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The Relationship between Stress Levels and Changes in the Menstrual Pattern of Putri Aliyah Students at the Nurul Iman Wosu Islamic Boarding School, Bungku Barat District, Regency.

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Abstract. Health issues. Most of what happens to adolescent girls naturally is the feminine cycle. The feminine cycle releases blood, body fluids, and cell waste from the uterine mucosa, accompanied by desquamation. Intermittent and cyclic endometrium, starting about 14 days after ovulation. Regenerative problems related to irregular feminine events are influenced by several factors that are often experienced while living in the highest focal Islamic boarding school, namely memorization and family, which make students unable to control their emotions, which are less stable, resulting in prolonged stress. This study uses descriptive analysis and a cross-sectional *approach.* The study sample consisted of 87 students at the Nurul Iman Al-Khairaat Wosu Islamic Boarding School, and the results were obtained using a *proportional random sampling technique*. The variables studied consisted of a bound variable, namely a change in menstrual patterns, and a free variable, namely the stress level. Data analysis used the Contingency coefficient *test*, which was *(*0.271). The variable's value in the relationship between stress level and changes in menstrual pattern α0.05 < p (0.032). This study concludes that there is a negative relationship, which means that the higher the stress level, the more irregular the menstrual pattern. The study results can provide additional information to the public regarding stress levels and menstrual patterns.

Introduction

Health problems Generally occur in adolescent girls as a biological is menstruation (1). Menstruation is the discharge of blood, mucus, and debris cells from the uterine mucosa accompanied by the release (*Desquamation*) of *Endometrium* in *Periodyki* and *Cyclic*, which begins approximately 14 days after *ovulation* (2). Several factors affect menstruation, such as memorization, family, lessons given at boarding school and school, and lack of rest.

More than 15% of women and 70% in Indonesia aged 10-59 years report regular cycles, and more than 15% experience irregular cycle problems (3). The issue of irregular menstruation is already n. It starts to occur at the age of 45 to 49 years and 50 to 54 years; at the age of 17-29 years and 30-34 years, there are many irregular menstrual problems. Many thoughts and stress are why out of 15% of women aged 10-59 years have irregular cycles (3).

Changes in menstrual patterns are caused by several factors in women's lives, including nutritional disorders, metabolic disorders, tumors, infectious diseases, and others. Many emotional changes can occur as a result of stressors. Related to hormonal fluctuations during the menstrual cycle. [4].

During their reproductive years, some. Most women experience several changes in menstrual patterns. Stress affects menstrual patterns by involving the neuroendocrinological system, essential in female reproduction. The study

findings are classified into stress levels and. changes in menstrual patterns [5]. The tendency is that the higher the stress level, the more significant the change in menstrual patterns. The stress level is obtained because the level of stress in a person, especially adolescent girls, affects hormonal pattern changes so that the menstrual cycle changes. (1).

The researcher is interested in conducting a study with a title based on the description above. "The relationship between stress levels and changes in students' menstrual patterns. Putri Aliyah at the Nurul Iman iAl-Khairaat Wosu Islamic Boarding School, Bungku Barat District, Morowali Regency"

Method

This study is quantitative and has an analytical design based on a cross-sectional study. The stimulation of this researcher carried out a measurement variable on a subject only once, and the measurement was carried out at that time due to the absence of the need for re-measurement, which aimed to find out the correlation of the Population level. The population in this study was female Aliyah students at the Nurul Iman Al-Khairaat Wosu Islamic Boarding School, with a sample of 87 people in the vulnerable period of May to June 2022. The sampling method uses the formula formula from Taro Yamane (4). Data analysis is done Univariate and Bivariate using the N test *Contingency Coefficient* (5).

Result of the Study

Characteristics of respondents

1. Age and Class

   Table 1 Distribution. Frequency of Respondents' Ages Based on Respondents' Characteristics in Islamic Boarding Schools (n=87)

Characteristics of Respondents	Frequency (n)	Percentage (%)
Age (years)		
15 Years	39	44,8
16 Years	24	27,6
17 Years	22	25,3
18 Years	2	2,3
Total	87	100

Source: primary data, July 2022

Based on table n 4.1, the study results show that the female students X-XII at the Nurul Iman Al-khairaat Wosu Islamic Boarding School sampled in this study were 15 years old and 39 people (44.8%). Coming from class X amounted to 39 people (44.8%).

