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The Effect Of Giving Carrot Juice On Menstrual Pain In Young Women

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ABSTRACT

Menstrual pain (dysmenorrhea) is a lower abdominal pain that usually occurs in women who have menstruation which has a bad effect and causes disturbances to carry out daily activities because of the pain they feel. This condition can last for two days or more than the length of menstruation experienced every month. Objective to reduce menstrual pain, you can use nonpharmacological therapy, one of which is carrot juice. This study aims to determine the effect of carrot juice minun on reducing menstrual pain in young women at SMA Negeri 9 Medan. This research is a quantitative research using a pre-experimental design with a one group pre-post test approach. The population in this study amounted to 40 people. The data were collected using an observation sheet on the menstrual pain scale (dysmenorrhea) before and after being given carrot juice. The sample of this study was a student of SMA Negeri 9 Medan which was obtained through accidental sampling, which was 9 people. Data analysis using the Wilcoxon test. The results of the study showed differences in the average value of decreasing menstrual pain before and after being given carrot juice, from 2.67 to 1.22. The results of stascal tests with Wilcoxon test results obtained an A-Symp Sig (2-tailed) value of $p = 0.006 (< 0.05)$. There is an influence of drinking carrot juice on the decrease in menstrual pain. It is recommended for respondents to consume carrot juice during menstruation as a non-pharmacological therapeutic therapy by drinking carrot juice 2 times a day as much as 400 ml, namely 200 ml in the morning and 200 ml in the day at the time of mesntruation on the first day.

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INTRODUCTION

According to data from the World Health Organization (WHO) in 2018 that the incidence of menstrual pain in the world is very large. On average, more than 50% of women in every country experience menstrual pain, such as in America the percentage is around 60%, in Sweden about 72% in the United States, it is estimated that almost 90% of women experience menstrual pain and 10-

15% of them experience heavy menstrual pain, which causes them to be unable to carry out any activities (WHO, 2018).

According to data from the Association of Southeast Asian Nations (ASEAN) in 2018, the percentage of menstrual pain in Singapore is around 10-15%, Malaysia is 35-40% and Thailand is 65%. (ASEAN, 2018) According to the Indonesian Demographic Health Survey (IDHS), in Indonesia, adolescent girls discuss menstruation with friends by 58%, discussion with their mother by 45%. One in five teens did not discuss menstruation with others before having their first period. Adolescent girls who experience menstrual pain during menstruation are 76%, adolescent girls who do not experience menstrual pain during menstruation are 58% (Survei Demografi dan Kesehatan Indonesia 2017).

Menstrual pain has a considerable impact on young women because it causes disruption of daily activities. Adolescent girls who experience menstrual pain during menstruation will feel limited in carrying out activities, especially learning activities at school. A student who experiences menstrual pain has disrupted their learning activities at school and not infrequently this makes them not attend school. In addition, the quality of life decreases, for example a student who experiences menstrual pain cannot concentrate on studying and learning motivation will decrease because of menstrual pain felt during teaching and learning (Susanti, Utami, and Lasri 2018).

How to deal with menstrual pain can be handled in two ways, namely pharmacological therapy and non-pharmacological therapy. Pharmacological therapy uses analgesic drugs such as Ibuprofen, mefenamic acid and others. However, the use of this pharmacological therapy has side effects such as stomach disorders and can lead to dependence on taking drugs at every menstruation. Meanwhile, non-pharmacological therapy is carrots.

Carrot (*Daucus carota*) is one of the most beneficial vegetables. Carrots contain sugar, carotene, pectin, asparagine, fiber, fat, carbohydrate, calcium, phosphorus, iron, sodium, amino acids, essential oils and beta carotene. Carrots contain vitamins A, B, C, D, E and K (Al-Snafi 2018).

One of the benefits of vitamin E is that it helps block prostaglandins and helps overcome the effects of the increased prostaglandins. Prostaglandin hormone is a hormone that affects menstrual pain hormones (Ariyanti, Veronica, and Kameliawati 2020). 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 like analgesic drugs (ibuprofen) and as anti-inflammatory (Aldriana 2021).

