Journal Indonesian Impression (JII)
Vol. 4, No. 1, January 2025
p-ISSN: 2828-1284 e-ISSN: 2810-062x
website: https: //rivierapublishing.id/JII/ index.php / jii /index

RELATIONSHIP BETWEEN PREMENSTRUAL SYNDROME (PMS) AND APPETITE IN FEMALE MEDICAL STUDENTS AT SAM RATULANGI UNIVERSITY

Enmilia Banuarsih Raule[1], Ivonny Melinda Sapulete[2], Joice Nancy Ansje Engka[3]
Universitas Sam Ratulangi, Indonesia
enmiliaraule@gmail.com[1], ivonnysapulete@unsrat.ac.id[2], nancy051@unsrat.ac.id[3]

Keywords
Premenstrual syndrome, Lust eating, Serotonin, Estrogen, Progesterone

Abstract
Premenstrual Syndrome (PMS) is conditions that affect part big Woman age reproduction, with symptoms vary including change lust eating. Hormonal changes that occur in the luteal phase of the menstrual cycle menstruation can influence regulation lust eating and pattern consumption food. Research This aiming For analyze connection between PMS and lust eating at college students Faculty Sam Ratulangi University Medical School Class of 2024. Research This aiming For identify connection between PMS symptoms with change lust Eat as well as factors that influence it. Research This use design observational analytic with cross-sectional approach. Research sample a total of 138 female students were selected through purposive sampling technique. Data collected use Simplified Nutritional Appetite Questionnaire (SNAQ) questionnaire for measure lust eating and the Shortened Premenstrual Assessment Form (SPAF) for measure PMS symptoms. Data analysis was performed with the Spearman correlation test with level significance 0.05. Research results show that part big respondents (99.3%) experienced PMS symptoms with level severity varies. As many as 81.2% of respondents own lust eat well during PMS, while the other 18.8% report lust undereating. Analysis correlation show existence connection positive weak between PMS and lust eating ($r = 0.338$, $p < 0.001$), which indicates that the more critical PMS symptoms, increasingly increase lust Eat respondents. Findings This confirm importance understanding more carry on about change physiological and psychological things that happen during PMS as well the impact to pattern eating.

Corresponding Author : Enmilia Banuarsih Raule
Email: enmiliaraule@gmail.com

INTRODUCTION

Premenstrual Syndrome (PMS) is phenomenon global health impacts more from 80% of women age reproduction worldwide, with diverse impacts to welfare physical , psychological, and behavioral everyday (Royal College of Obstetricians and Gynaecologists, 2022). PMS does not only become issue health reproduction, but also has an impact on the quality life Woman in a way general, especially for those who are in environment academic and professional. Based on data from the World Health Organization (WHO), health teenager Woman in range age 15-24 years be one of priority main in effort improvement quality global life (World Health Organization, 2022). PMS problems are increasingly get attention among academics and

Doi: 10.58344/jii.v4i1.6270

practitioners health Because can influence performance academic, productivity work, and stability emotional individuals who experience it (Dilbaz & Aksan, 2021).

In Indonesia, the prevalence of STDs is quite high high, especially among teenagers and girls young. A study show that more from 60% of teenagers daughter experience annoying PMS symptoms activity daily (Ministry of Health of the Republic of Indonesia, 2022). Symptoms experienced covering disturbance emotional, physical, and behavioral. one of which is is change lust significant eating. Regulation of the Minister of Health of the Republic of Indonesia Number 25 of 2014 confirms importance education and services health reproduction for teenager as part from effort improvement quality health Indonesian women (Regulation of the Minister of Health of the Republic of Indonesia, 2014).

Change lust Eat during phase premenstrual has become attention in various research. Some studies show existence improvement consumption food tall carbohydrates and sugar during luteal phase, which is thought to related with fluctuation hormone estrogen and progesterone (Souza et al., 2018). A other research reveals that change lust Eat during PMS is also influenced by factors psychological like stress and emotional eating (Gusni et al., 2022). Student medical as population with level high academic often experience stress academics that can to aggravate PMS symptoms and patterns Eat they (Husna et al., 2022).

