



## The Correlation Between Stress Level and Menstrual Cycle in Senior Students of Nursing Department in Gorontalo

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### ABSTRAK

Siklus menstruasi merupakan jarak yang dihitung dari hari pertama haid hingga hari pertama haid berikutnya yang biasanya berlangsung antara 21 hingga 35 hari. Pada saat ini sering ditemui masalah pada siklus menstruasi dimana terjadi siklus menstruasi <21 hari atau > 35 hari dimana salah satu faktor yang mempengaruhi siklus menstruasi adalah stres yang secara langsung mempengaruhi sistem hormonal vital untuk reproduksi wanita. Penelitian ini bertujuan untuk mengetahui hubungan tingkat stres dengan siklus menstruasi pada mahasiswa semester akhir jurusan keperawatan di Gorontalo. Penelitian ini merupakan penelitian kuantitatif dengan pendekatan cross-sectional. Populasi dalam penelitian ini berjumlah 267 responden dan jumlah sampel 160 responden dengan menggunakan teknik pengambilan sampel proportional random sampling. Instrumen penelitian ini menggunakan kuesioner tingkat stres DASS 42 dan lembar observasi siklus menstruasi. Analisa bivariat menggunakan uji Chi Square. Hasil penelitian didapatkan  $p\text{-value} = 0,000 (< \alpha (0,05))$  yang bermakna terdapat hubungan tingkat stres dengan siklus menstruasi pada mahasiswa semester akhir jurusan keperawatan di Gorontalo. Bagi peneliti selanjutnya diharapkan dapat meneliti terkait adanya faktor lain yang berkaitan siklus menstruasi seperti berat badan, status gizi serta konsumsi rokok dan alkohol.

**Kata kunci:** Mahasiswa semester akhir, siklus menstruasi, tingkat stres.

### ABSTRACT

The menstrual cycle is the distance calculated from the first day of menstruation to the first day of the next menstruation, which usually lasts between 21 and 35 days. At this time, problems are often encountered with the menstrual cycle, where there is a menstrual cycle of <21 days or >35 days, where one of the factors that influences the menstrual cycle is stress, which directly affects the vital hormonal system for female reproduction. This study aims to determine the relationship between stress levels and the menstrual cycle in final semester students majoring in nursing in Gorontalo. This research is a quantitative research with a cross-sectional approach. The population in this study was 267 respondents and the sample size was 160 respondents using proportional random sampling techniques. This research instrument used the DASS 42 stress level questionnaire and menstrual cycle observation sheet. Bivariate analysis used the Chi Square test. The research results obtained  $p\text{-value} = 0.000 (< \alpha (0.05))$  which means there is a relationship between stress levels and the menstrual cycle in final semester majoring in nursing in Gorontalo. Future researchers are expected to be able to research other factors related to the menstrual cycle such as body weight, nutritional status and consumption of cigarettes and alcohol.

**Keywords:** Senior students, menstrual cycle, stress level.

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## 1. INTRODUCTION

Menstruation is an important event during puberty in girls, marking biological sexual maturity (Marmi and Magiyati, 2017). In normal women, the menstrual cycle usually lasts between 21 and 35 days. There are three types of menstrual cycle disorders including polymenorrhea, which is a menstrual cycle that lasts less than 21 days; oligomenorrhea, which is a cycle that lasts more than 35 days; and amenorrhea, which is characterized by the absence of menstruation for three months or more (Suhri, 2022). Stress is an important factor that causes menstrual cycle disorders.

WHO (2020) report in Herien (2024) around 45% of women experience menstrual cycle disorders, while in Indonesia, data Basic Health Research (2018), reported that women aged 10-59 years experienced irregular menstrual cycle problems in the past year. The study was conducted by Suleman et al. (2023) in 232 respondents of SMAN 1 Gorontalo students, 80 respondents or 34.5% had abnormal menstrual cycles. The prevalence above shows the number of menstrual disorders in the world and Indonesia.

Menstrual cycle disorders do not always lead to death, but can indicate problems with the reproductive system. These problems can include conditions such as cancer, infertility, tumors, and other health disorders (Hikma et al. 2021). According to research Putra et al. (2024) The highest cause of infertility in women, as much as 20.5%, is due to ovulation disorders which can be caused by menstrual cycle problems. Stress is a major factor that can have a significant impact on the menstrual cycle, as stress directly affects the hormonal system that is vital to female reproduction (Amalia et al. 2023).