2. Researcher Variables

   Table 2 Frequency distribution of Stress Levels at Nurul Iman Al-Khairaat Wosu Islamic Boarding School.

Stress Levels	n	%
Very heavy	35	40.2
Keep	48	55.2
Normal-Mild	4	4.6
Total	87	100.0

Source: primary data, 2022

Table 4.2 shows that the stress level experienced by many people is abnormal, 48 people (55.2%), while the severe stress level is 35 people (40.2%).

Table 3 Distribution of Menstrual Patterns in Nurul Iman Al-Khairaat Wosu Islamic Boarding School.

Menstrual Patterns	n	%
Usual	16	18,4
Abnormal	71	81,6
Total	87	100.0

Sourced: primary data, July 2022

Based on table 3 shows that most menstrual patterns are experienced and the menstrual patterns that are not. normal as many as 71 people (81.6%).

3. Bivariate Analysis

Table 4 relationship of Stress Levels with Changes in Menstrual Pool

	Menstrual Patterns			T		CC	P-Value
	N		MR				
		n	%	n	%		
Stress Levels	Severe heavy - heavy	11	31,4 68,8	24	68,6 33,8	35 100 40,2	0,271	0,032
	Midle	5	10,4 31,2	43	89,8 60,7	48 100 55,2		
	Normal-Mild	0	0,0 0,0	4	100 5,6	4 100 4,6		
T		16	18,4	71	81,6			

Source: primary data, 2022

In Table 4, 71 students (81.6%) had abnormal stress levels and irregular menstrual patterns, which showed that some had abnormal and irregular menstrual patterns. Several factors, such as hormonal problems, lack of rest, a lot of mental burden, and weight, often influence menstrual cycle disorders experienced by female students.

The statistical test results using *the Contingency Coefficient analysis* showed that the value of p = 0.032 < α = 0.05, then Ha was accepted, and HO was rejected. Thus, there was a relationship between stress levels and changes in the menstrual pattern of female aliyah students at the Nurul Iman Islamic Boarding School, Al-Khairaat Wosu, West Bungku District, iMorowali Regency.

DISCUSSION

Stress Levels

The current study results show that the stress level of female students in the boarding school with the moderate category was obtained (55.5%) with the highest score of moderate stress of 48 people. This result is caused by trivial things, anxiety, lack of confidence, and physical activity (7). This theory aligns with the analysis of the questionnaire answers given to the respondents, where the highest score is: I felt that I was easily offended, I was angry because of the things that It does not matter, and I feel like I'm impatient when I'm experiencing procrastination.

Furthermore, moderate stress in female students is also every day because I feel uncomfortable when I cannot balance organizational and academic activities. When my academic performance does not meet my parents' expectations, I am very anxious with friends who are always good in front of me. I feel worried about my responsibility when the assignment is not corrected.

In theory, moderate stress is a difficult tension controlled or withheld and caused by physical, emotional, social, economic, occupational circumstances, or other circumstances, events, or experiences [10]. In addition, stress is a physical and mental response to any demands that create tension and damage the stability of daily life. (8) relationship between responses from a non-specific body to any disorder, the body's needs will have an overall impact on the individual, especially at the physical, psychological, intellectual, social, and spiritual levels. Stressed individuals experience the following psychological symptoms: always

nervous and anxious, sensitive and easily irritable, restless and tired.

Meanwhile, in the study conducted by Ausrianti (2019), The majority of respondents (64.0%) reported mild stress levels, while 17 people (23.3%) reported moderate stress levels at Hasanuddin University [14].

The current study results show that the stress level of female students in boarding schools with Severe heavy - heavy and severe stress is obtained (40.2%)) with a stress score of 35 people; internal and external factors can contribute to this. Internal factors v can be caused by health or illness, and stress can also be caused by overload and boredom with the ongoing learning process. If a person suffers from this condition, they will experience feelings of confusion, anxiety, anxiety, severe frustration, or hopelessness. Dikriansyah, (2018). (2018). According to [16], stress can cause systemic changes in the body. Changes in endogenous prolactin or opiates, especially in the hypothalamus, can affect an increase in cortisol and a decrease in lutein hormone (LH), disrupting the menstrual cycle. This theory follows the analysis of responses to questionnaires given to respondents, among others. However, I am worried that if the subsequent stress is Severe heavy - heavy level and heavy level for the students, it is also caused because I feel uncomfortable if my parents' phone calls are always limited; I feel uneasy if my pocket money has run low, in addition, it is also caused because I feel uncomfortable when picketing at the boarding school or school, always expecting each other. I feel uneasy if the seniors always pressure or like to order.

