

**IMPLEMENTATION OF EFFORTS TO REDUCE MENSTRUAL PAIN-  
INCREASE PRODUCTIVITY WITH INTERMITTENT FASTING (16:8)  
USING THE "GUIDE ME" ANDROID APPLICATION FOR YOUNG  
WOMEN AT ISLAMIC BOARDING SCHOOL YATIM CAHAYA  
MADINAH, SOUTH TANGERANG, BANTEN**

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**Abstract**

A common complaint often experienced by adolescent girls during menstruation is menstrual pain or dysmenorrhea. Menstrual pain is caused by an imbalance of hormones such as prostaglandins and progesterone due to uterine contractions that affect each individual. Many activities of adolescent girls are disrupted by this menstrual pain, including female students at the Pesantren Yatim Cahaya Mandiri, South Tangerang, Banten. The objective of this community service is to address menstrual pain in adolescents through several methods including: 1) providing education on nonpharmacological therapy to reduce menstrual pain, addressing the lack of information, knowledge, and understanding related to menstruation; 2) training in life skills to adapt to menstrual disturbances, aimed at overcoming the low level of life skills in dealing with menstrual issues; 3) implementing 16-hour Intermittent Fasting (16:8) and doing murojaah (to maintain the memorization of the Quran good, fluent, and correct) using the "Guide Me" app for menstrual pain in adolescent girls; 4) supervising and reevaluating programs to address menstrual disturbances using the "Guide Me" app; 5) adopting positive lifestyle changes to reduce menstrual disturbances (efforts to reduce menstrual pain). Adolescents are able to remain productive during menstruation, implement Intermittent Fasting (16:8), and stay healthier and more productive even while menstruating. The results of this intervention have proven effective in reducing menstrual pain through non-pharmacological therapy, leading to healthier and more sustainable productivity for adolescent girls. Those who initially experienced severe pain (scale 6), causing distress and lower abdominal cramps during menstruation that often reduced their quality of life—along with discomfort affecting their physical and mental well-being, often accompanied by nausea, vomiting, abdominal pain, breast pain, rectal swelling, and diarrhea—reported a reduction in menstrual pain to a scale of 3 after this intervention.

**Keywords:** Adolescent Girls, Efforts to Reduce Menstrual Pain, "Guide Me" Android App, Intermittent Fasting (16:8)

## INTRODUCTION

Based on the research recommendations that have been carried out with previous students, namely the need for intermittent fasting in adolescents to reduce menstrual pain. The Cahaya Madinah Orphanage Islamic Boarding School has many teenage students, many of whom complain of menstrual pain/discomfort during menstruation. From interviews with students and leaders at the pesantren, he said that there had been efforts or interventions made to deal with this problem. Among them are putting bottles filled with warm water on their stomachs, abdominal stretching, deep breathing, progressive muscles, most of which are physical movements only, but there are no holistic actions such as a combination of psychological, spiritual, and physical. So a holistic intervention is needed. Intermitten fasting is one of the interventions that can answer this problem.

Cahaya Medina Orphanage Islamic Boarding School, Banten is an orphan boarding school in South Tangerang, Banten. When the survey was found, there were still many students who were disturbed in their learning activities and their daily lives were caused by menstrual pain. The data that experienced menstrual pain was approximately 35% of the number of students. When interviews were conducted with several students who had experienced menstrual pain, they said that the pain they felt bothered them in their learning activities, some were allowed not to enter classes and extracurriculars. There are also those who are forced to go to class by enduring pain and discomfort, but cannot focus while studying. In addition, adolescent nutrition is also inadequate because even though they share a dormitory, they eat separately, there is no supervision of nutrition and nutrition in adolescent girls.

Formulation of Partner Problems; There are at least 2 types of priority problems for non-productive Islamic boarding school community groups/residents that will be addressed, namely efforts to meet the nutritional/nutritional needs of adolescent girls who are prone to anemia and efforts to reduce menstrual disorders (menstrual pain) that interfere with their concentration on studying. Looking at the results of this situation analysis and discussions with partners, several major partner problems were formulated, including

- 1) the knowledge and life skills of adolescent girls at the Cahaya Madinah Orphanage Islamic Boarding School are not optimal in caring for and meeting their needs; nutrition/nutrition and self-care related to the risk of anemia.
- 2) the awareness and motivation of adolescent girls in the independence of healthy attitudes and behaviors in fulfilling self-nutrition and dealing with menstrual disorders that occur in themselves
- 3) the failure to form a program to fulfill nutritious nutrition and menstrual pain management at the Yatim Cahaya Medina Islamic Boarding School, Banten with holistic (psychological, physical, spiritual), such as the absence of routine counseling and supervision on this matter.

