

# ASSESSMENT OF KNOWLEDGE AND SELF-MEDICATION PRACTICE OF DYSMENORRHEA AMONG PHARMACY UNDERGRADUATE STUDENTS: A CROSS-SECTIONAL STUDY

Bella Ananda<sup>1</sup>, Eldiza Puji Rahmi\*<sup>1</sup>, Imam Prabowo<sup>1</sup>, Dhigna Luthfiyani Citra Pradana<sup>1</sup>

<sup>1</sup> Pharmacy Program, Faculty of Medicine, Universitas Pembangunan Nasional Veteran Jakarta, Jakarta Selatan, Jakarta, Indonesia

\*Correspondence: eldizapr@upnvj.ac.id

## ABSTRACT

Dysmenorrhea is pain during menstruation that is experienced during adolescence caused by uterine muscle spasms. Data on knowledge of dysmenorrhea and self-medication practice among undergraduate student at Universitas Pembangunan Nasional Veteran Jakarta (UPN Veteran Jakarta) are scarce. This study aimed to assess and determine the relationship between the level of knowledge and primary dysmenorrhea self-medication practice. A cross-sectional study was carried out among female undergraduate Pharmacy Student of UPN Veteran Jakarta. A total of 107 unmarried and nulliparous female students were included in this study using the stratified random sampling technique. Based on the results of the study, 47 students (43.9%) had adequate knowledge, 46 students (43.0%) had moderate knowledge, and 14 students (13.1%) had inadequate knowledge. Forty female students (37.4%) had good practice, 40 female students (37.4%) had moderate practice, and 27 female students (25.2%) had poor practice regarding dysmenorrhea, and in this study, the value of confidentiality ( $p < 0.05$ ). It is considered significant, with the intention that there is a relationship between the level of knowledge and primary dysmenorrhea self-medication.

**Keywords:** Dysmenorrhea; menstruation; knowledge; practice; self-medication

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## INTRODUCTION

Menstruation is a natural event and will be experienced in adolescence, especially in women, even though most young women experience menstrual disorders, one of which is pain during menstruation. Dysmenorrhea is pain during menstruation experienced during adolescence caused by uterine muscle spasms (Syarifah et al., 2017). There are risk factors for early menarche with age  $< 11$  years, rarely or never exercising, and other habits such as consuming junk food, smoking, and consuming alcohol (Kural et al., 2015).

The incidence of primary dysmenorrhea is obtained from various sources and regions

that produce high rates, namely above the percentage of 50%. The University of Castilla La Mancha, Spain, experienced a dysmenorrhea prevalence of 76.5% (Fernández-Martínez et al., 2019). In Indonesia, dysmenorrhea shows a large percentage, reaching 60-70%, with an incidence of primary dysmenorrhea of 54.89% and the remaining 45.11% of secondary dysmenorrhea (Lail, 2019).

Knowledge about primary dysmenorrhea at the level of young women in Indonesia is still lacking and low; this is because they do not want to consult a doctor (Putinah, 2019). Lack of and low knowledge about primary

dysmenorrhea results in limited self-handling and self-management to deal with pain. Given conditions like this, intensive counselling should be carried out in order to increase adolescent knowledge regarding the causes and management of dysmenorrhea (Ore & Ogundeko, 2021). Self-medication is an effort to relieve symptoms of the disease using self-medication without requiring a prescription from a doctor (Simbara et al., 2019). According to BPS (Central Statistics Agency, 2022), the percentage of the population of West Java who self-medicated for complaints of illness was 86.42% and was included in the region with the highest percentage.

Self-medication practice is characterized by storing medicines in each household to cope with self-medication. 35.2% of households store over-the-counter, complex, and traditional medicines. Based on Nasikhatus's research (2021) regarding the description of the level of knowledge on self-medication for dysmenorrhea in adolescents in Yamansari Village, it was found that the overall level of knowledge of self-medication for dysmenorrhea among adolescents in Yamansari Village was in a suitable category, namely 14.3%. Teenagers with sufficient knowledge are 75%, and teenagers who are included in the category of less knowledge are as much as 10.7%.