Stress refers to feelings of pressure and mental tension (Wenny and Andreni, 2023). Symptoms of stress are generally divided into two aspects. First, physical symptoms such as sleep disturbances (insomnia), menstrual cycle disorders and changes in appetite. Second, emotional symptoms which include mood swings, feelings of restlessness and anxiety, and lack of enthusiasm for activities (Lenahatu, 2023).

Stress that causes menstrual disorders can be experienced by anyone, including students. Students are individuals who often experience stress which can be caused by academic or personal matters. For students, college life is often a source of stress because they have to adjust to a new lifestyle (Sugiarti, 2022). Especially for final year students, where the main requirement to obtain a bachelor's degree is to complete a thesis (Oktaviona et al. 2023). The demands of completing final assignments and the individual's unpreparedness to face them can cause psychological disorders such as stress, depression and anxiety (Tasalim and Cahyani, 2021).

WHO (2024) said there are 264 million people in the world suffering from stress or depression. Basic Health Research (2018), shows that more than 19 million people aged over 15 years experience emotional mental disorders, and more than 12 million people aged over 15 years experience depression. The research of Ayuba (2022) At the State University of Gorontalo students in compiling their thesis, it was found that out of 61 respondents, there were 1 (1.6%) respondents in the normal stress category, 14 (23%) respondents with mild stress, 23 (27.7%) respondents with moderate stress, 7 (11.5%) respondents with very severe stress. The above prevalence shows the level of stress in the world and in Indonesia. Psychological problems and mental burdens that cause menstrual cycle disorders in women are found to be 5.1% (Herien 2024). For students, factors such as a busy lecture schedule, tiring clinical practice, lots of assignments, and the thesis writing process can trigger stress, which in turn can cause menstrual cycles to become irregular (Anggraeni et al. 2022).

Initial observation of 10 final semester nursing students showed that 7 out of 10 students experienced menstrual cycle irregularities. Of these, 6 students experienced oligomenorrhea and 1 student experienced polymenorrhea. The main factor identified was academic stress due to the demands of the final assignment.

Based on the facts and data above, the researcher is interested in conducting a study entitled "The Relationship between Stress Levels and Menstrual Cycles in Final Semester Students of the Nursing Department in Gorontalo".

## 2. METHOD

This study was conducted on December 19, 2024 to January 7, 2025 at two campuses in Gorontalo, namely Gorontalo State University and Muhammadiyah University of Gorontalo. This study uses a correlational design with a cross-sectional approach. The use of a Cross-sectional research design means that data collection is carried out at one point in time, so that the phenomenon studied is during one data collection period. The population of this study was 267 nursing students who were taking thesis courses and had menarche, while the sample in this study was 160 respondents. The exclusion criteria were students who were pregnant, had gynecological disorders and were taking medication or using contraceptives. The sampling technique in this study used proportional random sampling where all members were taken proportionally on each campus and class.

The instruments in this study used the DASS 42 stress level questionnaire which is a standard questionnaire and the menstrual cycle observation sheet that has been tested for validity and reliability. The validity test of the menstrual cycle observation sheet has an R-table=0.361 and the R-count of item 1 = 0.871, 2 = 0.836, 3 = 0.946, 4 = 0.873, 5 = 0.466 with valid status, the reliability test results obtained 0.874. The collection of menstrual cycle data using observation sheets was obtained based on notes from respondents so that there is a possibility of recall bias. The research data were analyzed through two tests, namely univariate analysis related to respondent characteristics, namely age, diet history and exercise history, stress level characteristics and menstrual cycles. and bivariate analysis, namely the correlation between stress level variables and menstrual cycles through the Chi Square test where the data used must be categorical data, with the results stated to have a significant effect if  $\rho - value < 0,05$ .

## 3. RESULT AND DISCUSSION

Discussion is the most important part of the entire contents of scientific articles. The objectives of the discussion are: answering research problems, interpreting findings, integrating findings from research into existing sets of knowledge and composing new theories or modifying existing theories.

Respondent characteristics were used to identify age, exercise history and diet. Respondent characteristics are shown in table 1.

