Journal of Integrated Health Research
E-ISSN 3090-448X ; Vol. 2 No.1, April 2026
https://doi.org/10.70109/jinher.v2i1.31

The Effect of Avocado Juice on Reducing Pain Intensity in Female Students Experiencing Primary Dysmenorrhea

Susilawati[1*], Fathiyati[2], Rina Octavia[3],Yati Suhayati[4]
Sekolah Tinggi Ilmu Kesehatan Salsabila Serang, Indonesia
***Corresponding Author:** Susilawatimagister@gmail.com

(Received: December 7, 2025 Revised: January 6, 2026 Accepted: February 19, 2026)

ABSTRACT

Introduction: Primary dysmenorrhea is menstrual pain often experienced by adolescent girls without any gynecological abnormalities. It can disrupt daily activities and reduce quality of life. One non-pharmacological therapy that can be used is avocado juice, due to its calcium and magnesium content. avocado plays an important role in Muscle relaxation and decreased levels of prostaglandins, which trigger pain.

Objectives: This study aimed to determine the effect of avocado juice on reducing the intensity of primary dysmenorrhea pain in seventh-grade female students at MTsN 5 Pandeglang, Indonesia.

Methods: The study used a quasi-experimental design. with approach one group pre-test and post-test. Sample consists of from 30 female students Class VII students who met the inclusion criteria were selected using a total sampling technique. The intervention consisted of administering 250 ml of avocado juice. one time a day for two days during menstruation day first and Second, pain intensity was measured using the Numeric Rating Scale (NRS) before and after the intervention. Data analysis used test Wilcoxon shows there is a decline significant intensity painful after giving juice avocado with mark $p < 0.05$.

Results: This prove that avocado juice is effective in reducing the intensity of primary dysmenorrhea pain.

Conclusions: avocado juice can used as alternative therapy non-pharmacological For overcome painful period in adolescent girls. This research is expected to serve as a reference for health workers, educational institutions, and the community in providing natural treatment for primary dysmenorrhea.

Keyword : dysmenorrhea primary, juice avocado, painful period, young women

Journal of Integrated Health Research
E-ISSN 3090-448X ; Vol. 2 No.1, April 2026
https://doi.org/10.70109/jinher.v2i1.31

INTRODUCTION

The female life cycle includes the intrauterine period, infancy, childhood, puberty and adolescence, reproduction, and the climacteric and senile periods. During adolescence, girls, in particular, experience rapid physical changes, which are biological signs of sexual maturity. These changes occur during a period called puberty, which is the transition between childhood and the reproductive years. In girls, this is marked by the onset of menstruation (*menarche*) (Rozana et al., 2022).

Teenager is somebody Which has experience time transition from time children towards adulthood. (Husni, et al., 2022) According to the World Health Organization (WHO), adolescents are defined as as resident Which aged between 10 up to 19 years. Period this teenager divided into three periods, namely the early period (12-15 years), middle period (15-18 years), and late period (18-21 years) (Haid et al., 2023).

Menstruation in adolescent girls often causes complaints and discomfort. Pain is one of the discomforts of menstruation. even though thus No all teenager daughter feel painful moment menstruation. Some young women experience menstruation without complaints, but there are also those who experience menstruation. Which accompanied by with complaint pain, between other in part lower stomach, cramps, vomiting, dizziness, weakness, and excruciating pain, to the point of disrupting activities. Disorders or the pain that excessive Which occurs during menstruation is called dysmenorrhea (Masruroh et al., 2022)

The World Health Organization (WHO) states that the incidence of dysmenorrhea is very high worldwide, with an average of more than 50% of women in every country experiencing it. In the United States, around 90% woman experience dysmenorrhea, And 10% until 15% from they
experience dysmenorrhea heavy Which Possible cause they No can do whatever (World Health Statistics, 2019)

Menstrual pain can be reduced through pharmacological and nonpharmacological therapies. Nonsteroidal anti-inflammatory drugs (NSAIDs) are one example of pharmacological therapy, while nonpharmacological therapies include acupuncture, yoga, relaxation, and herbal drinks, such as avocado juice, which can help reduce the intensity of dysmenorrheal pain (Martinus et al., 2022).

