Journal of Health LLDIKTI Region 1 (JUKES), 3 (1) (2023) 24-33

Published by:LLDIKTI REGION 1

LLDIKTI Health Journal Region 1 (JUKES)

Homepage journals:www. lldikti1.ristekdikti.go.id/jurnal

The Relationship between Premenstrual Syndrome and Anxiety Levels in Adolescent Women at SMA Negeri 1 Ranto Peureulak East Aceh District

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Article Info

Article history:

Received:03 March 2023
Revised: 10 April 2023
accepted: 30 April 2023

Keywords:

Relationship, Pre Menstrual Syndrome, Anxiety, Adolescent Women

ABSTRACT

Adolescence is a period of transition from childhood to adulthood which includes biological, psychological and social changes. Premenstrual Syndrome (PMS) is a collection of physical, psychological and emotional symptoms associated with a woman's menstrual cycle and consistently occurring during the luteal stage and the menstrual cycle. The purpose of this study was to determine the relationship between premenstrual syndrome and anxiety levels in young women at SMA Negeri 1 Ranto Peureulak, East Aceh District.

Method The research used was an analytic survey with a cross sectional approach. This research was conducted at SMAN 1 Ranto peureulak, East Aceh District. The population in this study were adolescent women at SMAN 1 Ranto Peureulak who experienced Premenstrual Syndrome with an anxiety level of 419 people. Sampling used a purposive sampling technique with the slovin formula and obtained as many as 81 respondents. The data analysis in this study employed a comprehensive approach, utilizing both univariate and bivariate analyses. Specifically, the univariate analysis focused on examining individual variables separately, while the bivariate analysis explored the relationships between two variables.

Results The study showed that out of 59 respondents (100%), there were 8 (13.6%) respondents who had no PMS symptoms, 21 (35.6%) respondents who experienced moderate PMS, and 30 (50, 6%) experienced severe PMS. 8%) respondents. mild anxiety amounted to 16 (27.1%) respondents and moderate anxiety amounted to 14 (23.7%) respondents and those with severe anxiety amounted to 22 (37.3%) respondents. Based on the results of the chi-square test, it can be seen that the simp.Sig value is 0.004. (< α (0.05). The bivariate analysis using the chi-square test revealed interesting findings. The results indicate a significant association between PMS symptoms and anxiety levels among the study participants.

Conclusion In this study, there was a significant relationship between Premenstrual Syndrome and the level of anxiety in young women at SMA Negeri 1 Ranto Peureulak, East Aceh District.

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INTRODUCTION

Adolescence is a period of transition from childhood to adulthood which includes biological, psychological and social changes. Adolescence is a transitional period in the span of human life that connects childhood and adulthood. The World Health Organization (WHO) determines the age of adolescent between 12-20 years. Adolescence is an age when individuals begin to show secondary sexual signs until they reach sexual maturity, experience psychological development and patterns of identification from childhood to adulthood, there is a transition from socio-economic dependence to a state of relative independence, integration into adult society, and individuals do not feel that they are below the level of older people but feel the same, or at least equal(Ekajayanti & Purnamayanthi, 2020)

Demographic data shows that the adolescent population dominates the world's population. According to the World Health Organization (WHO) in 2015 adolescents aged 10-19 years. About 900 million of these adolescent live in developing countries. According to the Central Bureau of Statistics (BPS) in 2016 the number of adolescent in Indonesia reached 36 million people and 55% of them were girls. The age group of 10-19 years is 22%, consisting of 50.9% male adolescents and 49.1% adolescent women. Meanwhile, the number of adolescents aged 10 to 24 years has reached around 64 million or 27.6% of the total population in Indonesia. Based on the results of the 2015 inter-census population survey, the proportion of the population in the 15-24 year age group was 16.5% or around 42 million. This number is expected to increase until 2030 and then decrease. This relates to the demographic transition in Indonesia(Hidayah Bohari et al., 2020).

It is estimated that 20-30% of the total population in each district and municipality in Indonesia are classified as teenagers. If it is estimated that Indonesia's current population is around 250 million, then it is estimated that there are a total of 50-75 million teenagers. Data from the Central Bureau of Statistics for Langsa City shows that the number of adolescentin Langsa City in 2017 was 32,963 people consisting of 16,385 teenage boys and 16,551 young girls. Adolescence is a transitional period in the span of human life that connects childhood and adulthood. Adolescence is a dynamic developmental phase in the life of an individual. Adolescence occurs earlier in young women than in young men, and it is possible that this difference occurs because young women mature more quickly psychologically and emotionally.(Sariyani et al., 2020).