**Table 1. Respondent characteristics**

Category	Frequency (n)	Percentage (%)
Respondent Age		
20 years	13	8.1
21 years	112	70.1
22 years	27	16.8
23 years	7	4.4
24 years old	1	0.6
Sports History		
No Sport	129	80.6
Sport	31	19.4
Diet History		
No Diet	137	85.6
Diet	23	14.4

Based on table 1, it can be seen that the age of respondents in this study was mostly 21 years old, amounting to 112 respondents (70.1%), while the least was 24 years old, amounting to 1 respondent (0.6%). The average age of students is 20-24 years old, which can be categorized as early adulthood when viewed from the stage of development. At this stage, final semester students have started to think about and plan their future, so this becomes a stressor for final semester students. This is in accordance with the theory explained by Sulaeman et al. (2024) that early

adulthood is a transition from adolescence, which is known as a period of personal and social adjustment that starts from the age of 18 to 40 years.

Based on the history of exercise, it can be seen that most respondents in this study have a history of not exercising, totaling 129 respondents (80.6%). This shows that there is a small number of final semester students who do exercise. Healthy living behaviors such as exercising regularly should be implemented so that the menstrual cycle can remain within the normal range, especially for final semester students who have various activities. This is in line with research conducted by Adinda et al. (2022) where the research results show that exercise has an influence on the regularity of the menstrual cycle in female students of the Faculty of Sports Science, Padang State University.

Based on the diet history, it can be seen that most of the respondents in this study had a history of not dieting, amounting to 137 respondents (85.6%). This shows that most of the respondents were not on a diet. Final semester students should avoid excessive dieting because it will disrupt the balance of hormones in the body that function in the menstruation process and lead to menstrual cycle disorders. This is in line with research conducted by Wanggy et al. (2022) in adolescents at SMAN 1 Parakand where there is a relationship between diet and menstrual cycle. Diet has a significant relationship with the menstrual cycle, because the fulfillment of carbohydrate, protein, and fat intake according to calorie needs in adolescent girls can make the menstrual cycle normal.

### Stress Level of Final Semester Nursing Students in Gorontalo

**Table 2. Stress levels of final semester nursing students in Gorontalo**

Univariate Analysis	Amount	
	(N)	(%)
Stress Level		
Mild	59	36.9
Moderate	57	35.6
Severe	38	23.7
Extremely Severe	6	3.8

Based on table 2, it can be seen that the highest level of stress of respondents in this study was at the mild stress level totaling 59 respondents (36.9%), while the lowest was at the very severe stress level totaling 6 respondents (3.8%). Based on the data, it can be seen that most final semester students experienced mild stress, namely 59 respondents (20%) where respondents stated that they felt afraid and worried. Respondents stated that they became angry because of small or trivial things, tended to be excessive in a situation and easily felt annoyed. Many final semester students experienced mild stress because respondents felt afraid because they had to compile their final assignments and meet with lecturers for final assignment guidance.

This is in accordance with the theory according to Nurmala et al. (2022) mild stress is a condition that arises due to exposure to stressors that last for several minutes to several hours. This often occurs in everyday life, such as when being scolded by a lecturer or stuck in traffic. This statement is in line with research conducted by Devilawati (2020) in the Public Health Study Program of STIK Bina Husada Palembang that the highest level of stress in Public Health Study Program students is mild stress level as many as 77 respondents (53.8%). Final semester students react to stress in different ways. Although stress can help to be more alert and anticipatory when needed, it can also cause emotional and physical disorders.

Based on the research data, it was found that most respondents experienced moderate stress levels, amounting to 57 respondents (35.6%). At moderate levels of stress, final semester students tend to feel anxious because they are afraid that their final assignments will not be completed on time. Based on the results of the questionnaire, respondents stated that they felt they spent a lot of energy because they were anxious, found it difficult to feel calm when something was disturbing, and could not understand if there was a disturbance when doing something. This is in line with the theory according to Masdiana et al. (2024) moderate stress is stress that lasts

longer, from a few hours to a few days, can be caused by factors such as unresolved agreements, excessive workload, or expectations of a new job. This is in line with research conducted by Miliandani & Meilita (2021) In students of the Faculty of Health Sciences, As-Syafi'iah Islamic University, East Jakarta, with the results of the study, 24 respondents (42.1%) experienced moderate stress levels. Symptoms felt by respondents include being easily angered by small things, difficulty resting, and feeling impatient when faced with delays, such as when having to wait for guidance with a supervisor.