Avocados are rich in nutrients, including water, calories, protein, fat, carbohydrates, calcium, magnesium, phosphorus, iron, vitamin B1, And vitamin C (Iskandar et al., 2021). Calcium in m avocado plays an important role in reducing pain, because it is necessary For contraction muscles through actin and myosin (Damayanti et al., 2022). Calcium deficiency can prevent muscles from relaxing, leading to cramps (Afni & Kurniawan, 2023). Calcium functions as a regulator of neuromuscular function, cell membrane stability, and muscle relaxation. (Kusuma et al., 2024). Research show that calcium can Reduces prostaglandin and PGF2a levels. Avocados also reduce menstrual pain by acting as a muscle relaxant (Primer, 2019). 2022). This study aims to determine the effect of avocado juice on reducing the intensity of primary dysmenorrhea pain in seventh-grade female students at MTsN 5 Pandeglang, Indonesia.

MATERIAL AND METHODS

This research design uses a quasi-experiment with *a one-group design. pre-test post-test* , which is carried out on one group without group control, with measurement before And after treatment. Research ongoing for three months (April–June 2025) at MTsN 5 Pandeglang,

Journal of Integrated Health Research
E-ISSN 3090-448X ; Vol. 2 No.1, April 2026
https://doi.org/10.70109/jinher.v2i1.31

Pandeglang Regency, Indonesia. The study population was all seventh-grade female students who experienced primary *dysmenorrhea* and met the inclusion–exclusion criteria. The sampling technique used was total sampling, meaning the entire population that met the criteria was sampled. Instrument The research includes pain scale observation sheets, SOP for administering avocado juice, *Numeric Rating Scale* (NRS) questionnaire to measure pain intensity, and Food *Frequency Questionnaire* (FFQ) For evaluate consumption *junk food* . Tool And material Which used include scales, blenders, measuring cups, stationery, and ripe avocados as the main ingredients of the intervention.

RESULTS

Age Menarche

Table 1. Distribution Frequency Characteristics Respondents Based on Age *Menarrhê* Student Class VII in MTsN 5 Pandeglang

Age Menarrhê	Frequency	Percentage
Menarche Late	0	0%
Menarche Early Menarche	13	43.3%
Menarche Normal	17	56.7%
Total	30	100%

Based on table 1, it is known that of the 30 female students in grade VII, the majority experienced normal *menarche* . (age ≥ 12-15 years) as many as 17 female students (56.7%), early *menarche* (age <12 year) as much as 13 female students (43.3%), And *menarche* late (age >15 year) 0 (0%).

Consumption Junk Food

Table 2. Distribution Frequency Characteristics Respondents Based on Frequency of *Junk Food Consumption* by Grade VII Students at MTsN 5 Pandeglang

Consuming Junk Food	Frequency	Percentage
No Ever	0	0%
Rarely	12	40%
Often	18	60%
Total	30	100%

Based on table 2, it is known that of the 30 seventh grade female students, the majority consumed *junk food* frequently (>4x/week) as many as 18 female students (60%), those who rarely (≤ 4x/week) as many as 12 female students (40%) and never (0%).

Journal of Integrated Health Research
E-ISSN 3090-448X ; Vol. 2 No.1, April 2026
https://doi.org/10.70109/jinher.v2i1.31

Dysmenorrhea Pain Intensity Before Consuming Avocado Juice

Tabel 3. *Dysmenorrhea* Pain Intensity Before Consuming Avocado Juice On Student Class VII in MTsN 5 Pandeglang

Intensity Dysmenorrhea	Frequency	Percentage
Moderate to	4	13.3%
Light	26	86.7%
Total	30	100%

Based on table 3 can be known that before consuming student avocado juice Most of the 7th grade students at MTsN 5 Pandeglang experienced moderate pain, as many as 26 students (86.7%), and mild pain as many as 4 students (13.3%).

Dysmenorrhea Pain Intensity After Consuming Avocado Juice

Table 4. Distribution Frequency Intensity Painful *Dysmenorrhea* Primary After Consuming Avocado Juice for Grade VII Students at MTsN 5 Pandeglang

Intensity Dysmenorrhea	Frequency	Percentage
No Painful	22	73.3%
Light	8	26.7%
Moderate	0	0%
Total	30	100%

Based on table 4, it can be seen that after consuming avocado juice, 22 students (73.3%) experienced a change in the intensity of *dysmenorrhea pain* , with 8 students (26.7%) experiencing mild pain, and 0 students (0%) experiencing moderate pain.