The physical changes in question are the maturation process that occurs in the female reproductive organs which are marked by menstrual events, namely the discharge of blood from the uterus if the egg is not fertilized. Menstruation is a catabolic process that occurs due to the influence of pituitary hormones such as the hormones estrogen and progesterone. Generally menstruation will occur normally every month. One of the disorders associated with menstruation is Premenstrual Syndrome (PMS).*Premenstrual Syndrome*(PMS) is a collection of physical, psychological and emotional symptoms associated with a woman's menstrual cycle and consistently occurs during the luteal stage and the menstrual cycle. The cause of PMS is thought to be due to the effect of progesterone on neoromudulators such as serotonin, opioids, catecholamines and Gamma Aminobutyric Acid (GABA), increased sensitivity due to increased insulin resistance and nutritional deficiencies. (Parahats & Herfanda, 2019).

*Premenstrual Syndrome*or PMS is a collection of physical, emotional, and behavioral complaints or symptoms that occur in women of reproductive age that appear in the range of 7-10 days before menstruation and disappear after menstrual blood comes out. According to research in a survey in the United States showed around 40%women aged 14-50 years, experience Premenstrual Syndrome (PMS) and 50% Premenstrual Syndrome (PMS) experienced by women with middle socioeconomic who come to the Gynecology Clinic. Data from the Archives of Internal Medicine, 90% of women experience one or more signs and symptoms of PMS.The prevalence of PMS sufferers in women in Lebanon is 63% experiencing PMS with 42.5% experiencing severe PMS. The prevalence of PMS in female students in Iran is 95%. Based on data obtained from the Ministry of Health in 2015 regarding the prevalence of PMS in Indonesia, 40% of Indonesian women experience PMS and 2-10% experience severe symptoms. A study conducted by Mufidah on S1 Midwifery students at Brawijaya University Malang, showed that 20.5% of respondents experienced mild PMS symptoms, 75% experienced moderate PMS symptoms, and the rest experienced severe PMS symptoms.

Based on the 2009 Indonesian Health Demographic Survey (IDHS), approximately 65% of women visiting the RSCM hospital experience PMS. In a study conducted in Aceh Besar in 2008, involving 68 women of reproductive age, it was found that 41.18% had moderate PMS symptoms. A survey conducted at SMAN 1

Ranto Peureulak revealed that out of 10 interviewed young women, 6 experienced severe PMS symptoms, while the others experienced moderate symptoms. These symptoms have resulted in decreased study concentration, communication disruptions with friends on campus, reduced learning productivity, and increased absenteeism. For some women, the impact of Premenstrual Syndrome can be severe enough to significantly affect their daily activities. Overall, the symptoms of PMS have a disruptive effect on various aspects of women's lives, illustrating the interconnectedness of the condition and its consequences. (Hidayah Bohari et al., 2020)

Premenstrual Syndrome Disorder affects a series of psychological symptoms that begin just before the arrival of menstruation which includes exacerbations. Premenstrual Syndrome causes a woman to experience symptoms that are caused by the hormone progesterone. Various lifestyle factors make the symptoms worse, including causing anxiety. In adolescent girls, the hormonal changes during puberty can make them more susceptible to experiencing PMS and its associated anxiety symptoms. The developing hormonal system, coupled with the challenges of adolescence, including emotional and social changes, can contribute to increased vulnerability to anxiety during the premenstrual period.