By paying attention to the percentage of primary dysmenorrhea and irrational drug use is relatively high, researchers are interested in assessing the Knowledge Level and Self-medication practice for Primary Dysmenorrhea in Pharmacy Undergraduate students at UPN Veteran Jakarta.

## MATERIALS AND METHODS

### *Study design and setting*

A descriptive cross-sectional study was conducted among female undergraduate Pharmacy Students of UPN Veteran Jakarta. Data was collected in the period from January to March 2023.

The questionnaire was based on previous studies by Wati (2017) and Putrisari (2021). A

pilot study was conducted on 30 participants to ensure the validity and reliability of the questionnaire formulated.

Ethical approval was obtained from the UPN Veteran Jakarta ethics committee (Ref. no. Skep/094/KEPK/V/2020). Eligible participants who accepted to join this study were given verbal and written information about the study, and then were requested to sign and date a written informed consent form.

### *Sampling method and sampling size*

The questionnaire was physically distributed to female Pharmacy students in batches of 2019, 2020, 2021 and 2022.

The total population of female Pharmacy students is 146 students. The sample size was determined using Slovin Formula, followed by stratified random sampling techniques, resulting in 107 students.

#### **a. Inclusion Criteria**

- Unmarried female student.
- Active student of the Pharmacy Study Program Undergraduate Program
- Female students who are already menstruating.
- Students who experience dysmenorrhea.
- Students who are willing to fill out the questionnaire.

#### **b. Exclusion Criteria**

- Female students who experience secondary dysmenorrhea.
- Students who are not willing to fill out the questionnaire.

## RESULTS

### **1. Questionnaire Validity Test**

A *Validity test* is an index that shows the measuring tool measures what is measured. The correlation technique used is a product-moment correlation, which is said to be valid if the correlation coefficient value ( $r$ ) >  $r$  table (Notoatmodjo, 2018).

**Table 1.** Knowledge Level Validity Test Results

No Question Item	r-Calculation	r-Table	Decision	Information
1	0.653	0.361	Valid	Used
2	0.695	0.361	Valid	Used
3	0.565	0.361	Valid	Used
4	0.590	0.361	Valid	Used
5	0.446	0.361	Valid	Used
6	0.776	0.361	Valid	Used
7	0.445	0.361	Valid	Used
8	0.703	0.361	Valid	Used
9	0.596	0.361	Valid	Used
10	0.754	0.361	Valid	Used

**Table 2.** Self-medication Practice Validity Test Results

No Question Item	r-Calculation	r-Table	Decision	Information
1	0.693	0.361	Valid	Used
2	0.801	0.361	Valid	Used
3	0.643	0.361	Valid	Used
4	0.799	0.361	Valid	Used
5	0.842	0.361	Valid	Used
6	0.821	0.361	Valid	Used
7	0.878	0.361	Valid	Used
8	0.895	0.361	Valid	Used

**2. Questionnaire Reliability Test**

The authors used the Cronbach Alpha technique to test reliability, with decision-making criteria as stated by Ghazali (2018: 46), that is, if the *Cronbach Alpha coefficient* > 0.70, then the question is declared reliable, or a construct or variable is declared reliable. Conversely, the question is declared unreliable if the *Cronbach Alpha coefficient* is <0.70.

**Table 3.** Knowledge Level Reliability Test Results

<i>Cronbach's Alpha</i>	N of Item
.808	10

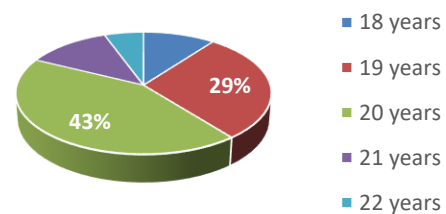
**Table 4.** Self-medication Behavior Reliability Test Results

<i>Cronbach's Alpha</i>	N of Item
.919	8

**3. Respondent Characteristics**

This study obtained information regarding characteristic data, including age, batches, history of dysmenorrhea, duration of dysmenorrhea, and treatment of dysmenorrhea.