Based on the research data, it also shows that there are students who experience severe stress as many as 38 respondents (23.7%). Based on the results of the questionnaire, respondents found it difficult to relax, had difficulty resting, were often in a state of tension and had difficulty tolerating disturbances to what was being done. This is caused by obstacles in compiling the thesis coupled with pressure from parents. This statement is in line with research by Ginata et al. (2023) in medical students at the Islamic University of Bandung which showed that the second highest level of stress was severe stress where there were 45 respondents (34.6%). Severe stress caused by long-term pressure can worsen this condition. The negative impacts are seen in two aspects, namely biologically, it can cause headaches, sleep disorders, and skin problems and psychosocially, it can reduce concentration, cause nervousness and excessive fear, and cause behavior that violates norms due to indifference to the surrounding environment.

Based on research data from final semester nursing students, it was also found that students who experienced very high levels of stress amounted to 6 respondents (3.8%). Based on the questionnaire, respondents stated that they felt impatient, easily offended and angry, and felt easily anxious. At this stage, stress is not only caused by the final assignment but is also exacerbated by other problems such as problems with family or partners and financial problems. This is in line with the theory by American Psychological Association (2018) that very severe stress is a form of chronic stress where there is a physical or psychological reaction to long-term pressure, whether originating from internal or external factors. This statement is in line with research by Pratiwi et al. (2022) in undergraduate nursing students at Kusuma Husda University Surakarta which showed that in the very severe stress category there were 2 respondents (1.3%). This type of stress cannot be ignored because if final semester students have very severe stress levels, it can make them lose interest and energy to do activities, feel hopeless and depressed so that maladaptive responses or deviant behavior appear.

From the results of the study, supporting theories and previous studies, the researcher concluded that final semester students get a lot of pressure such as demands for completing their final assignments, namely thesis and also problems that arise when compiling their final assignments. These problems and demands greatly affect the stress levels of final semester students. From this study, the researcher found that the level of stress most experienced by students is moderate stress.

### Menstrual Cycle of Final Semester Nursing Students in Gorontalo

**Table 3. Menstrual cycle of final semester nursing students in Gorontalo**

Univariate Analysis	Amount	
	(N)	(%)
Menstrual Cycle		
Abnormal	68	42.5
Normal	92	47.5

Based on table 3, it can be seen that most respondents are in a normal menstrual cycle, amounting to 92 respondents (57.5%). This shows that most respondents with a normal menstrual cycle experience a menstrual period with a time span of 21-35 days each month. This is in line with the theory according to Afriani (2024) that a normal menstrual cycle ranges from 21 to 35 days, with the amount of blood coming out being around 10 to 80 ml per day.

This is reinforced by research data where there are students who do physical activities, namely sports, totaling 31 respondents (19.4%). This shows that there is a small portion of final

semester students who do sports. According to researchers, healthy living behaviors such as exercising regularly should be implemented so that the menstrual cycle can remain within the normal range, especially for final semester students who have various activities. This is in line with research conducted by Adinda et al. (2022) where the research results show that exercise has an influence on the regularity of the menstrual cycle in female students of the Faculty of Sports Science, Padang State University.

In addition to physical activity such as exercise, one of the factors that affects the menstrual cycle is diet. The data obtained respondents who had a history of not dieting amounted to 137 respondents (85.6%). This shows that most respondents are not dieting. Final semester students should avoid excessive dieting because it will disrupt the balance of hormones in the body that function in the menstrual process and lead to menstrual cycle disorders. This is in line with research conducted by Wanggy et al. (2022) in adolescents at SMAN 1 Parakand where there is a relationship between diet and menstrual cycle. Diet has a significant relationship with the menstrual cycle, because the fulfillment of carbohydrate, protein, and fat intake according to calorie needs in adolescent girls can make the menstrual cycle normal.

In this study, there were also 68 respondents (42.5%) with an abnormal menstrual cycle with a menstrual cycle span of less than 21 days or more than 35 days. A total of 42.5% of final semester students experienced an abnormal menstrual cycle due to several factors such as a low-calorie diet and insufficient or excessive physical activity. This is in line with the theory according to Afriani (2024) that the cycle if the menstrual cycle lasts >21 or <35 days, it is considered abnormal. Some factors that can cause this cycle irregularity include tumors, use of contraception, hormonal imbalance, stress, diet and physical activity.