Influence Giving Juice Avocado To Decline Pain Intensity

Table 5 Test Normality of Influence Giving Juice Avocado To Decline Pain Intensity in Grade VII Students Experiencing Primary *Dysmenorrhea* at MTS 5 Pandeglang

Variables	Mean	Difference Mean	Sig
Pre-Test	2,8667	1,6000	0,000
Post-Test Test	1,2667		0,000

Journal of Integrated Health Research
E-ISSN 3090-448X ; Vol. 2 No.1, April 2026
https://doi.org/10.70109/jinher.v2i1.31

Based on table 5, the results of the normality test with the Shapiro-Wilk test, the sig value for the pre-test data of avocado juice administration is 0.000 < 0.05 and for the post-test data of avocado juice administration, the Shapiro-Wilk sig value is 0.000 < 0.05. So the data shows that it is not normally distributed, meaning that the bivariate analysis uses a non-parametric test (Wilcoxon Sign Rank Test).

Table 6 Influence Giving Juice Avocado To Decline Intensity Painful On A 7th Grade Student Experiencing Primary *Dysmenorrhea* at MTsN 5 Pandeglang

Variables	Mean	P- Value
Pre Test	15.05	0,000
Post Test	0.00	

Based on table 6, it shows that before being given avocado juice, the mean value was 15.50, while after being given avocado juice, the mean value was 0.00. This shows that decline average before And after intervention. In analysis test Wilcoxon obtained a P-Value = 0.000 < 0.05. There is a significant difference before and after the intervention, so it can be concluded that H0 is rejected and H1 is accepted, which means there is an Effect of Giving Avocado Juice on Reducing Pain Intensity in Grade VII Students Experiencing Primary *Dysmenorrhea* at MTsN 5 Pandeglang.

DISCUSSION

Age Menarche

On study This, age *menarche* can differentiated become 3 category, that is *menarche* early <12 years, normal *menarche* ≥ 12-15 years, and late *menarche* >15 years. Based on research which is done in MTsN 5 Pandeglang in class VII students, the results study This from 30 respondents part big experience *menarche* normal (≥ 12-15 year) as much as 17 (56.7%), Which experience *menarche* early (<12 year) as much as 13 female students (43.3%) And *menarche* late 0 (0'%). Age *menarche* Which <12 year in study This as much as 13 respondents. Based on Risdayani (2020) early *menarche* , namely menstruation before the age of 12 years or the first menstruation is generally experienced by adolescents at the age of 12-15 years, but in some cases it can occur at the age of <12 years. Early *menarche* (first menstruation at a younger age than average) can affect health, both physically and psychologically.

According to Aulya et al. (2021), premature *menarche (<12 years) causes pain during menstruation because the female reproductive organs are not yet fully developed and the cervix is still narrow.* too early has short-term effects, such as dysmenorrhea, but long-term effects can cause cervical cancer, breast cancer and myoma.

There is 17 female students with *menarche* normal, It means show readiness body For developmental stages next. On early *menarche* , symptoms that Possible appear is cramps Mild symptoms and mood swings. Normal *menarche* is an indicator of reproductive, hormonal, and physical health, thus signaling reproductive maturity and readiness for conception (Prawiroharjo, 2020).

Journal of Integrated Health Research
E-ISSN 3090-448X ; Vol. 2 No.1, April 2026
https://doi.org/10.70109/jinher.v2i1.31

In the description above, there was no menarche >15 years, it can be concluded that on average, all female adolescents at MTsN 5 Pandeglang did not experience delays or reproductive disorders, especially menstruation.

Consumption *Junk Food*

Based on data on the frequency of *junk food consumption* , respondents who frequently consume *junk food* are mostly... major experience dysmenorrhea currently that is as much as 17 people (94.4%), and only One person (5.6%) experienced mild *dysmenorrhea* . *Meanwhile*, nine respondents (75%) who rarely consumed *junk food experienced moderate dysmenorrhea* , and three (25%) experienced mild *dysmenorrhea* . No respondents were found to have never consumed junk food.

Results This show existence trend that the more tall frequency consumption *junk food* , so the more tall also degrees *dysmenorrhea* Which experienced. Matter This in line with Primalova's research (2024) states that fast food contains saturated fat and additives that can increase production prostaglandins, namely hormone Which play a role in cause uterine muscle contractions that cause pain during menstruation (*dysmenorrhea*).