In theory, stress is Severe heavy - heavy and heavy, including loss, family disputes, problems with achievement or failure, the individual's ability to feel stress, low stimulus intensity, and past experiences, which can all cause stress. According to Priyoto's study, the impact of stress on a person can be in the form of increased sweat production, metabolic activity, and muscle tension (2014). Stress causes excessive headaches, lack of sleep, indigestion, loss of Appetite, excessive sweating throughout the body, decreased memory, forgetfulness, irritability, and undue anxiety about several things. Everything, sadness, and depression (10).

Researchers previously reported the relationship between the level of academic stress and menstrual cycles in students of the D3 Pharmacy Study Program level 1 (one) of the Faculty of Health, University of Muhammadiyah, Mataram [18]; meanwhile, the relationship between the level of academic stress and the menstrual cycle in 75 respondents of D3 Pharmacy Studies Program level 1 (one). The majority of female students, 30 in total, are stressed. (40,0%) (11).

The current study results show that the stress level of female students in the boarding school with normal and mild stress categories was obtained (4.6%) with a stress score of 4 people. This study aligns with Zaidah's (2016) theory, which states that children go to school and experience many cognitive, emotional, and social changes. These changes cause them to think more complexly, which helps them control stress and prevent it from happening to them. This theory is in line with the analysis of the questionnaire answers given to the respondents; among others, the wings feel that they have spent a lot of energy and feel anxious, then every day and light stress in female students is also caused by the wings are feeling restless, I think that I am easily restless, I feel uncomfortable because the classroom temperature is erratic as a result of damaging the learning process. In addition, it is also caused by my feeling uneasy about not concentrating in class, and I feel uncomfortable when I cannot adapt to living in a boarding school.

In theory, normal and mild stress is caused by the relationship between the individual and the environment, thus giving rise to the perception of a distance between the demands of the situation that originates from biological systems, psychologists, and a person's social and social activities. Stress is also known as pressure, tension, or unfavorable interference from the outside [20]. Stress can result from a mismatch between the desired situation and expectations, where there is a gap between the individual's ability to meet the demands of the environment and the environment itself. It is considered potentially dangerous, threatening, inhibiting, and not controlled, or stress exceeds the individual's capacity to cope. (12).

Researchers previously reported at SMK Bakti Indonesia Medika Jombang found that the stress level was (57.1%) and mild stress totaled 32 students (30.4%). Responders have a normal stress total of 17 study students carried out by Wahyuningsih (2018), while at Stikes Bhakti Kencana Bandung with 87 respondents,

Educational Institutions to minimize the stress level in students. It is hoped that institutions will increase the intercity of academic guidance so that students can enjoy the lectures (14).

Menstrual Patterns

The current research results show that abnormal menstrual patterns are present in 71 people (81.6%). The normal is only 16 people (18.4%); almost all of the respondents experience menstrual cycle disorders due to a lot of mental overloads, worries with a lot of memorization, and other school assignments that make worries and fears higher and affect menstrual patterns, this study was also conducted by (15) according to the results of the study It is known from 66 respondents, It is known that some of The majority of female students have irregular menstrual cycles are 29 respondents (43,9 %). A woman's menstrual cycle is not always consistent. Some factors that affect changes in the menstrual cycle include hormonal dysfunction, systemic disorders, psychological/stress factors, etc daily activities, and excessive prolactin. Disorders menstrual cycles are classified into three types: short menstrual cycles (polymenorea), prolonged menstrual cycles (oligomenorrhea), and menstrual cycles that do not occur for three consecutive months4 (amenorrhea). (16).

In theory, menstruation is bleeding that occurs due to damage to the wall of the uterus (prepared endometrium for implantation embrio. If this does not happen, embryonic implantation of this layer will fall, and blood will come out through the cervix and vagina (17). The menstrual cycle is the number of days before34 the next menstruation occurs; the first day of bleeding is counted as a start. Menstrual cycle (18). The menstrual cycle8 occurs during the reproductive period from puberty to menopause in response to variations in motion hormones (19).