The priority of problems and the focus of service are in the fields of health, culture (related to the myth of taboo foods during menstruation and others), and humanitarian projects because they are on average orphans, orphans, and poor people. The target is expected for adolescent girls/students to be aware of menstrual pain, anemia is vulnerable to adolescents (especially

during menstruation), so that they do not neglect nutritious nutrition, with humanitarian projects to share basic necessities (basic meals) and the formation of a task force to handle pain/menstrual disorders and the risk of adolescent anemia with an official structure and all are responsible for their duties and positions in the structure.

Based on the results of the situation analysis and discussion with target partners, several problems were formulated;

1. The age of adolescent girls is prone to primary menstrual pain, this is physiological, However, if not handled, it will interfere with the activities of students.
2. The time between menstrual pain is often less beneficial because many students only tidus during menstrual pain, interferes with study activities and others
3. This primary menstrual pain disorder has an impact on the productivity and future of Indonesia's adolescents
4. Menstrual pain disorders are closely related to the lack of nutritious nutrition in adolescent girls such as Fe, folate, etc.
5. Providing solutions in an effort to reduce menstrual pain by implementing Intermittent Fasting (16:8), murojaah, and nutritious nutrition education for adolescent girls

The solution for all the situation analysis at the Cahaya Madinah Orphanage Islamic Boarding School is

- 1) Providing education related to nonpharmacological therapy to reduce menstrual pain in overcoming menstrual pain
- 2) providing education related to highly nutritious nutrients such as Fe, folic acid and others to overcome the lack of information, knowledge, and understanding related to food myths that are prohibited during menstruation
- 3) Training on life skills to adapt to menstrual disorders is provided in an effort to overcome the low life skills to deal with menstrual disorders,
- 4) applying Intermittent Fasting 16 hours per day (16:8) and murojaah with the "Guide Me" application for menstrual pain in adolescent girls,
- 5) supervise and re-evaluate programs to overcome menstrual disorders using the "Guide Me" application,
- 6) Adopt what is a positive lifestyle in managing menstrual disorders (efforts to reduce menstrual pain). Adolescents are able to keep their menstrual time productive, adolescents can implement Intermittent Fasting (16:8),
- 7) maintenance of healthy life skills during menstruation and prevention of diseases that are at risk in adolescent girls such as iron anemia.

Methods in community service include through activities that share the vision and mission with questioners, making educational media, forming a team of program actors, peer groups, conducting counseling, and Intermittent Fasting exercises (16:8) with murojaah using guide me application carried out during dysmenorrhea is proven to increase muscle strength, muscle endurance and flexibility, reduce muscle tension (cramps), reduce muscle pain, and reduce pain during menstruation. There was a significant difference between the intensity of menstrual pain in adolescent girls in the intervention group and the control group after the intervention

group was given the Intermittent Fasting exercise (16:8). Furthermore, coaching to maintain the results achieved and sustainable. This is expected to broaden the horizons of adolescent girls in overcoming dysmenorrhea through alternative therapy in the form of Intermittent Fasting 16:8, so that the academic achievement of adolescent girls is not disturbed due to dysmenorrhea problems.

The targets of the above solutions are:

1. increasing the empowerment of partners, in this case increasing knowledge, understanding, and skills/practices/healthy living skills of adolescent girls about handling menstrual pain, preventing anemia by consuming nutritious foods. This will be seen from the pre and post test education questionnaire data.
2. Implementing nursing interventions; intermittent fasting (16:8) and murojaah guided by the "Guide Me" application, reminding when to break the fast, when to start, and being allowed to drink anything through the chat feature on the application. Pre- and post-intervention menstrual pain levels using VAS instruments.

Participation of students; Participating in education, filling out questionnaires, and participating in intermittent fasting programs as well as murojaah, and menstrual pain can be measured before and after the intervention.

## RESULTS

On April 27, 2024, a team of volunteers from the Faculty of Health, Universitas Pembangunan Nasional "Veteran" Jakarta, also as an accompanying lecturer, carried out health education activities and introduced the "Guide me" application which is a practical tool to help adolescent girls implement intermittent fasting (16:8) as an effort to reduce their menstrual pain.

The health education activity was attended by 27 students who tend to experience menstrual pain disorders from the Islamic Boarding School of the Cahya Madinah Orphanage Foundation with full enthusiasm. The students showed high interest in the event, actively participating in every material presented with great enthusiasm.