Urgency study This based on impact extent of PMS against welfare Woman young, especially student medicine that faces pressure academic high. Study on PMS relationship with lust eating among student medical Still limited, especially in context education high in Indonesia. Some study show that change lust Eat during PMS can increase risk obesity or disturbance pattern Eat If No managed with Good (Annisa, 2022). Therefore that, understanding more carry on about factors that influence pattern Eat during PMS is very necessary For designing effective intervention strategies use increase health reproduction and welfare Woman young.

PMS is gathering symptom physical, emotional, and behavioral changes that occur in the luteal phase of the cycle. menstruation and disappear after menstruation started (Hofmeister & Bodden, 2016). Epidemiological studies show that The prevalence of STDs ranges from between 30-80% in women age productive, with variation level severity symptoms (Direkvand -Moghadam et al., 2014). Some study find existence connection between index mass body weight (BMI) with incidence of PMS, where women with BMI more tall tend experience more PMS symptoms heavy (Andriyani, 2023; Norlina, 2022).

From a neurohormonal perspective, changes lust Eat during luteal phase is associated with improvement ghrelin and serotonin levels that affect mechanism regulation lust Eat (Yanagi et al., 2018 ; Bamalan et al., 2018). In addition, stress as factor external also has contribution significant to pattern Eat during PMS, where the individual with level stress tall more tend experiencing emotional eating (Choi, 2020). Some Other studies also link activity physique with level PMS severity, in which individuals are more active in a way physique own risk more low experiencing severe PMS (Sanchez et al., 2023; Yusnella et al., 2022).

Although has Lots research that discusses PMS and patterns eating, research that is special researching connection between PMS and lust eating in population student medical Still limited . Research This will give contribution new with identify factors specifics that affect change lust Eat during PMS among student medicine at Sam Ratulangi University. With use a more approach comprehensive, research This will explore connection between level stress academic, pattern eating, and PMS symptoms. In addition, research this will also researching How difference individual in level hormone can influence lust Eat during PMS.

main purpose from study This is For identify connection between PMS and lust eating at college students Faculty Sam Ratulangi University Medical School Class of 2024. With understand more in about connection between PMS and lust eat, expected results study This

can become runway for effort more education and intervention effective in handle the impact of PMS on welfare Woman young.

RESEARCH METHODS

Types of research

Study This is study quantitative with design observational analytics.

Approach Study

Approach study use cross-sectional method or cut latitude.

Population

Population in study This is all over student Faculty Medicine (Medical Education Study Program) Class of 2024, Sam Ratulangi University, consisting of 178 female students.

Sample

Research sample This chosen with purposive sampling technique, namely female students who fulfill criteria inclusion and exclusion following :

- **Criteria inclusion :** Female students Faculty Medicine Class of 2024 Sam Ratulangi University. Willing fill in questionnaire by online.
- **Criteria exclusion :** Currently consuming drugs that affect lust Eat . Is pregnant or breast-feed. Size sample counted use Slovin's formula with a margin of error of 5%, so that The minimum sample is 123 female students. The sample is willing to participate are 138 female students

Data collection technique

Data collected through online questionnaire consisting of from two instruments : Simplified Nutritional Appetite Questionnaire (SNAQ) for measure lust eating. Shortened Premenstrual Assessment Form (SPAF) for measure premenstrual syndrome symptoms.

Data Analysis Techniques

Data analysis was performed in two ways, Analysis Univariate : For describe data distribution every variable study in form frequency and percentage. Analysis Bivariate : Using the Spearman correlation test to analyze connection between premenstrual syndrome (PMS) symptoms and desire eat. Significance determined with p-value < 0.05.

RESULTS AND DISCUSSION

Questionnaire Validation Test

Using the *Pearson-Correlation validity test* ; if r *item* > r table, then the questionnaire *item* is considered valid. R table adjusts the number of samples used in a study. In this study using a sample of 138 subjects, then 0.2186 is used with the assumption of a significance level of p <0.01. So, if r *item* > 0.2186 then *the item* is considered valid.

Shortened Premenstrual Assessment Form (SPAF) score, the r *item value was found to be* > r table in all ten questions so that *the items* were considered valid. In the *Simplified Nutritional Appetite Questionnaire (SNAQ)* score, It was also found that the r *item value was* > r table in the four questions so that *the items* were considered valid.