Based on an initial survey conducted by researchers in May 2022 at SMA Negeri 9 Medan Jl. Sei Mati, Medan Labuhan Subdistrict, according to information from the UKS tutoring teacher, there are only 20 students who come to UKS complaining of menstrual pain so they are unable to attend the teaching and learning process every month. The therapy given is applying eucalyptus oil on his stomach in the hope that it can reduce pain and create a sense of comfort. Based on interviews conducted by researchers by interviewing 15 students, it was found that there were 10 students who experienced moderate menstrual pain, and 3 students who experienced mild menstrual pain, then 2 of them did not experience menstrual pain.

RESEARCH METHOD

The design used in this study is a pre-experimental design using a one group pre-test post-test approach. This research was conducted at SMA Negeri 9 Medan, which is located on Jl. Sei Mati No.799, RW 8 Kec. Medan Labuhan, Medan City, North Sumatra. This research was conducted from May to 2022. The population in this study were all female adolescent students who experienced menstrual pain at SMA Negeri 9 Medan consisting of classes X1, X2, which were 40 students. The sample in this study used accidental sampling for the period from August 29 to September 27.

The data analysis technique used in this research is univariate and bivariate analysis. To prove that there is a significant effect between the independent variable and the dependent variable, the first thing to do is to do a normality test, to find out whether the data is normally distributed or not

normally distributed. With p value > 0.05 , it is stated that the data is normally distributed. If the data is normally distributed, it can use the T-Independent test. However, if the data is not normally distributed, it can use the Wilcoxon test (Muhammad I. 2016).

RESULTS AND DISCUSSIONS

Results

Univariate Analysis

Table 1. Characteristics of Young Women Respondents by Age at SMA Negeri 9 Medan

| Characteristics | f | % |
|-----------------|----------|------------|
| Age (Years) | | |
| 14 | 3 | 33.3 |
| 15 | 5 | 55.6 |
| 16 | 1 | 11.1 |
| Total | 9 | 100 |

Based on table 1. it is known that from 9 respondents, most of them are 15 years old, namely 15 people (55.6), and a small portion who is 16 years old is 1 person (11.1%).

Table 2. Frequency distribution of menstrual pain before and after being given carrot juice drink at SMA Negeri 9 Medan

| | Painful | | | | | | | |
|--------|---------|------|-----------|------|---------------|------|-------|-----|
| | No Pain | | Mild Pain | | Moderate Pain | | Total | |
| | f | % | f | % | f | % | f | % |
| Before | 0 | 0 | 3 | 33.3 | 6 | 66.7 | 9 | 100 |
| After | 7 | 77.8 | 2 | 22.2 | 0 | 0 | 9 | 100 |

Based on table 2. it is known that the frequency distribution of respondents about decreasing menstrual pain before being given carrot juice drink from 9 respondents, there are 6 respondents (66.7%) who have moderate pain levels, and 3 respondents (33.3%) have mild pain levels. The decrease in menstrual pain scale after being given carrot juice drink from 9 respondents, there were 2 respondents (22.2%) had mild pain level, and 7 respondents (77.7%) had no pain level.

Bivariate Analysis

Table 3. Data Normality Test

| | Shapiro Wilk | | |
|--------|--------------|----|-------|
| | Statistic | Df | Sig. |
| Before | 0.617 | 9 | 0.000 |
| After | 0.536 | 9 | 0.000 |

Based on table 3, the results of the normality test using the Shapiro Wilk test, it can be concluded that the data on the effect of giving carrot juice before being given intervention on adolescent girls obtained p value = 0.000 which is smaller than 0.05, which means the data is not normally distributed. And the data on the effect of giving carrot juice after the intervention obtained p value = 0.000 which is smaller than 0.05 which means the data is not normally distributed. So the test used in this data is the Wilcoxon test.

Table 4. The Effect of Giving Carrot Juice Drinks on Reducing Menstrual Pain in SMA Negeri 9 Medan

| Before-After Given Carrot Juice | |
|---------------------------------|---------------------|
| Z | -2.739 ^a |
| Asymp.Sig (2-tailed) | 0.006 |

Based on table 4, it is known that the asymp.sig (2-tailed) value is $0.006 < 0.05$, it can be seen that carrot juice drink has an effect on reducing menstrual pain in female students at SMA Negeri 9 Medan.