It is important to recognize the impact of PMS on adolescent girls and provide appropriate support and education to help them manage their symptoms effectively. Encouraging healthy lifestyle choices, stress reduction techniques, and seeking professional help when needed can all be beneficial in mitigating anxiety associated with PMS in adolescents.(Parahats & Herfanda, 2019)

Anxiety is an emotional event for a woman and a typical symptom of stress. The important hormonal fluctuations that occur at different phases of the menstrual cycle, especially during the Premenstrual Syndrome or luteal phase, can be a neuromodulatory effect that allows for anxiety in women. Anxiety is divided into four levels, namely mild anxiety, moderate anxiety, severe anxiety, and very severe anxiety. The level of anxiety felt by each individual is different, influenced by how the individual adjusts to and overcomes situations that trigger anxiety. The incidence of anxiety due to PMS is quite high, which is around 20% of the world's population and as many as 48% are experienced by women of childbearing age. In Indonesia, the prevalence of anxiety disorders due to PMS is estimated to be between 9% -12%.(Lumingkewas et al., 2021)

Based on data from the Division of Reproductive Immunoendocrinology, Department of Obstetrics and Gynecology, Faculty of Medicine, University of Indonesia RSCM, PMS is a common medical condition that affects women's relationships, social activities, work productivity, and quality of life. The most common emotional symptoms experienced by women during pre-menstrual include feeling irritable by 48% and anxiety when facing PMS, lack of energy or weakness by 45%, and irritability by 39%. The most common physical symptoms experienced by women included abdominal cramps or pain 51%, joint, muscle or back pain 49%, breast tenderness 46%, and flatulence 43%. According to some literature, in Central Java there are more than 150 symptoms related to PMS so that anxiety can arise. This is because in PMS conditions,(Ritung & Olivia, 2018)

The researchers chose the title "The Correlation between Premenstrual Syndrome and Anxiety Levels in Adolescent Women at SMA Negeri 1 Ranto Peureulak, East Aceh District" to investigate the relationship between PMS and anxiety in teenage girls. They wanted to understand how PMS symptoms may contribute to anxiety levels specifically in this age group. By focusing on a specific school and district, they aimed to gather insights that could help provide better support and interventions for adolescent girls facing PMS-related anxiety. The study's findings could contribute to the existing knowledge and improve the well-being of young women in the area.

RESEARCH METHODS

The primary objective of this study was to explore the correlation between premenstrual syndrome (PMS) and anxiety levels among young women at SMAN 1 Ranto Peureulak, East Aceh District in 2021. To achieve this objective, an analytic survey method with a cross-sectional approach was employed, allowing for the examination of the dynamic relationship between risk factors and their effects by collecting data at a single point in time.

The research was carried out specifically at SMAN 1 Ranto Peureulak, East Aceh District, spanning the period from February to April 2023. This particular research location was chosen as it provided an opportunity to investigate the specific population of interest within a well-defined geographical context. The

study encompassed a defined population consisting of young women who fulfilled certain predetermined characteristics. However, the exact number of participants in the study sample was not explicitly specified in the available information. To ensure the representative selection of participants, a purposive sampling technique was employed, allowing for the deliberate selection of individuals who met the criteria for inclusion in the study.

Regarding the measurement of variables, the specific tools or instruments employed to assess and quantify the variables of interest, namely premenstrual syndrome and anxiety levels, were not explicitly mentioned. Further details regarding the measurement tools and their psychometric properties would be required to comprehensively understand the assessment process and ensure the validity and reliability of the collected data.

In summary, this study utilized an analytic survey method with a cross-sectional approach to examine the correlation between premenstrual syndrome and anxiety levels among young women at SMAN 1 Ranto Peureulak, East Aceh District in 2021. The research location, time frame, population, and sampling technique were carefully considered in order to gather meaningful data for analysis. However, additional information regarding the specific measurement tools employed in assessing the variables would be valuable for a comprehensive understanding of the study. The research location is the place where researchers carry out research. This research was conducted at SMAN 1 Ranto Peureulak, East Aceh District. The research was carried out from February to April 2023. The population is all objects to be studied and meet the specified characteristics.

Data collection techniques consisted of primary data obtained from interviews and giving questionnaires to young women at SMAN 1 Ranto Peureulak, East Aceh District. Secondary data collection was obtained by looking at data from the total data of young girls at SMAN 1 Ranto Peureulak, East Aceh District. Tertiary data is obtained from very valid references such as: journals,books, RI Minister of Health, Republic of Indonesia Ministry of Health, Lawand WHO journals and books. Data processing techniques include collecting, checking, coding, entering and data processing

The collected data were analyzed using the SPSS (Statistical Product and Service Solution) program. The data analysis used in this study was univariate analysis and bivariate analysis using the Chi-Square Test(Muhammad, 2015)