1. Univariate Analysis

This research was conducted through *Google Form* in November 2024. Of the total 178 registered female students, 138 female students were willing to be respondents and had met the minimum population based on the Slovin formula, which was 123 female students. Based on these data, *the response rate* for this study was 77.53% for all active female students in the medical education study program.

a. *Premenstrual Syndrome* (PMS)

Table 1. Sample Distribution Based on Premenstrual Syndrome (PMS)

Premenstrual Syndrome	n	%
No	1	0.7
Light	39	28.3
Currently	51	37
Heavy	47	34
Total	**138**	**100**

Based on table 3, it explains the level of PMS felt by female students. It can be seen from the number of 138 people, there is 1 person with a percentage of 0.7% who does not experience PMS, 39 people with a percentage of 28.3% who experience mild PMS, 51 people with a percentage of 37% who experience moderate PMS and 47 people with a percentage of 34% who experience severe PMS.

b. Appetite

Table 2. Frequency Distribution Based on Appetite of Respondents

Appetite	n	%
Not enough	26	18.8
Good	112	81.2
Total	**138**	**100**

Based on table 4, it explains about the appetite felt by female students during PMS. It can be seen from the number of 138 people, there are 26 people with a percentage of 18.8% experiencing poor appetite and 112 people with a percentage of 81.2% experiencing good appetite.

2. Bivariate Analysis

Spearman Correlation Test Between PMS and Appetite

***Spearman* Correlation Test of PMS with Appetite**

		Premenstrual Syndrome (PMS)
Appetite	Correlation Coefficient	.338
	Sig. (2-tailed)	<.001
	n	138

Based on table 6, the p value is <.001, which means p <0.05, so it can be concluded that there is a relationship between *premenstrual syndrome* and appetite, and based on the results above, the coefficient value is 0.338, which indicates a weak and unidirectional correlation between *premenstrual syndrome* and appetite. *Premenstrual syndrome* the more critical so lust Eat will increase.

Discussion

In a study conducted at the Faculty of Medicine, Sam Ratulangi University on 138 female students of the class of 2024, it was found that most female students had a good appetite, with a total of 112 female students (81.2%). *Thus, this study also revealed that most female students of the class of 2024 experienced premenstrual* syndrome (PMS) symptoms *with moderate severity*, which was 37%. Only 1 female student (0.7%) reported not experiencing PMS. To analyze the relationship between PMS and changes in appetite, this study used the *Spearman statistical test* . The test results showed a p value of <0.001, which means p <0.05. Thus, the null hypothesis (H_0) which states that there is no relationship between PMS and appetite can be rejected, while the alternative hypothesis (H_1) which states that there is a relationship between the two variables is accepted. And the r value = 0.338 shows a weak correlation strength with a unidirectional correlation, which means that the more severe the PMS symptoms felt, the better the appetite experienced.

Premenstrual syndrome (PMS) symptoms that appear in each individual can vary, both in terms of type and severity. According to *the American College of Obstetricians and Gynecologists, approximately* 85% of women of childbearing age are estimated to experience at least one PMS symptom in each menstrual cycle. While most women experience these symptoms, the severity varies greatly, with some women only experiencing mild symptoms, while others may experience more serious disorders. This shows that PMS is a fairly common condition experienced by women, although the impact varies from person to person.

In a study conducted at the Faculty of Medicine, Sam Ratulangi University on female students of the class of 2024, the results showed that as many as 99.3% of the female students experienced PMS symptoms. Only 0.7% did not experience PMS, as listed in table 4 in this study. This study is in line with research conducted by Pridynabilah in 2023, which also showed a high number of PMS sufferers, namely 88.7%, while 11.3% of respondents did not experience

PMS. (8). Similar research conducted by Lestari et al. in 2024 on undergraduate nursing students at the Al Insyirah Institute of Health and Technology also showed a fairly high prevalence of PMS, namely 80.7% of 93 respondents experienced PMS symptoms.