Study Goddess (2022) show that consumption *junk food* can increase risk *Dysmenorrhea* , or severe menstrual pain. This is caused by the high trans fat and sodium content in *junk food* , which can trigger inflammation and increase the production of prostaglandins, hormones that play a role in causing pain. Furthermore , *junk food* tends to be low in fiber and essential nutrients, which can also affect hormonal balance and worsen *dysmenorrhea symptoms* .

Pain Intensity Primary *Dysmenorrhea* Before Consuming Avocado juice

The level of dysmenorrhea before being given avocado juice, the majority of female students experienced moderate pain as many as 26 female students (86.7%), and mild pain as many as 4 female students (13.3%).

More than 50% of women worldwide experience dysmenorrhea, which is one of the most common problems. menstruation most general. Dysmenorrhea is condition Which marked with cramps And pain in the hip extremities due to production prostaglandins, it starts 24 hours after menstruation and lasts up to 36 hours (Nurmaliza, 2023).

There are various factors that can cause *dysmenorrhea* in women, including nutritional status, physical activity, stress levels, and age *at menarche* are factors that influence the occurrence *of dysmenorrhea* in women (Aprilia et al., 2022).

Researchers have an opinion that dysmenorrhea own impact Which significant to It can affect women's lives because it can lead to decreased concentration and difficulty performing routine activities. Researchers believe this condition may be caused by an increase in the hormone prostaglandin, which causes the uterus to contract irregularly, leading to menstrual cramps or pain.

***Dysmenorrhea* Pain Intensity After Consuming Avocado Juice**

Based on the research results, it can be seen that before consuming avocado juice, seventh grade students MTsN 5 Pandeglang part major pain currently as much as 26 female students (86.7%), and mild pain in 4 students (13.3%). Meanwhile, after consuming avocado juice, the students experienced change intensity painful *dysmenorrhea* become No painful as much as 22 female students (73.3%), mild pain in 8 students (26.7%), and moderate pain in 0 students (0%). This proves the effect of avocado juice. which is taken during the first and second day *of dysmenorrhea* .

Journal of Integrated Health Research
E-ISSN 3090-448X ; Vol. 2 No.1, April 2026
https://doi.org/10.70109/jinher.v2i1.31

This is in accordance with Rahmadhayanti (2017) that avocados have many health benefits, one of which is pain relief. Calcium, like actin and myosin, functions as a substance necessary for muscle contraction when muscles contract, calcium deficiency can prevent muscles from relaxing during contraction, causing muscle spasms. Dysmenorrhea can affect the activities of women, especially teenagers. According to Prawirohardjo (2014), dysmenorrhea makes women unable to carry out their usual activities and requires pain medication. Condition This cause quality life Woman become bad. Student with Primary dysmenorrhea sufferers have difficulty concentrating and are less motivated to learn due to pain. According to Dawood (2013), 7-15% from 30-60% woman with dysmenorrhea primary No enter school or work. 30-90% and 10-20% of women with dysmenorrhea complain of severe pain and are unable to go to work or school (Ningsih & Rahmah, 2013).

Influence Consuming Juice Avocado To Decline Intensity Painful *Dysmenorrhea* Primary

Results study This conclude that after done test paired sample t test own p= 0.000 (p-value = <0.05), which means that avocado juice has an effect on reducing the intensity of primary dysmenorrhea pain. The scale of dysmenorrhea reduction before and after consuming avocado juice is 15.50.

Based on table there is decline *dysmenorrhea* pain *primary* on class students VII MTsN 5 Pandeglang, thus concluding that avocado juice has an effect on reducing dysmenorrhea. The study showed that no more students experienced moderate pain during the post-test, a total of 26 students.

CONCLUSION

Based on the results of the analysis and discussion of research on the effect of avocado juice on reducing pain intensity in seventh grade female students who experienced primary dysmenorrhea at MTsN 5 Pandeglang in 2025 with a total of 30 female students, it was found that most respondents with early menarche (92.3%) and normal menarche (82.4%) experienced moderate dysmenorrhea, and no respondents with late menarche were found. Respondents who rarely consumed junk food mostly experienced moderate dysmenorrhea (75.0%), while those who frequently consumed junk food experienced more moderate dysmenorrhea (94.4%), indicating that the frequency of junk food consumption also affects the level of pain. Before intervention, 86.7% female students experience painful currently And 13.3% experience painful light.

