to a lack of knowledge or information about menstruation.

This is in line with research conducted by Retnaningsih, ddk (2018) explaining that students who were not ready to face menarche in their questionnaire answers stated that students were afraid of facing menarche, confused about facing menarche, considered menarche as a troublesome thing, and menarche caused discomfort to them. . So to overcome the unpreparedness of students in facing menarche they should get earlier information or explanations about menarche, both at school by teachers in collaboration with health workers to provide education about menarche and outside of school by mothers who can help provide a good picture of manarche so that children more understanding and ready to face menarche. If menarche is not overcome with correct information, it will cause fear and anxiety.

Readiness to face menarche from the results of the questionnaire obtained after being given health education indicated that most of the respondents felt not afraid, worried, and embarrassed to tell their friends or teachers. Respondents already know what to do when they are about to face their first menstruation, such as how to use the correct sanitary pads,

how to dispose of used sanitary napkins and know the myths and facts during menstruation.

Readiness in dealing with menarche can be positive as shown by a sense of sincerity, confidence, not fear and not worry (Fitriani, 2011). Young women who view menarche as an interesting experience will respond or act positively in dealing with it (Maramis, 2019). Adolescents who have a positive attitude will be happy and proud to experience menarche because they consider them biologically mature (Syriani, E., & Widyasih, 2012).

The increase in readiness to face menarche was due to the provision of information by conducting health education through the media of booklets and pocket books. The results of the study (Rizkia & Ungsianik, 2019) show that reproductive health education regarding menarche preparation is effective in increasing knowledge, emotional responses, attitudes of young women towards readiness for menarche. Notoadmodjo's theory (2012) explains that health education about menarche for children really needs to be done to increase children's knowledge, so that they are better prepared to face menarche. Health education or counseling in schools is important, especially reproductive health issues, and so on

In this study, improvements occurred in all aspects, both indicators of understanding, indicators, appreciation and indicators of willingness. The understanding aspect shows the condition of a person knowing and understanding the events he is experiencing so that it becomes a guarantee that the individual will feel ready to face the things that happen. Aspects of understanding related to menarche include the age at which menarche occurs, the physical changes that occur during menarche,

and the signs and symptoms of menarche. The appreciation aspect shows that a person is naturally ready to be experienced by almost everyone, which is normal, natural and nothing to worry about. The aspect that is understood is one's feelings in facing menarche. In the aspect of willingness, it shows a psychological condition, that is, a person is able and willing to do something so that he can receive and experience directly everything that should be experienced as a process. The readiness aspect that is understood is a person's ability to face menarche, someone is willing to accept the changes that occur during menarche, and someone is willing to access menarche information (Sulistioningsih, 2014).

A correct understanding of menstruation causes young women to not feel afraid of facing menarche. Based on the research results of Novita, et al (2020) it shows that information about menarche can increase the level of readiness for respondents, the more information they get, the higher their readiness to face menarche. Health education is directly very influential in increasing psychological readiness to face menarche.

Independent Sample Test Results T Test readiness between the treatment group and the control group obtained 1.327 and a significant level ( $p$  value) 0.194, where  $0.194 > 0.05$ , meaning that  $H_0$  is accepted and  $H_a$  is rejected. It was concluded that there was no difference in health education using the MANTAP booklet media and the UNICEF menstruation pocket book on the readiness of young women in facing menarche.

In practice, it was found that the control group using the UNICEF pocketbook media was more active in asking about material they did not understand in the UNICEF pocketbook compared to the treatment group using the

MANTAP booklet media. Both media have their own advantages. Booklet media has several advantages, namely, the information conveyed in the booklet can be more detailed and clear, so that more can be reviewed about the information conveyed. While the advantages of the UNICEF pocket book media are that they are designed like comic books with illustrated stories that attract students' attention and provide a brief description of the contents of a message. From the description above it can be seen that the MANTAP booklet media and the UNICEF menstruation pocket book are media in the form of printed books so that they have the same effectiveness in increasing readiness for menarche in young women. Therefore there is no difference in the use of MANTAP booklet media and UNICEF pocket book media.

## CONCLUSION

The conclusions of this study are 1) There is an increase in readiness to face menarche after being given health education using the MANTAP booklet media, 2) There is an increase in readiness to face menarche after being given health education using the UNICEF menstrual pocket book media, 3) There is an effect of health education with the booklet media "ready to face first menstruation (MANTAP)" and a menstrual pocket book on readiness for menarche at SDN Dadaprejo 1 Batu City. The results of the different tests showed that there was no difference in health education using the MANTAP booklet and the UNICEF menstrual pocket book on readiness for menarche.

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