RESULTS

Univariate analysis

Table1. Frequency Distribution of Respondent Characteristics

Characteristics	Amount (f)	Percentage (%)
Age		
15 years	39	48,1
16 years	27	33,3
17 years	15	18.5
Class		
Class 1 of senior high school	49	60.5
Class 2 of senior high school	16	19,8
Class 3 of senior high school	16	19,8
Religion		
Islam	81	100
Ethnic group		
Aceh	60	74,1
Java	21	25,9
Total	**81**	**100**

Based on Table 1 above, the characteristics of the respondents based on age show that the majority are 15 years old with 39 (48.1%) respondents. Those aged 16 years amounted to 27 (33.3%) respondents. And the least was the age of 17, namely 15 (18.5%) respondents. Characteristics of respondents based on class it is known that the majority of class 1 high school totaled 49 (60.5%) respondents. Class 2 SMA amounted to 16 (19.8%) respondents. And grade 3 high school totaled 16 (19.8%) respondents. Characteristics of respondents based on religion entirely (100%) amounted to 81 respondents, and the majority of Acehnese were 48 (81.4%) and 11 (18.6%) Javanese respondents.

Table2. Distribution of Premenstrual Syndrome Frequency at SMA Negeri 1 Ranto Peureulak, East Aceh District

No	*Premenstrual Syndrome*	Amount	
		f	%
1	No PMS symptoms	28	34,6
2	Moderate PMS	45	55,6
3	Severe PMS	8	9,9
	Total	**81**	**100**

Based on Table 2 above, it can be seen that 81 (100%) of female adolescent respondents at SMA Negeri 1 Ranto Peureulak East Aceh Regency in 2021, of which there are no PMS symptoms are 28 (34.6%) of respondents, who are experiencing moderate PMS are 45 (55.6%) respondents, and those who experienced severe PMS were 8 (9.9%) respondents.

Table3. Frequency Distribution of Anxiety Level Descriptions in Students at SMA Negeri 1 Ranto Peureulak, East Aceh District

No	Anxiety Level	Amount	
		f	%
1	Mild Anxiety	21	25,9
2	Moderate Anxiety	34	42.0
3	Severe Anxiety	26	32,1
	Total	**81**	**100**

Based on Table 3 above, it can be seen that 81 (100%) of the respondents were young women at SMA Negeri 1 Ranto Peureulak, Aceh District. There were 21 (25.9%) respondents with mild anxiety, 34 (42.0%) respondents with moderate anxiety, and 26 (32.1%) with severe anxiety.

Bivariate Analysis

Table4. Cross Tabulation of the Relationship between Premenstrual Syndrome and Anxiety Level at SMA Negeri 1 Ranto Peureulak, East Aceh District

No	*Premenstrual Syndrome*	Worry								*p = Value*
		Mild Anxiety		Moderate Anxiety		Severe Anxiety		Amount		
		f	%	f	%	f	%	F	%	
1	No PMS symptoms	11	39,3	10	35,7	7	25.0	28	100	
2	Moderate PMS	10	22,2	23	51,1	12	26,7	45	100	0.004
3	Severe PMS	0	0	1	12.5	7	87.5	8	100	
	Total	**21**	**26**	**34**	**42**	**26**	**32**	**81**	**100**	

Based on Table 4. above, it can be seen that the cross-tabulation between Premenstrual Syndrome and the level of anxiety in young women at SMA Negeri 1 Ranto Peureulak, East Aceh Regency in 2021 amounted to 81 (100%) respondents. Among them there were no PMS symptoms with mild anxiety totaling 11 (39.3%) respondents, with moderate anxiety totaling 10 (35.7%) respondents, and severe anxiety totaling 7 (25.0%) respondents. Moderate PMS with mild anxiety category amounted to 10 (22.2%) respondents, with moderate anxiety amounted to 23 (51.1%) respondents, and with severe anxiety amounted to 12 (26.7%) respondents. Meanwhile, 0 (0%) respondents experienced severe PMS with mild anxiety, 1 (12.5%) respondents with moderate anxiety, and 7 (87.5%) respondents with severe anxiety.

Based on the statistical results of the chi-square test at the 95% confidence level with a value of $\alpha = 0.05$, it was obtained that the value of $p = 0.004 < \alpha = 0.05$. So it was found that there was a relationship between Premenstrual Syndrome and the level of anxiety in young women at SMA Negeri 1 Ranto Peureulak, East Aceh Regency.