Premenstrual syndrome (PMS) occurs during the luteal phase of the menstrual cycle, which is the phase after ovulation and before menstruation begins. During this phase, there is an imbalance between the hormones progesterone and estrogen, which can affect various body systems, including the central nervous system. One of the most striking changes is a decrease in serotonin levels, a neurotransmitter that plays an important role in regulating mood, appetite, and feelings of happiness. This decrease in serotonin levels is known to affect the desire to eat. Serotonin, often dubbed the "happy hormone," plays a very important role in maintaining emotional balance and satiety. Therefore, fluctuations in serotonin during PMS can lead to more intense hunger.

This theory is in line with the results of a study conducted at the Faculty of Medicine, Sam Ratulangi University, which showed that as many as 112 female students or around 81.2% of respondents experienced good appetite during the PMS phase. Most female students reported experiencing increased appetite, but there were also a small number who reported decreased appetite. This shows that there is individual variation in response to hormonal changes during PMS. This study is supported by previous research conducted by Matsure et al, where as many as 85.8% of 169 female students also experienced increased appetite during PMS. These findings strengthen the understanding that hormonal changes that occur in the luteal phase can play a major role in influencing appetite in women, especially in those who experience PMS symptoms.

Increased appetite during PMS is not only influenced by estrogen and progesterone hormones. There are also various other factors that can affect a person's appetite, such as certain medical conditions, stress, or disorders of the thyroid gland. For example, in stressful conditions experienced by a person can stimulate the release of the hormone cortisol, which is known to increase the desire to eat foods high in fat and sugar. In fact, some medical conditions such as cancer, which affect the digestive system or the body's metabolism, can also contribute to changes in eating patterns. One hormone that plays a major role in regulating appetite is ghrelin, known as the "hunger hormone". Ghrelin in the blood tends to increase when the body is hungry, increases slightly before eating, and decreases significantly after eating. In healthy individuals, this pattern suggests that ghrelin functions to stimulate hunger and appetite. Several studies have also shown that ghrelin levels can be affected by hormonal fluctuations, including in the premenstrual phase, which may explain why many women experience increased appetite during PMS (50).

This research is also supported by theories stated in several leading medical books, such as *Guyton and Hall Textbook of Medical Physiology* and *Silverthorn's Human Physiology*, which all explain that in the premenstrual phase, an imbalance of the hormones estrogen and progesterone can affect certain neurotransmitters, especially serotonin, which in turn contributes to changes in women's eating patterns and appetite. Along with decreased serotonin levels, increased cravings for certain foods, as noted in the results of this study, may explain why most female students who experience PMS also report increased appetite.

CONCLUSION

Research result This show that majority student Faculty Class of 2024 Medicine, Sam Ratulangi University experience premenstrual syndrome (PMS) symptoms with level severity varies. In addition, it was found existence connection positive weak between level severity of PMS with improvement lust eating. Research This confirm that change hormones and factors psychological play a role important in arrange pattern Eat during phase premenstrual. As step act further, recommended the existence of an educational program health more reproduction directed for student use increase understanding they related management PMS symptoms in general effective. Intervention based on Nutrition and psychology are also necessary developed For help individuals who experience PMS with level severity high so that you can guard balance intake nutrition and well-being emotional they.

REFERENCES

Akbari R, Sudharani M, Kallupurackal Sj, Ramya V, Mr Ng, Suryakantha Ah. Prevalence Of Premenstrual Syndrome Among Medical Students. National Journal Of Community Medicine. 2017 Jun 30;8(06):292-4

Andriyani A. Relationship Body Mass Index With Syndrome Premenstruation In Adolescent Girls. Afiasi : Journal Of Public Health. 2022;7(3):350-5. Doi: Https://Doi.Org/10.31943/Afiasi.V7i3.250

Ans Ah, Anjum I, Satija V, Inayat A, Asghar Z, Akram I, Shrestha B. Neurohormonal Regulation Of Appetite And Its Relationship With Stress: A Mini Literature Review. Cureus. 2018 Jul;10(7). Doi : 10.7759/Cureus.3032

Relationship Stress And Body Image In The Eating Patterns Of Preclinical Students Of The Faculty Of Medicine Of Al-Azhar Islamic University Mataram . Cakrawala Medika: Journal Of Health Sciences. 2024 Jun 25;2(2):193-201. Doi:10.59981/A1enan60

Bamalan Oa, Moore Mj, Al Khalili Y. Physiology, Serotonin.