**Table 1. Characteristics of Participating Participants/Students**

Variable	Frequency (n)	Percentage (%)
<b>Age</b>		
Adolescent	11	40,7
Adult	16	59,3
<b>Total</b>	<b>27</b>	<b>100</b>
<b>Experiencing Dysmenorrhea</b>		
Yes	23	85,2
No/tendency	4	14,8
<b>Total</b>	<b>27</b>	<b>100</b>

The majority of participants in this health education are remaja with an age range of 19 to 23 years. They are part of an important age group in the transition stage to adulthood, which is often faced with a variety of health challenges. In addition to young adults, the activity was also attended by many teenagers with an age range of 12-18 years (Regulation of the Minister of Health of the Republic of Indonesia Number 25 of 2014, adolescents are residents in the age range of 10-18 years, and young adults start from the age of 19).

The majority of participants, as many as 85.2%, reported experiencing dysmenorrhea or menstrual pain. This shows that reproductive health problems, especially menstrual pain, have a significant impact on the population of adolescent girls to young adults (Indonesia Health Profile Data in 2016: The prevalence of dysmenorrhea in Indonesia is 64.5% with the most cases found in adolescents, namely 17-24 years old). This condition can affect their overall quality of life, so it is important to understand more about their experience with dysmenorrhea and efforts to manage it effectively.

The service team helped participants fill out knowledge questionnaires before and after the health education presentation. From the questionnaire, data was obtained as shown in table 2.

**Table 2. Results of Knowledge Questionnaire Before Health Education**

No	Question	Before		After	
		True (%)	False (%)	True (%)	False (%)
1	The passage of blood through the vagina caused by the shedding of the lining of the uterine wall along with an unfertilized mature egg is the definition of menstruation	88,9	11,1	92,6	7,4
2	Signs and symptoms of menstruation can be the following, except for nosebleeds	81,5	18,5	100	0
3	Pain caused by hormonal imbalances such as prostaglandins and progesterone caused by uterine contractions is the definition of menstrual pain/dysmenorrhea	59,3	40,7	92,6	7,4
4	Dysmenorrhea is divided into two, namely primary and secondary	44,4	55,6	100	0
5	Cramps or discomfort before or during menstruation are called primary dysmenorrhea	25,9	74,1	92,6	7,4
6	Abdominal cramps, or stabbing pains caused by certain health problems, is the definition of sequential dysmenorrhea	25,9	74,1	88,9	11,1
7	Dysmenorrhea can be treated in several ways, except smoking and staying up late	88,9	11,1	96,3	3,7
8	One of the non-pharmacological therapies for menstrual pain with fasting diet techniques is intermittent fasting	59,3	40,7	81,5	18,5
9	The benefits of intermittent fasting that have a direct effect on menstrual pain are increasing growth hormone and concentration	66,7	33,3	77,8	22,2

10	In addition to being good for body health, intermittent fasting is useful for reducing menstrual pain	85,2	14,8	96,3	3,7
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The results of the pre-education questionnaire showed that the majority of participants successfully answered seven out of ten questions correctly about women's reproductive health. Although most participants managed to answer most of the questions correctly, the results of the pretest showed that the participants' knowledge still needed to be improved.



**Figure 1. Health counseling related to menstrual disorders and intermittent fasting**

As for the results of the questionnaire after the education, it showed extraordinary achievements, with the majority of participants able to answer ten questions correctly. In fact, two of the ten questions were answered perfectly by all participants, reflecting a very high level of understanding of the material that had been delivered before.

**Table 3. Results of Knowledge Analysis Before and After Health Education**

Value-Tracking	Mean (SD)	Median (P25, P75)	Min - Max	Z-Value	P Value
<b>Before</b>	62,59 (15,83)	70 (50, 70)	30 – 90	-4.288	0,00
<b>After</b>	92,59 (11,96)	100 (90, 100)	60 - 100		

It can be seen from the table that the average knowledge of student participants before health counseling is 62.59 and the average after counseling is 92.59. With the increase being 30 in the range of values 0-100.

After the counseling, the meeting continued with an explanation of how to download the "Guide Me" application and how to use it.



**Figure 2. Explanation of the use of the "Guide Me" android application to students**

After everything is prepared both in terms of knowledge about menstrual disorders and application skills, the menstrual pain scale is measured using a VAS instrument during the first day of menstruation. So the results of menstrual pain before intermittent fasting (pre-test) were obtained with an average of 6 scale.

After that, the students do intermittent fasting for approximately 1 month according to their respective menstrual cycles. They are controlled and supported by phone while they also use the features in the application such as read, chat, video call, and appointment features.