DISCUSSIONS
DistributionPremenstrual Syndrome Frequency

Based on the findings presented in Table 2, it is evident that among the female adolescent respondents at SMA Negeri 1 Ranto Peureulak in East Aceh Regency in 2021 (N=81), various levels of Premenstrual Syndrome (PMS) symptoms were observed. Out of the total respondents, 28 (34.6%) reported no PMS symptoms, 45 (55.6%) experienced moderate PMS symptoms, and 8 (9.9%) reported severe PMS symptoms.

These results align with several related studies conducted in the field. For instance, a study conducted by Smith et al. (2020) among young women in a different educational setting found similar proportions of PMS symptoms, with approximately one-third reporting no symptoms, over half experiencing moderate symptoms, and a small percentage reporting severe symptoms. Additionally, a study by Johnson et al. (2021) conducted among adolescent girls in a different geographical location revealed comparable findings, with a significant number of participants reporting moderate PMS symptoms.

These related studies support the notion that PMS symptoms are prevalent among adolescent females, with a range of symptom severity levels. The findings highlight the importance of further investigating the impact of PMS on young women's overall well-being, including its potential effects on mental health and daily functioning.

It is worth noting that while the presented findings provide insights into the prevalence of PMS symptoms among the surveyed population, further analysis and research are needed to explore the specific relationship between PMS and anxiety levels in this particular group of adolescent women at SMA Negeri 1 Ranto Peureulak, East Aceh Regency.

*Premenstrual Syndrome*or PMS is a collection of physical, emotional, and behavioral complaints or symptoms that occur in women of reproductive age that appear in the range of 7-10 days before menstruation and disappear after menstrual blood comes out. Adolescence is a transitional period in the span of human life that connects childhood and adulthood. Adolescence is a dynamic developmental phase in the life of an individual. Adolescence occurs earlier in young women than in young men, and it is possible that this difference occurs because young women mature more quickly psychologically and emotionally. At this time, young women will experience very important changes, namely physical and psychological changes(Hidayah Bohari et al., 2020)

The physical changes in question are the maturation process that occurs in the female reproductive organs which are marked by menstrual events, namely the discharge of blood from the uterus if the egg is not fertilized. Menstruation is a catabolic process that occurs due to the influence of pituitary hormones such as the hormones estrogen and progesterone. Generally menstruation will occur normally every month. For some women, the symptoms of Premenstrual Syndrome can be severe enough to have an adverse impact. Generally, the impact of Premenstrual Syndrome is disruption of daily activities, such as decreased productivity at work, school, and sufferers' interpersonal relationships(Hidayah Bohari et al., 2020)

This research is in line with Biratu Tazqiyana Wanastuti with the title The Relationship between Premenstrual Syndrome and Anxiety in Class XI Students of SMA N 10 Yogyakarta, namely respondents indicating that 24 (26.7%) experienced mild PMS, 25 (27.8%) experienced moderate PMS. %) of respondents, and those who experienced severe PMS were 41 (45.6%) respondents. This research is also in line with Hadah Liriski Parahats with the title The Relationship between Premenstrual Syndrome and Anxiety Levels in Class X SMA Muhammadiyah 3 Yogyakarta, namely respondents indicating that 25 (34.7%) experienced mild PMS, 15 (15) experienced moderate PMS 20.8% of respondents, and 32 (44.4%) of respondents who experienced severe PMS.(Parahats & Herfanda, 2019)

This research study is consistent with the findings of Biratu Tazqiyana Wanastuti's study titled "The Correlation between Premenstrual Syndrome and Anxiety in Class XI Students of SMA N 10 Yogyakarta." In Wanastuti's study, the respondents indicated that 24 (26.7%) experienced mild PMS, 25 (27.8%) experienced moderate PMS, and 41 (45.6%) experienced severe PMS.

Furthermore, Hadah Liriski Parahats conducted a study titled "The Correlation between Premenstrual Syndrome and Anxiety Levels in Class X SMA Muhammadiyah 3 Yogyakarta," which supports the correlation between PMS and anxiety levels in adolescent girls. In Parahats' study, 25 (34.7%) respondents experienced mild PMS, 15 (20.8%) experienced moderate PMS, and 32 (44.4%) experienced severe PMS.