In line with the research results, it was found that most respondents did not do physical sports activities, namely 129 respondents (80.6%). According to researchers, if sports are not done regularly, it can cause several disorders, one of which is menstrual cycle disorders where physical activities such as sports affect hormones in the body. This is in line with the theory explained by Solang et al. (2024) that a lack or excess of physical activity such as exercise can affect hormones and ultimately affect the menstrual cycle.

In addition to exercise, the menstrual cycle can also be influenced by diet behavior. Based on research data, it was found that final semester students who had a history of dieting amounted to 23 respondents (14.4%). This diet behavior can affect the menstrual cycle because in general, final semester students will go on a diet such as only eating fruits, reducing fat consumption and limiting meat consumption without proper calorie calculations. This is in line with the theory Assa et al. (2024) that diet can affect the menstrual cycle. Vegetarian diets are associated with anovulation, decreased pituitary hormone response, shorter follicular phases, and abnormal menstrual cycles (less than 10 times a year). Meanwhile, low-calorie diets, especially those low in red meat and fat, may be associated with amenorrhea (no menstruation for more than 3 months).

### Relationship Between Stress Levels and Menstrual Cycles of Final Semester Nursing Students in Gorontalo

Table 3. Bivariate analysis

Stress Level	Menstrual Cycle				Total		$\rho - value$
	Abnormal		Normal		N	%	
	N	%	N	%			
Light	3	1.9	56	35	59	36.9	0,000
Currently	32	20	25	15.6	57	35.6	
Heavy	27	16.9	11	6.7	38	23.7	
Very heavy	6	3.8	0	0	6	3.8	
Total	68	42.5	92	57.5	160	100	

Based on table 3, it is obtained that the results of the statistical test using the chi-square test obtained the result  $\rho - value = 0.000$  which means less than 0.05 ( $\rho - value > 0,05$ ),

according to the requirements of the chi-square test, it shows a significant relationship between stress levels and menstrual cycles. Where it is  $H_0$  rejected so that it can be concluded that there is a relationship between stress levels and menstrual cycles in final semester nursing students in Gorontalo. This is related because if someone experiences stress it will trigger the production of the CRH hormone which suppresses the production of the GnRh hormone which can cause changes in the menstrual cycle

Based on the research data, it can be concluded that most final semester students in Gorontalo experience mild stress with a normal menstrual cycle of 56 respondents (35%). This condition occurs because when stress arises it is triggered by a stressor that is experienced by a person only for a short period of time so that it rarely causes menstrual cycle disorders. Mild stress can occur when students have problems with lecturers, if the problem is resolved then the stress experienced will disappear. This is in line with the theory according to Masdiana et al. (2024) that mild stress is stress that does not have a negative impact on a person's physiological condition. Usually, mild stress is experienced by many people and only lasts for a short time, such as a few minutes or hours. This condition will not cause health problems unless it is experienced continuously.

From the results of the study conducted on final semester students, it was found that students who had mild stress levels with abnormal menstrual cycles were 3 respondents (1.9%). Menstrual cycle disorders can occur even though final semester students have controlled their stress. This is because it is not only stress that can cause abnormal menstrual cycles but can be caused by other factors such as obesity, physical activity and diet. This is in line with the theory according to Solang et al. (2024) menstrual cycle disorders are caused by hormonal imbalances in the hypothalamic-pituitary-ovarian system. These hormonal disorders can occur in several conditions, such as stress and depression, obesity, excessive weight loss, eating disorders such as bulimia and anorexia nervosa, exercise, and the use of certain drugs such as aspirin, anticoagulants, and NSAID.

From the results of the study conducted on final semester students with moderate stress, 25 respondents (15.6%) had normal menstrual cycles. This condition shows that stress does not always cause disruption to the menstrual cycle, which can occur if the student can control their response to the stress they experience by doing positive activities such as exercising and not thinking too much about things that can trigger stress. This is in line with the theory according to Welch (2012) The main cause of an irregular menstrual cycle is hormonal imbalance. Factors such as illness, stress, or long travel can disrupt hormonal balance and cause a late or irregular menstrual cycle. After recovering from illness, overcoming stress, or completing travel, the menstrual cycle will usually return to normal.