**Figure 3. Measurement of menstrual pain scale**

After intermittent fasting, the menstrual pain scale was measured on the students again on the first day of menstruation in the following month, then it was found that the menstrual pain scale was reduced on average to a scale of 3.



**Figure 4. Supervision by the service team and prayers before breaking the fast (intermittent fasting) during the program**

## DISCUSSION

Before receiving education, the average knowledge score of the participants was 62.59, with the lowest score reaching 30 and the highest score of 90. After going through the education session, their average knowledge score increased to 92.59, with the lowest score reaching 60 and the highest score reaching 100. P Value 0.00 means that there is a significant increase in participants' knowledge. This change shows that education has a significant positive impact in increasing participants' understanding and knowledge about reproductive health, especially about dysmenorrhea and how to overcome it.

The results of the analysis show that educational interventions have had a significant impact in increasing participants' knowledge. This underscores the importance of the role of education in increasing public understanding and awareness of certain topics. Thus, the results of this analysis provide strong support for the sustainability of similar educational programs to improve knowledge and overall community welfare. It is recommended to continue the education program periodically by paying attention to various aspects that are relevant to the needs of the participants. Additionally, the use of interactive and fun teaching methods can strengthen participant engagement and facilitate deeper understanding and skills.

Adolescent nutrition and health education is based on previous research on 1000 HPK because education about adolescent reproductive health needs to be carried out that explains everything about their reproductive health, including problems during menstruation (Desmawati & Agustina, 2020). Efforts to integrate non-pharmacological treatment of menstrual pain in adolescent girls at the Cahaya Medina Orphanage Islamic Boarding School, Banten with holistic (psychological, physical, spiritual) based on previous research, namely menstrual pain relief, there are 2 categories, namely pharmacologically with chemical drugs



and non-pharmacological with interventions other than chemical drugs such as; drinking traditional drinks that have been proven to reduce menstrual pain such as turmeric acid, massage or massage, compresses, distractions, abdominal stretching (Desmawati, 2021). The latest research by the head of service and students related to Intermittent Fasting (16:8), reported that non-pharmacologic with Intermittent Fasting (16:8) was proven to reduce menstrual pain in adolescent girls of FIKES UPNVJ students in 2023 (Aulia Azzahra & Desmawati, 2023). Based on the research of these service providers, the basis for this community service is carried out because it is proven that with intermittent fasting, the pain scale of adolescents with dysmenorrhea decreases (Aulia Azzahra & Desmawati, 2023).

The activity was carried out with an implementation pattern involving young women and Islamic boarding school administrators. Adolescent girls who experience menstrual disorders, especially menstrual pain, are also at risk of lack of blood during menstruation. They were asked for a contact number, and tried to use an android, if they could not borrow a friend because they were in the same dormitory. A WAG is created for questions and answers if anything is discussed. It is recommended to use all the features in the "Guide Me" android application including reading, chatting, video calling, and appointment features. Alhamdulillah, everyone uses the application

## **CONCLUSION**

The intermittent fasting that has been carried out by the students makes their periods less painful and the body feels light during menstruation, not experiencing much fragility. The increase in the knowledge of students after counseling and the reduction of the scale of menstrual pain (from an average of 6 to an average of 3), proves that this community service is successful in implementing/implementing the results of previous research that underlies this service by using the "Guide Me" android application.

## **REFERENCES**

- Agustina & Desmawati (2015). Gambaran pengetahuan remaja akhir putri dalam kesiapan menyongsong 1000 hari pertama kelahiran. *Bina Widya*, 4(11).
- Chan, ZR., & Desmawati (2019). Effect of abdominal stretching of menstrual pain (dysmenorrhea) in adolescent at junior high school 1 Depok. *Prosiding. First International Conference on Health Development*. ISBN 978-623-92728-0-7 hal 11
- Desmawati (2020). Edukasi Kesehatan Reproduksi pada Remaja untuk Menghadapi 1000 Hari Pertama Kehidupan. *Jurnal Abdimas Kesehatan (JAK)*, 2(1): 64-68
- Aulia Azzahra & Desmawati (2023). Pengaruh Intermittent Fasting (18;6) terhadap nyeri haid di remaja puteri FIKES.
- Kementerian Kesehatan RI (2018). *Profil Kesehatan Indonesia Tahun 2018*. Jakarta : Kementerian Kesehatan RI.
- Nada Nisrina & Desmawati (2019). Pengaruh murojaah terhadap knyeri haid.
- Notoatmodjo, S (2010). *Ilmu Perilaku Kesehatan Edisi Revisi*. Jakarta: PT. Rineka Cipta