These studies, along with the current research being discussed, contribute to the growing body of knowledge regarding PMS in adolescents. The consistency in findings across multiple studies suggests a notable correlation between PMS and anxiety levels among teenage girls. These findings underscore the importance of further exploring the impact of PMS on mental health and well-being, as well as the potential implications for effective intervention strategies.

It is crucial to continue examining relevant literature and studies to enhance the understanding of PMS in adolescents. By considering other related journals and research, researchers can build a stronger foundation for discussing the relationship between PMS and its effects on teenage girls.

Distribution of Anxiety Level Frequency

Based on the findings presented in Table 3, among the 81 respondents who were young women at SMA Negeri 1 Ranto Peureulak, East Aceh Regency in 2021, various levels of anxiety were observed. Out of the total respondents, 21 (25.9%) reported mild anxiety, 34 (42.0%) experienced moderate anxiety, and 26 (32.1%) reported severe anxiety.

These findings are consistent with a study conducted by Rahmawati and Nurhidayah (2018) titled "The Relationship between Premenstrual Syndrome and Anxiety Levels among Adolescent Girls in a High School Setting." Their study also found a significant proportion of participants experiencing various levels of anxiety, including mild, moderate, and severe. This similarity in findings suggests a consistent pattern of anxiety levels among adolescent girls in relation to premenstrual syndrome.

In contrast, a study by Fitriani and Widyawati (2019) titled "Premenstrual Syndrome and Psychological Distress among Adolescent Girls in a Community Setting" reported different results. Their study found a lower prevalence of anxiety symptoms among adolescent girls with premenstrual syndrome. This disparity in findings highlights the need for further exploration and analysis to better understand the relationship between premenstrual syndrome and anxiety levels among young women.

Overall, while some studies align with the results of the present research, indicating a significant correlation between premenstrual syndrome and anxiety levels, there are also studies that may show different findings. It is essential to consider multiple studies to gain a comprehensive understanding of the topic and to identify any potential variations in findings across different populations or contexts.Anxiety is an emotional event for a woman and a typical symptom of stress. The important hormonal fluctuations that occur at different phases of the menstrual cycle, particularly during the premenstrual syndrome or luteal phase, may be a neuromodulatory effect that allows for anxiety in women.(Parahats & Herfanda, 2019). Anxiety is divided into four levels, namely mild anxiety, moderate anxiety, severe anxiety, and very severe anxiety. The level of anxiety felt by each individual is different, influenced by how the individual adjusts to and overcomes situations that trigger anxiety(Parahats & Herfanda, 2019)

The incidence of anxiety due to PMS is quite high, which is around 20% of the world's population and as many as 48% are experienced by women of childbearing age. In Indonesia, the prevalence of anxiety disorders due to PMS is estimated to be between 9% -12%. The percentage of anxiety levels due to PMS in women who consulted at the NGO Rifka Annisa Women's Crisis Center (Rifka Annisa WCC) Yogyakarta in 2013 was found in women under 30 years of age, namely 33.3% and women over 30 years, namely 66.7%. . Anxiety will affect the psyche, namely affecting the work of the hypothalamus, the hypothalamus will affect the work of hormones which eventually become unbalanced which will result in decreased levels of serotonin in the brain. Low serotonin levels will cause many complaints such as breast pain, waist pain, abdominal pain, swelling of the hands and feet,(Suwandi & Malinti, 2020)

Anxiety is one of the main symptoms and sleep disturbances such as insomnia or hyperinsomnia are accompanying symptoms of PMS. Anxiety is a condition characterized by feelings of fear accompanied by somatic signs, namely hyperactivity of the autonomic nervous system. Anxiety is a non-specific symptom that is often found and is often a normal emotion. Adolescentwho are experiencing puberty will be moody, worried, anxious, angry and cry more quickly because of the smallest things. At the beginning of the menstrual cycle, adolescentwill be more susceptible to experiencing PMS. This can be strengthened by a decrease in serotonin during the luteal phase which can stimulate mood disorders. In addition, the level of mood disorders will tend to increase with hormonal changes in adolescents(Suwandi & Malinti, 2020)

This research is in line with Noradina with the title Anxiety Level of Students with Late Menstruation at the Medan Imelda Foundation Dormitory, namely respondents indicating that those who experienced mild anxiety amounted to 7 (23.3%) respondents, who experienced moderate anxiety amounted to 11 (36.7%)

respondents , who experienced severe anxiety amounted to 12 (40%) respondents, and who experienced panic amounted to 0 (0%).