Discussion

a. Frequency Distribution of Menstrual Pain Before Giving Carrot Juice Drink

Based on the results of the research on the frequency distribution of respondents about reducing pain before being given carrot juice drinks, from 9 respondents there were 6 respondents (66.7%), having moderate pain levels, and 3 respondents (33.3%) having mild pain levels. Where previously menstrual pain with moderate pain levels felt before being given carrot juice drinks was more than mild pain which was only felt by 3 respondents. Before being given carrot juice, the respondents said they felt menstrual pain, cramping in the lower abdomen, dizziness, nausea and various other things. According to the theory, menstrual pain is generally felt by women in the first days of menstruation.

Pain felt before or after menstruation. The pain is usually caused by the presence of the hormone prostaglandin which makes the uterine muscles contract (Ganong 2008). If the pain is mild and you can still do activities, it means that the pain is still normal. However, if the pain is so severe that it interferes with activities or is unable to carry out activities, it is considered a disorder. Pain that can be felt in the lower abdomen, waist and even back is called menstrual pain (Afroh and Mohamad Judha 2015).

The same research was also carried out by Sari, et al in (2020), on students of SMA Negeri 1 Tanjungbalai. Based on the results of the research conducted, it can be found that 48% of respondents before being given carrot juice drinks are on a pain scale of 4-6 (moderate), and after being given carrot juice drinks 72% of respondents are on a scale of 0 (no pain). Pain and menstrual pain also decrease along with the decreasing levels of prostaglandins (Sinaga Ernawati 2017).

According to the researcher's assumption, the cause of menstrual pain in students can also be caused by psychological factors or stress, for example, when the class is given a lot of assignments and at that time the student is menstruating and experiencing menstrual pain, usually there is abdominal pain, back pain, and so on so that diverted to menstrual pain. When stressed, the body will produce excessive prostaglandin hormone, which this prostaglandin hormone will cause excessive uterine contractions so that it can cause pain during menstruation to increase.

b. Frequency Distribution of Menstrual Pain Reduction After Giving Carrot Juice Drink

Based on the results of the research on the frequency distribution of respondents about reducing pain after being given carrot juice drinks from 9 respondents there were 7 respondents (77.8%) had no pain level, 2 respondents (22.2%) had mild pain level. Carrot juice drinks are currently the main alternative for women who want to reduce menstrual pain without getting side effects. Carrots contain vitamins A, B, C, D, E and K. One of the benefits of vitamin E is to help block the formation of prostaglandins and help counteract the effects of the increased prostaglandins. Prostaglandin hormone is a hormone that affects menstrual pain (Puspita 2018).

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 like analgesic drugs (ibuprofen) and as anti-inflammatory (Aldriana 2021). Consuming vitamin E can reduce pain levels and can reduce the amount of excessive menstrual blood, this is done by balancing hormones in the body, so foods containing these vitamins such as carrots should be consumed to reduce menstrual pain (Puspita 2018).

In line with the research of Romlah, et al in 2021 on the effect of giving carrot juice on dysmenorrhea in adolescent girls in the village of Bojong Indah, Parung District, Bogor Regency, it was found that 23 respondents (76%) experienced mild pain, a small portion of 6 respondents (20%) experienced moderate and 1 respondent (4%) experienced severe pain before being given carrot

juice drink, and after being given carrot juice drink 7 respondents (23%) experienced no pain, half of respondents experienced mild pain 23 respondents (73%) and 1 respondent (4%) had moderate pain. The results showed that there was a decrease in the average value of menstrual pain by giving carrot juice (Romlah 2021).

According to the researcher's assumptions based on the results of the study, it can be seen that changes in menstrual pain that occur in respondents are caused by many things, and respondents who experience menstrual pain will overcome menstrual pain in various ways, for example consuming carrot juice drinks can be used as a non-pharmacological therapy in the form of drinks. herbs that can be used to reduce the scale of menstrual pain during menstruation, naturally carrots also contain natural analgesics that act like analgesic drugs (ibuprofen) and as anti-inflammatory drugs.

CONCLUSION

Based on the results of the research conducted and the discussion that has been described, the asymp.sig (2-tailed) value is 0.006, this value is smaller than alpha (α) 0.055. So it can be concluded that there is a significant effect before and after being given a carrot juice drink on the reduction of menstrual pain.

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