The data was processed and presented as follows:



**Figure 1.** Age For Each Generation

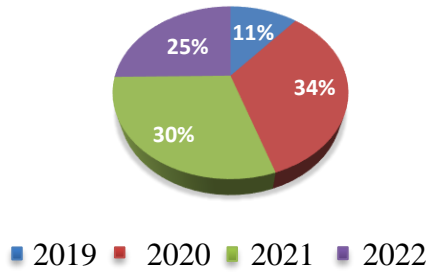


Figure 2. Diagram for each

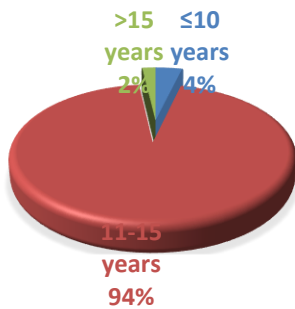


Figure 3. First menarche age diagram

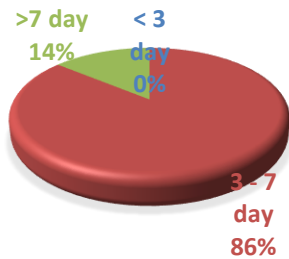


Figure 4. Menstrual duration diagram

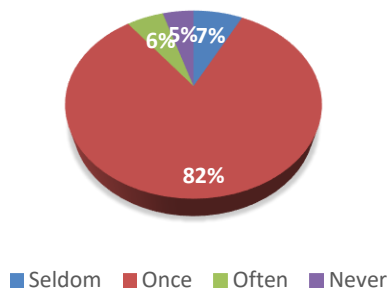


Figure 5. Ever Experienced Menstrual Pain

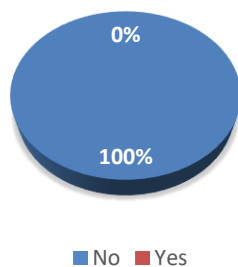


Figure 6. History diagram of other diseases

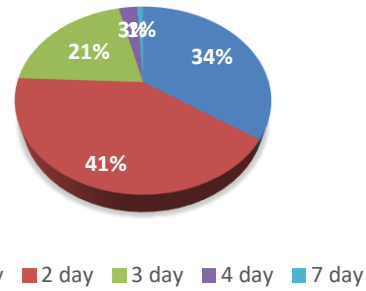


Figure 7. How Long Does Menstrual Pain Last

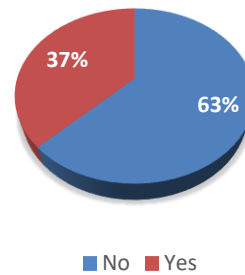


Figure 8. Primary dysmenorrhea self-medication diagram

4. Univariate Analysis

a. Knowledge of Primary Dysmenorrhea

After conducting research and data processing, it was found that out of 107 female students, 47 female students who had adequate knowledge (43.9%) had moderate knowledge, as many as 46 adolescents (43.0%) and 14 adolescents (13.1%) had inadequate knowledge. The research results regarding knowledge about dysmenorrhea can be seen in Table 3.

Table 3. Knowledge of Primary Dysmenorrhea in female undergraduate student at UPN Veteran Jakarta

Knowledge	Frequency	Percentage (%)
adequate (76%-100%)	47	43,9
moderate (56%- 75%)	46	43,0
inadequate (<56%)	14	13,1
Total	107	100

**b. Primary Dysmenorrhea Self-Medication Practice**

The results of the univariate analysis regarding self-medication practice among female undergraduate student at UPN Veteran Jakarta regarding dysmenorrhea were that 40 female students (37.4%) had good practice regarding dysmenorrhea, 40 female students (37, 4%) had moderate practice regarding dysmenorrhea and those who had poor practice about dysmenorrhea were 27 female students (25.2%).