This result study is supported by the theory Zulfa & Laila, 2020 said that there is a relationship between stress levels and menstrual cycles. The analysis of the results obtained data from female students at the Nurul Iman Al-Khairaat Wosu Islamic Boarding School, Bungku Barath District, Kab. Morowali, the health problem of irregular menstrual patterns is caused by a lot of activities, lack of rest, a lot of memorizations, and lack of Communication with parents. The data found by the researcher in the analysis of the results of the questionnaire answers found that students who thought too much negatively about others. The appearance of excessive jealousy and selfishness. This indicates that there is a relationship between stress levels and menstrual patterns.

Researchers argue that female students must be able to control the overflow of emotions that exist in them so that complaints or health problems such as menstrual pattern disorders can be avoided. Students need to get health counseling related to the reproductive system so that students understand and understand themselves and what the students have given them in maintaining reproductive health.

Relationship stress level with menstrual pattern

According to the results of the study carried out, it is known that 87 respondents showed that the stress level category was very heavy and severe with a regular menstrual pattern of 11 people (31.4%) and non-normal menstrual patterns as many as 24 people (68.6%), the category of moderate stress level as many as five people (10.4%) and abnormal A total of 43 people (89.6%) and the category of normal/mild stress levels with standard menstrual patterns as many as zero people (none) (0.0%) and four people with abnormal periods (5.6%) and the total level of stress with changes in standard menstrual patterns amounted to 16 people (18.4%) and abnormal ones amounted to 71 people (81.6%).

Based on the Contingency Coefficient test results *of 0.271,* the significance result or value of 8p = 0.032 < α= 0.05 was obtained. There was a significant relationship between stress level 4 and the menstrual pattern in female aliyah students at the Nurul Iman Al-Khairaaywosuf Kec Islamic Boarding School Bungku Barato Kab.Morowali.

In theory, Stress levels are related to menstrual cycle disorders. Stressors cause problems at work, prolonging the menstrual cycle and causing a monthly delay in menstruation. Stress causes the hormone cortisol to be released into a person's body, regulating all body systems, including the heart, lungs, blood circulation, metabolism, and immune system. This hormone, cortisol, is commonly used to assess a person's stress level. The higher a person's cortisol levels,

the more stressed he will be [29]. When hypothalamic activity begins, the pituitary gland secretes FSH, and ovarian stimulation begins. (13).

The results study follows the theory of Zamrodah, 2020 in relation level Stress with the cycle of menstruation in last year's college students in Stikes. Elisabeth Medan stated that the stressed sample was likelier to have abnormal menstrual patterns. There is a relationship that significant between stress and the menstrual cycle. In addition, these results are in line with the study. Sari, 2020 For D3 Pharmacy Study Program Students Level 1 (one). Faculty of Health Sciences, University of Muhammadiyah 6 Mataram stated that there is a relationship between the level of academic stress and menstrual patterns.

CONCLUSION

Based on the results of a study on the relationship between 5 Stress Levels and Changes in Menstrual Patterns of Putri Aliyah Students at the Nurul Iman Al-Khairaat Wosu Islamic Boarding School, Kec. Bungku Barat Morowali Regency, it can be concluded that:

1. Most female students of the Nurul Iman Al-Khairaat Wosu Islamic Boarding School experienced stress levels in the medium category.
2. The menstrual pattern of female students of the Nurul Iman Al-Khairaat Wosu Islamic Boarding School is mainly abnormal, and there is a weak relationship.
3. There is a relationship between stress levels and changes in menstrual cycle for Aliyah female students at the Nurul Iman Al-Khairaat Wosuk4Kec Islamic Boarding School. West Bungku, Morowali Regency.

SUGGESTION

1. For Islamic Boarding School institutions
   It is hoped that this research8 can increase knowledge for Islamic boarding schools about the relationship between stress levels and changes in menstrual patterns with time management for female students.
2. For the community
   It is hoped that this researcher can contribute to understanding society8 about the relationship between stress levels and changes in menstrual patterns.
3. For Researchers
   It is hoped that this study can be used to add valuable insights and experiences for researchers, especially in increasing knowledge in the field of research and becoming a reference for future researchers.

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