After giving avocado juice, there was a significant decrease in pain intensity, with 73.3% of respondents don't feel pain, 26.7% experience painful light, and No anyone else experiencing pain moderate. Results Wilcoxon test shows mark significance 0.000 (<0.005) which indicates a significant difference before and after the intervention, so it can be concluded that giving avocado juice is effective in reducing the intensity of primary dysmenorrhea pain in grade VII female students at MTsN 5 Pandeglang.

REFERENCES

Afni, N., & Kurniawan, F. (2023). Pengaruh Senam Dysminore Terhadap Penurunan Skala Nyeri Pada Mahasiswi Di Kampus Stikes Pelita Ibu. *Jurnal Ilmiah Kesehatan Masyarakat Dan Sosial*, *1*(3), 23–30. https://doi.org/10.59024/jikas.v1i3.393

Aprilia, T. A., Prastia, T. N., & Nasution, A. S. (2022). Hubungan aktivitas fisik, status gizi dan tingkat stres dengan kejadian dismenore pada mahasiswi di kota bogor. *Promotor*, *5*(3), 296–309.

Aulya, Y., Kundaryanti, R., & Rena, A. (2021). Hubungan Usia Menarche dan Konsumsi Makanan Cepat Saji dengan Kejadian Dismenore Primer pada Siswi di Jakarta Tahun 2021. *Jurnal Menara Medika*, *4*(1), 10–21.

Damayanti, N. A., Putra, I. G. N. A. D., & Setyawan, E. I. (2022). Tablet Effervescent dari Ekstrak Daun Alpukat (Persea Americana Mill.) Sebagai Peluruh Batu Ginjal pada Tikus Jantan galur wistar (ratus norvegicus). *Humantech: Jurnal Ilmiah Multidisiplin Indonesia*, *2*(3), 485-492.

Dewi, N., Rahim, N. K., Suhariyanti, E., Trimawati, T., Rosdiana, N., Nirnasari, M., Novryanthi, D., & Hardyati, A. (2024). Buku Ajar Farmakologi Keperawatan. In *Nuansa Fajar Cemerlang*. Nuansa Fajar Cemerlang.

Iskandar, B., Santa Eni, B. R., & Leny, L. (. (2021). Formulasi dan Evaluasi Lotion Ekstrak Alpukat (Persea Americana) Sebagai Pelembab Kulit. *Journal of Islamic Pharmacy*, *6*(1), 14-21.

Kusuma, K., Susanto, R., & Fide. (2024). Korelasi Dismenorhoe Primer Dan Usia Menstruasi Pertama Pada Mahasiswi Kedokteran Universitas Tarumanagara. *Jurnal Kesehatan Tambusai*, *5*(2), 2792–2801.

Martinus, F. D., Gunawan, D., & Utari, S. F. (2022). Pengaruh Pemberian Jus Wortel Terhadap Penurunan Derajat Dismenorhoe Pada Remaja Putri SMA Negeri 9 Pekan Baru. *Zona Kedokteran*, *10*(1), 12–27.

Masruroh, I., Silawati, V., & Carolin, B. T. (2022). Efektivitas Jus Wortel Dan Jus Alpukat Sebagai Manajemen Terapi Dismenorhoea Primer. *Menara Medika*, *5*(1), 53–64. https://doi.org/10.31869/mm.v5i1.3486

Nurmaliza, Ratih, R. H., & Yusmaharani. (2023). Efektivitas Jus Alpukat Terhadap Penurunan Nyeri Haid (Disminore) pada Remaja Putri. *Nucl. Phys.*, *13*(1), 104–116.

Prawirohardjo, S. (2020). *Ilmu Kebidanan*. PT. Bina Pustaka Sarwono Prawirohardjo.

Prawirohardjo, S. (2023). *Ilmu Kebidanan*. PT. Bina Pustaka Sarwono Prawirohardjo

Primalova, A., & Stefani, M. (2024). Hubungan antara Status Gizi, Konsumsi Junk Food, dan Kebiasaan Olahraga Remaja Perempuan di Jakarta dengan Kejadian Dismenorea Primer. *Amerta Nutrition*, *8*(1), 104–115.

World Health Statistics. (2019). *World Health Statistics*. Jakarta : Balai Pustaka.