**Table 4.** Primary Dysmenorrhea Self-medication Practice in female undergraduate student at UPN Veteran Jakarta

Practice	Frequency	Percentage (%)
Good (76%-100%)	40	37,4
Moderate (56%- 75%)	40	37,4
Poor (<56%)	27	25,2
Total	107	100

**5. Bivariate Analysis**

**Table 5.** Relationship Between Primary Dysmenorrhea Knowledge and Self-Medication Practice.

Variable	Category	Behavior						P-Value
		Less		Enough		Good		
		n	%	n	%	n	%	
Knowledge	Less	13	0,00	12,1	1%	0,9	0%	0,0%
	Enough	10		9,3	34	31,8	2	1,9%
	Good	4		3,7	5	4,7	38	35,5%

Based on the table 5, there is a significant relationship between knowledge and self-medication practice variables. Respondents with inadequate knowledge tend to have poor practice, with only 13 people (12.1%) of the total respondents having poor practice. Meanwhile, most respondents with moderate

and adequate knowledge had moderate and good practice. From the chi-square test results, a *p*-value of 0.000 was obtained, indicating that the relationship between knowledge and self-medication practice variables is significant.

**DISCUSSION**

Characteristics of adolescents in this study included age, batches, history of dysmenorrhea, duration of dysmenorrhea, and treatment. The results showed that the age range of adolescents was between 18 and 22 years, and most were in the age range of 20 years. Adolescence is a time of significant physical and psychological growth as well as the reproductive organs, so it is often referred to as the healthiest period (Ministry of Health, 2018). As a person ages, it will be followed by a transformation in the physical and psychological aspects. As for the growth in the physical aspect, it can be seen by changes in size and shape as a result of organ function that is getting more mature, while in the psychological aspect, there will be a change in the way of thinking.

With increasing age, it will also be followed by more and more experience and knowledge gained to affect mental and intellectual maturity. Age can also affect a person's level of knowledge. Mature ages will be able to receive better information than younger ages (Yeni, 2015). Physical changes occur in early adolescents aged 11-14 years, marked by changes in secondary sex characteristics, namely breasts starting to enlarge and hair growing in the axillae or pubic hair. Middle adolescents aged 14-17 years' experience secondary sex growth, which reaches the mature stage. Late adolescents aged 17-20 experience almost complete reproductive growth and are physically mature (Wulandari, 2014).

The average age for a woman to get her first period is at the age of 12 or 13 years. However, some experience it earlier, namely at age eight or later, at 18 years (Sukarni & Margareth, 2013). One of the factors that causes early menarche is nutritional status.

Adolescents with excess nutritional status, such as obesity, have more food intake, which affects the hormones estrogen, progesterone, FSH, and LH. These hormones stimulate the egg's maturity until the egg's release from the ovary. Another factor, namely, exposure to mass media such as pornography, can stimulate the sex hormone-producing gland (anterior pituitary), which can affect the development of sexual biology. The next factor is an unhealthy lifestyle, such as consuming fast food, smoking, and never exercising (Febrianti, 2017).

Generally, the menstrual cycle in average women is 28-35 days, and menstruation lasts between 3-7 days (Ernawati S et al. 2017). In this study, the duration of dysmenorrhea was obtained with a range of < 3 days, 3-7 days, and > seven days. Most were obtained in the 3-7 days range, as much as 86% of 107 respondents. As presented in Figure 1. These results align with research conducted by (Society et al., 2015), showing that the majority of respondents, 76%, had menstrual duration <7 days. As many as 113 respondents were studied. Average menstrual duration (<7 days) can be caused by lifestyle changes in adolescents, such as lack of exercise, smoking, consuming non-nutritious foods, and use of drugs that make menstrual periods irregular (Gustina, 2015). The impact of menstrual pain in the short term affects the activities of adolescents in the teaching and learning process, difficulty concentrating, even to the point of not going to school because of severe pain. The long-term impact of severe menstrual pain can trigger infertility to death (Gustina, 2015). Psychological factors such as stress can affect the duration of menstruation. Adolescents who experience stress due to excessive activity, family conflicts, and academic problems can have erratic menstrual periods (Gustina, 2015). The long duration of menstruation can be a sign of reproductive health problems in adolescents.