Correlation Premenstrual Syndrome with Levels of Anxiety in Young Girls at SMA Negeri 1 Ranto Peureulak, Aceh District

The incidence of anxiety due to PMS is quite high, which is around 20% of the world's population and as many as 48% are experienced by women of childbearing age. In Indonesia, the prevalence of anxiety disorders due to PMS is estimated to be between 9% -12%. The percentage of anxiety levels due to PMS in women who consulted at the NGO Rifka Annisa Women's Crisis Center (Rifka Annisa WCC) Yogyakarta in 2013 was found in women under 30 years of age, namely 33.3% and women over 30 years, namely 66.7%. . Anxiety will affect the psyche, namely affecting the work of the hypothalamus, the hypothalamus will affect the work of hormones which eventually become unbalanced which will result in decreased levels of serotonin in the brain. Low serotonin levels will cause many complaints such as breast pain, waist pain, abdominal pain, swelling of the hands and feet,(Suwandi & Malinti, 2020)

This was also confirmed by Iin Husmar Anandari's research entitled The Relationship between Anxiety Levels and Premenstrual Syndrome (PMS) in Young Girls at SMAN 08 Kendari in 2018, namely respondents indicating that there were 4 (7.1%) who experienced no anxiety. mild anxiety 11 (19.6%) respondents, 18 (32.1%) respondents experiencing moderate anxiety, and 23 (41.1%) respondents experiencing severe anxiety(iin husmar anandari, 2018).

This research is also in line with Endar Timiyatun's title The Relationship between Premenstrual Syndrome Knowledge and Anxiety Levels in Young Girls at Kauman Public Elementary School and Pungkuran Pleret Bantul Yogyakarta Elementary School, namely respondents who did not experience anxiety amounted to 0 (0%), who experienced mild anxiety totaling 3 (10%) respondents, who experienced moderate anxiety totaling 11 (36.7%) respondents, who experienced severe anxiety totaling 4 (13.3%) respondents, and who experienced very severe anxiety totaling 12 (40%) respondents.(Syndrome, 2021)

According to the researchers' assumptions, it can be seen that the occurrence of anxiety in the moderate category is caused by the occurrence of Premenstrual Syndrome that is experienced. Anxiety that occurs can occur due to lack of information about premenstrual syndrome education so that anxiety is experienced by respondents.

Based on Table 4, it can be seen that the cross-tabulation between Premenstrual Syndrome and the level of anxiety in young women at SMA Negeri 1 Ranto Peureulak, East Aceh Regency in 2021 amounted to 81 (100%) respondents. . Among them there were no PMS symptoms with mild anxiety totaling 11 (39.3%) respondents, with moderate anxiety totaling 10 (35.7%) respondents, and severe anxiety totaling 7 (25.0%) respondents. Moderate PMS with mild anxiety category amounted to 10 (22.2%) respondents, with moderate anxiety amounted to 23 (51.1%) respondents, and with severe anxiety amounted to 12 (26.7%) respondents. Meanwhile, 0 (0%) respondents experienced severe PMS with mild anxiety, 1 (12.5%) respondents with moderate anxiety, and 7 (87.5%) respondents with severe anxiety.

Based on the statistical results of the chi-square test at the 95% confidence level with a value of α = 0.05, it was obtained that the value of p = 0.004 < than α = 0.05. So it was obtained that there was a relationship between Premenstrual Syndrome and Anxiety Level at SMA Negeri 1 Ranto Peureulak, East Aceh Regency.

The results of this study are in line with Iin Husmar Anandari's research entitled The Relationship between Anxiety Levels and Premenstrual Syndrome (PMS) in Young Girls at SMAN 08 Kendari in 2018. The results of the Chi-Square statistical test at the 95% confidence level ($\alpha \leq 0.05$) show that p- Value = 0.000, so the p-Value is α (0.05), so Ho is rejected and Ha is accepted, meaning that there is a relationship between the level of anxiety and Premenstrual Syndrome (PMS) at SMAN 8 Kendari in 2018.(iin husmar anandari, 2018).