Choi J. Impact Of Stress Levels On Eating Behaviors Among College Students. Nutrients. 2020 Apr 27;12(5):1241. Doi : 10.3390/Nu12051241

Dilbaz B, Aksan A. Premenstrual Syndrome, A Common But Underrated Entity: Review Of The Clinical Literature. Journal Of The Turkish German Gynecological Association. 2021 Jun;22(2):139. Doi:10.4274/Jtgga.Galenos .2021.2020.0133

Direkvand -Moghadam A, Sayehmiri K, Delpisheh A, Kaikhavandi S. Epidemiology Of Premenstrual Syndrome (Pms)-A Systematic Review And Meta-Analysis Study. Journal Of Clinical And Diagnostic Research: Jcdr. 2014 Feb;8(2):106. Doi:10.7860/Jcdr/2014/8024.4021

Fenny An. The Relationship Between Diet And Pre Menstrual Syndrome In Undergraduate Students Of Midwifery Education, Faculty Of Faculty Of Medicine, Airlangga University (Doctoral Dissertation, Airlangga University)

Gibbons C, Hopkins M, Beaulieu K, Oustric P, Blundell Je. Issues In Measuring And Interpreting Human Appetite (Satiety/Satiation) And Its Contribution To Obesity. Current Obesity Reports. 2019 Jun 1;8:77 -87. Doi : 10.1007/S13679-019-00340-6

Gudipally Pr, Sharma Gk. Premenstrual Syndrome. 2020

Gusni E, Susmiati S, Maisa Ea. Stress And Emotional Eating In Undergraduate Students Of The Faculty Of Nursing. Link. 2022 Nov 30;18(2):155-61. Doi: Https://Doi.Org/10.31983/Link.V18i2.9186

Hall Je, Hall Me. Guyton And Hall Textbook Of Medical Physiology E-Book: Guyton And Hall Textbook Of Medical Physiology E-Book. Elsevier Health Sciences; 2020 Jun 13.

Hariyanto Ti, Kurniawan A. Appetite Problem In Cancer Patients: Pathophysiology, Diagnosis, And Treatment. Cancer Treatment And Research Communications. 2021 Jan 1;27:100336. Doi : 10.1016/J.Ctarc.2021.100336

Hofmeister S, Bodden S. Premenstrual Syndrome And Premenstrual Dysphoric Disorder. American Family Physician. 2016 Aug 1;94(3):236-40.

Husna A, Rahmi N, Safitri F, Andika F. Analysis Of Factors That Influence Incident Premenstrual Syndrome In Adolescent Girls In Kampong Pukat Village Subdistrict Pidie Regency Pidie. Journal Of Healthcare Technology And Medicine. 2022;8(1):35-47.Doi : Https://Doi.Org/10.33143/Jhtm.V8i1.1938

Junita P, Pakasi Rd, Kurniawan Lb. Analysis Of Serum Ghrelin Levels And Bmi In Obese And Non-Obese Subjects. Indonesian Journal Of Clinical Pathology And Medical Laboratory. 2023 Jul 27;29(3):224-7. Https://Doi.Org/10.24293/Ijcpml.V29i3.2047

Ministry Of Health Of The Republic Of Indonesia. What Is It? Dysmenorrhea During Menstruatio? Available From:Https://Yankes.Kemkes.Go.Id/View_Artikel/3103/Apa-Itu-Dismenorea-Pada-Menstruasi

Kwan I, Onwude Jl. Premenstrual Syndrome. Bmj Clinical Evidence. 2015;2015

Kyriacou A, Mclaughlin J, Syed Aa. Thyroid Disorders And Gastrointestinal And Liver Dysfunction: A State Of The Art Review. European Journal Of Internal Medicine. 2015 Oct 1;26(8):563-71. Doi : 10.1016/J.Ejim.2015.07.017

Lumingkewas C, Suparman E, Mongan Sp. Description Of Premenstrual Syndrome In Adolescents Final Period In Faculty Sam Ratulangi University Medicine . E- Clinic . 2021;9(1). Doi: Https://Doi.Org/10.35790/Ecl.V9i1.31855

Mishra S, Elliott H, Marwaha R. Premenstrual Dysphoric Disorder.