Based on the results of this study, it was found that female students with high knowledge were 47 teenagers (43.9%). These results are in line with (Prasetya et al., 2021) the knowledge of students regarding

dysmenorrhea (menstrual pain) 123 students stated that 112 students had good knowledge (91%). In Riswandi's research (2015), it was found that 42 people (70%) had good knowledge of respondents, based on previous research conducted by (Bingarwati & Astuti n.d.) obtained results regarding good knowledge of menstrual pain management as many as 47 people (60,3%). These results align with Febriani's (2021) knowledge of young women regarding dysmenorrhea who have a good knowledge of 40 people (90.9%). Information is one of the factors that influence knowledge; the level of education also influences it. Experience also influences one's knowledge; something someone has experienced will add to that person's knowledge and can be a source of informal knowledge. Another factor that influences the respondents' knowledge is age; the older the level of maturity and strength, the more mature a person will be in thinking and working. Also, know about dysmenorrhea because respondents experience menstruation every month and experience dysmenorrhea in their menstrual cycle; respondents know the symptoms experienced during dysmenorrhea (Wawan, 2010).

Based on the results of this study, it was found that 40 female students (37.4%) had good behavior regarding dysmenorrhea with high behavior towards primary dysmenorrhea self-medication. This study's results align with research conducted by Eka Ferida (2021), which found that 118 respondents (100%) had good behavior. Based on the results obtained in the study, the results of research by Syaifudin (2016) showed that the behavior of young women at Madrasah Aliyah Negeri 1 Sukorejo regarding primary dysmenorrhea was mainly in the excellent category, as many as 115 students (96.4%) were in the excellent category that the behavior tended to be relatively sedentary to react in a good way. The results of this study align with research conducted by Febriani (2021), based on research on the attitude of young women in dealing with dysmenorrhea, which has a positive attitude of 26 people (59.1%).

In this study, there were 25.2% who had a poor category in primary dysmenorrhea behavior. The lack of behavior of young women in dealing with dysmenorrhea when menstruation occurs is due to the lack of awareness of young women knowing the causes, symptoms, and how to handle it, so young women have never been examined by a health worker. In addition, there is a lack of interest in finding various information about dysmenorrhea, so young women do not know about good dysmenorrhea handling behaviors (Purba et al., 2014). According to Lawrence Green's theory in Pakpahan et al., 2021, several individual or environmental factors can influence health behavior, which has two main parts. The first part is PRECEDE, which consists of Predisposing, Reinforcing, Enabling, Constructs in, Educational/Ecological, Diagnosis, and Evaluation, while the second part is PROCEED, which consists of Policy, Regulatory, Organizational, Constructs in, Educational, Environment, and Development.

The results of the bivariate test in this study show that there is a significant relationship between knowledge and behavior variables. From the chi-square test results, a p-value of 0.000 was obtained, indicating that the relationship between knowledge and behavior variables is significant. In this study, the probability (p) of less than 0.05 ( $p < 0.05$ ) is considered significant (Notoatmodjo, 2018).

This is also in line with the research conducted (Purnomo et al., n.d. 2013), which obtained the results of a statistical test with a chi-square value of 5.9991 and obtained a calculated value with a value of  $p = 0.007$ , which means it is smaller than the value  $\alpha = 0.05$ . This shows that  $H_0$  is rejected and  $H_a$  is accepted. So, there is a relationship between the level of knowledge about dysmenorrhea and attitudes toward overcoming dysmenorrhea. This research is also followed by research conducted by Erinati Purba (2014), the relationship between knowledge and behavior in handling dysmenorrhea, where the results of the study prove that knowledge has a significant positive relationship with attitudes in dealing with

dysmenorrhea with a value of  $p = 0.000$  ( $p$ -value  $< 0.05$ ).

## CONCLUSION

Based on the research results, the following conclusions can be drawn: female students who had high knowledge were 47 teenagers (43.9%), while there were 46 teenagers (43.0%), and those with low knowledge were 14 teenagers (13.1%). Forty female students (37.4%) had good behavior regarding dysmenorrhea, 40 female students (37.4%) had sufficient behavior regarding dysmenorrhea, and 40 female students (25.2%) had less behavior regarding dysmenorrhea. The relationship between the level of self-medication knowledge of primary dysmenorrhea among female students of the FK-UPNVJ undergraduate pharmacy study program in 2022 with a significance level of 0.000.

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