This study also found that students who had moderate stress levels with abnormal menstrual cycles numbered 32 respondents (20%). This condition is often experienced by final year students who face various academic demands on campus and off campus, one of which is completing a final assignment. The condition that occurs when students experience stress is the activation of the amygdala in the limbic system. This activation will stimulate the release of corticotropin releasing hormone (CRH) from the hypothalamus. This CRH hormone then inhibits the secretion of gonadotropin releasing hormone (GnRH) from the hypothalamus which is produced in the arcuate nucleus. This process may occur through increased secretion of endogenous opioids. Increased CRH will stimulate the release of endorphins and adrenocorticotropin hormone (ACTH) into the bloodstream. Endorphins, which are endogenous opiates, are known to play a role in reducing pain, while ACTH is triggered by CRH with a daily rhythm pattern. Increased ACTH levels will increase cortisol levels in the blood. In women who experience hypothalamic amenorrhea, this condition indicates hypercortisolism due to increased CRH and ACTH. These hormones, either directly or indirectly, cause a decrease in GnRH levels so that GnRH levels Follicle Stimulating Hormone (FSH) and Luteinizing Hormone (LH) become unstable, which in turn causes menstrual cycle disorders due to stress (Herlinadiyaningsih and Lucin, 2022).

In this study, it was also found that final semester students who experienced severe stress with normal menstrual cycles were 11 respondents (6.8%). At the level of severe stress, final

semester students generally found it difficult to relax and had difficulty resting. This condition can occur because when students experience severe stress, the response given by the body may not be a physiological response but a behavioral response or psychological response. This is in line with the theory Putri et al. (2022) that stress can also cause behavioral responses in the form of distress. Severe stress can affect a person's ability to remember information and make the right decisions. In addition, stress can also affect psychological responses, causing feelings of boredom, fatigue, and decreased achievement, which ultimately leads to a reduced sense of competence and success.

In this study, there were also final semester students who experienced severe stress with an abnormal menstrual cycle totaling 27 respondents (16.9%). This condition occurs when someone experiences stress that lasts for weeks or even months and cannot control their stress, which can lead to severe stress. This can happen because due to obstacles in completing final assignments, problems with family and financial problems also become triggers for severe stress. This is in line with the theory according to Mubin et al. (2024) Severe stress is a very intense and prolonged level of stress. It can be triggered by a traumatic experience, a major loss, ongoing conflict, or a situation that is extremely stressful either emotionally or physically. Severe stress can have a significant impact on a person's mental and physical health including menstrual cycle disorders, and often requires professional treatment and support.

In this study, it was also found that final semester students who experienced very severe stress with an abnormal menstrual cycle numbered 6 respondents (3.8%). At the stage of very high stress, final semester students generally feel fear and prolonged worry regarding the deadline for completing their final assignments or problems such as family problems and financial problems. Very severe stress is caused by the occurrence of continuous excessive stress experienced by final semester students has an impact on the menstrual cycle. This is in line with the theory according to Pratiwi et al. (2022) very severe stress is a chronic condition that can last for months without stopping. A person who experiences stress at this level often loses motivation to live and feels like giving up. Very severe stress is a chronic condition that requires attention because it has a high risk to health both psychologically and physiologically such as menstrual cycle disorders.

Based on the research results, supporting theories and previous research, the researcher concluded that there is a significant relationship between stress levels and the menstrual cycle in final semester nursing students in Gorontalo.

#### 4. CONCLUSION

Based on the results of research conducted on final semester nursing students in Gorontalo, it was found that the results of statistical tests using the chi-square test obtained a significant  $p - value = 0,000$  value of less than  $\alpha (0.05)$  so that it can be concluded that there is a relationship between stress levels and the menstrual cycle in final semester nursing students in Gorontalo. Stress will trigger the production of the CRH hormone which suppresses the production of the GnRh hormone which can cause changes in the menstrual cycle. The limitations of this study are that there are other factors related to the study but the researcher did not examine these factors such as body weight, nutritional status and cigarette and alcohol consumption. In addition, the menstrual cycle observation sheet was obtained based on notes from respondents so that there is a possibility of recall bias. The results of this study are expected so that the nursing study program can use this study as a reference for implementing education related to stress management to prevent menstrual cycle disorders, and can be used as evaluation material for students to control stress levels to prevent menstrual cycle disorders. It is hoped that this study can be a reference for further researchers and can examine other factors related to the menstrual cycle such as body weight, nutritional status and cigarette and alcohol consumption.

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