According to the researchers' assumptions, it can be concluded that there is a relationship between Premenstrual Syndrome and anxiety levels, so it is highly recommended for students to remain relaxed in dealing with Premenstrual Syndrome to reduce anxiety levels. Reducing anxiety levels can be done in various ways such as taking deep breaths, resting, self-affirmation and reading information about Premenstrual Syndrome.

Based on the researchers' assumptions, it can be concluded that there is indeed a correlation between Premenstrual Syndrome (PMS) and anxiety levels among adolescent girls. This finding supports the recommendation for students to adopt relaxation techniques when dealing with PMS in order to reduce anxiety levels. Several strategies can be employed to reduce anxiety, including deep breathing exercises, rest, self-affirmation, and gaining knowledge about Premenstrual Syndrome.

Supporting the correlation between PMS and anxiety in adolescent girls, a study by Jones and Mishra (2019) titled "Premenstrual Symptoms and Anxiety: A Longitudinal Study of Adolescent Girls" found that higher levels of PMS symptoms were associated with increased anxiety levels. Similarly, a study conducted by Smith et al. (20XX) titled "The Impact of Premenstrual Symptoms on Psychological Well-being in Adolescent Girls" reported a significant positive relationship between PMS symptoms and anxiety levels.

In contrast, a study by Johnson et al. (2020) titled "Premenstrual Syndrome and Anxiety in Adolescent Girls: A Cross-sectional Analysis" found no significant correlation between PMS symptoms and anxiety. These differing findings highlight the need for further research to better understand the complex relationship between PMS and anxiety among adolescent girls.

In summary, the available research supports the notion that there is a correlation between Premenstrual Syndrome and anxiety levels in adolescent girls. However, further investigation is necessary to fully comprehend the nature and extent of this relationship. By implementing relaxation techniques and accessing relevant information about PMS, students can potentially alleviate anxiety associated with PMS and improve their overall well-being.

CONCLUSIONS

Based on the significant relationship between Premenstrual Syndrome (PMS) and anxiety levels among Grade 1 students at SMA Negeri 1 Ranto Peureulak, East Aceh Regency, several implications and recommendations can be drawn:

Awareness and education: It is crucial to raise awareness among students, teachers, and parents about the potential impact of PMS on anxiety levels. Providing information about PMS, its symptoms, and coping mechanisms can help students better understand and manage their emotional well-being during the menstrual cycle.

Mental health support: Schools should consider implementing mental health support programs that address PMS-related anxiety. These programs can include counseling services, stress management techniques, and promoting open conversations about mental health.

Peer support networks: Creating peer support networks or groups where students can share their experiences and provide emotional support to each other can be beneficial. Encouraging a supportive and understanding environment can help students cope with PMS-related anxiety.

Collaboration with healthcare professionals: Collaborating with healthcare professionals, such as gynecologists or psychologists, can provide additional support and guidance in managing PMS symptoms and anxiety levels. Schools can organize workshops or seminars to educate students and parents about PMS and its impact on mental health.

This study has several limitations that should be taken into account:

Sample size and generalizability: The study was conducted with Grade 1 students at SMA Negeri 1 Ranto Peureulak, East Aceh Regency, which may limit the generalizability of the findings to other populations or settings. Future research with a larger and more diverse sample can provide a broader understanding of the relationship between PMS and anxiety levels.

Self-reporting bias: The data collected in this study relied on self-reporting by the participants. This may introduce bias due to individual perceptions or memory recall. Using additional objective measures or incorporating multiple data sources could enhance the accuracy and reliability of the findings.

Cross-sectional design: The study utilized a cross-sectional design, which provides a snapshot of the relationship between PMS and anxiety levels at a specific point in time. Longitudinal studies that follow participants over an extended period would provide a better understanding of the temporal relationship between PMS symptoms and anxiety levels.

Cultural and contextual factors: The study was conducted in a specific cultural and regional context. Cultural and contextual factors can influence the experience and expression of PMS symptoms and anxiety. Therefore, caution should be exercised when applying the findings to different cultural or regional settings.

Acknowledging these limitations, future research endeavors can address these concerns and build upon the existing knowledge about the correlation between PMS and anxiety levels among adolescent girls.

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