Painchaud Guérard G, Lemieux S, Doucet É, Pomerleau S, Provencher V. Influence Of Nutrition Claims On Appetite Sensations According To Sex, Weight Status, And Restrained Eating. Journal Of Obesity. 2016;2016(1):9475476. Doi : 10.1155/2016/9475476

Pearlstein T. Treatment Of Premenstrual Dysphoric Disorder: Therapeutic Challenges. Expert Review Of Clinical Pharmacology. 2016 Apr 2;9(4):493-6. Doi: 10.1586/17512433.2016.1142371

Regulation Of The Minister Of Health Of The Republic Of Indonesia. Regulation Of The Minister Of Health Of The Republic Of Indonesia Number 25 Of 2014 Concerning Guidelines Implementation Of Reproductive Health Programs Teenagers. Available From:Https://Peraturan.Bpk.Go.Id/Details/117562/Permenkes-No-25-Tahun-201

Pridynabilah A. The Relationship Between Premenstrual Syndrome (Pms) And Eating Behavior And Energy Intake Of Nutrition Students Of Airlangga University. Healthy

Tadulako Journal (Tadulako Health Journal). 2022 May 31;8(2):59-67. Doi: Https://Doi.Org/10.22487/Htj.V8i2.508

Putri S, Adriani M, Estuningsih Y. Relationship Between Lust Eat With Intake Energy And Protein In Patients Cancer Post Chemotherapy Breasts . Indonesian Nutrition Media. 2019;14(2):170-6. Https://Doi.Org/10.20473/Mgi.V14i2.170-176

Royal College Of Obstetricians And Gynecologists. Premenstrual Syndrome: Management. Green-Top Guideline No. 48. Available From: Https://Www.Rcog.Org.Uk/Guidance/Browse-All-Guidance/Green-Top-Guidelines/Premenstrual-Syndrome-Management-Green-Top-Guideline-No-48/

Sanchez Bn, Kraemer Wj, Maresh Cm. Premenstrual Syndrome And Exercise: A Narrative Review. Women. 2023 Jun 20;3(2):348-64. Https://Doi.Org/10.3390/Women3020026

Silverthorn Du. Human Physiology. Jones & Bartlett Publishers; 2015.

Souza Lb, Martins Ka, Cordeiro Mm, Rodrigues Yd, Rafacho Bp, Bomfim Ra. Do Food Intake And Food Cravings Change During The Menstrual Cycle Of Young Women?. Revista Brasileira De Gynecologia E Obstetrícia . 2018 Nov;40(11):686-92. D Oi : 10.1055/S-0038-1675831

Sri N. Relationship Body Mass Index With Cycle Menstruation In College Students Academy Midwifery . Journal Nursing Asylum Human. 2022 Jan 12. Doi:10.51143/ Jksi.V 7i1.355

Thiyagarajan Dk, Basit H, Jeanmonod R. Physiology, Menstrual Cycle. Instatpearls [Internet] 2022 Oct 24. Statpearls Publishing.

Relationship Stress, Behavior Eating , And Intake Substance Nutrition With Nutritional Status In Students Level End. Journal Of Nutrition College. 2019 May 14;8(1):1-8. Doi: Https://Doi.Org/10.14710/Jnc.V8i1.23807

World Health Organization. Adolescent Health. Available From: Ttps://Www.Who.Int/Southeastasia/Health-Topics/Adolescent-Health#:~:Text=Who%20defines%20'adolescents'%20as%20individuals,15%2d24%20year%20age%20group .

Yanagi S, Sato T, Kangawa K, Nakazato M. The Homeostatic Force Of Ghrelin. Cell Metabolism. 2018 Apr 3;27(4):786-804. Doi : 10.1016/J.Cmet.2018.02.008

Yukie M, Aoi I, Mizuki K, Toshiyuki Y. Changes In Appetite And Food Craving During The Menstrual Cycle In Young Students. International Journal Of Nutrition And Metabolism. 2020 Jul 31;12(2):25-30. Doi:10.5897/Ijnam2019.0264

Zm Ap, Ernawati E, Erlansari A. Expert System For Diagnosis Disease Thyroid Using Android- Based Naive Bayes Method. Recursive : Journal Informatics . 2017 Nov 1;5(3). Https://Doi.Org/10.33369/Rekursif.V5i3.3071