



INFLUENCE OF MENSTRUAL CYCLE ON THE MOOD SWINGS AND EATING HABITS OF ADOLESCENT GIRLS

¹Dr. Nitin Prabhakar Khanvilkar, ²Lamiya Fakhruddin Tarwadi, ³Bhushan Laxman Lambture,

⁴Sagar Ramchandra Patil

¹Assistant Professor, ²Research Scholar, ³Research Scholar, ⁴Research Scholar

¹BSc Sports and Exercise Science, Somaiya Sports Academy,

¹Somaiya Vidyavihar University, Mumbai, India

Abstract:

The purpose of the study is to find out the influence of the menstrual cycle on mood swings and eating habits of adolescent girls. The study is done on 100 adolescent girls aged 16 to 19 at K.J. Somaiya College of Arts and Commerce at Somaiya Vidyavihar University, Mumbai. The study focuses on two important issues faced by girls/women during the menstrual cycle. The variables used in the study are mood swings and eating habits. The research scholars collected data from 100 adolescent girls using questionnaires as testing tools. A premenstrual syndrome questionnaire by Dr. Ricki Pollycove and a Healthy eating assessment questionnaire by Paxton were used. The data was analyzed using measures of central tendency "Mean". The age-wise analysis of data brought to the knowledge of the researchers the significant changes in the mean scores of the variables and their various symptoms across the age groups. The analysis of the data revealed that mood swings are higher in 17-year-old girls than in other age groups and eating habits improve with age in adolescent girls.

Keywords

Menstrual cycle, Moodswings, Eating habits, Adolescent girls, Dr. Ricki Pollycove, Paxton, Mean.

INTRODUCTION

1.1 Historical Background

Concept of Mood Swings:

(Grohol, 2016)

A mood swing is simply a noticeable change in one's mood or emotional state. Everybody has mood swings and they are a natural part of most people's lives. We get happy, and we get sad. We have a period of feeling on top of the world, and then later in the same day, we feel tired, lethargic, and beaten down. Small mood swings are a part of most people's lives.

However, some people's mood swings are so extreme, rapid, or serious, that they interfere with that individual's functioning in everyday life. Bipolar disorder is the best example of a disorder that is characterized by mood swings — from manic to depressed. You can, however, have mood swings between any two moods or emotions, sad to angry, happy to contemplative, etc.

Concept of Eating Habits:

(Sogari G, 2018)

Eating habits are defined as "conscious, collective, and repetitive behaviours, which lead people to select, consume, and use certain foods or diets, in response to social and cultural influences". University students are in a stage of change that renders them more

susceptible to the development of unhealthy eating habits. Stress, short sleep durations, economic limitations, lack of time, and lifestyle-related changes are some factors that affect eating habits.

1.2 Significance of the Study:

The study emphasizes areas of emotional and psychological factors faced during the menstrual cycle. The researcher will bridge the gap between misconceptions and false assumptions about constant mood swings and reflective personality during the menstrual cycle phase. The study will bring enlightenment to the knowledge of girls and women regarding medical and biological misconceptions during the menstrual cycle.

1.3 Objectives of the Study:

- a. To create awareness about various phases and changes which happen during the menstrual cycle.
- b. To raise awareness about common misconceptions, errors, and myths about menstrual cramps.
- c. To educate girls who are entering puberty about the menstrual cycle and how to deal with it.
- d. To create awareness about healthy practices during the menstrual cycle.

1.4 Statement of Problem:

The purpose of the study is to find out the influence of the menstrual cycle on mood swings and eating habits of adolescent girls.

1.5 Hypothesis:

- a) There is no significant difference between the mean score of mood swings of female college students of Somaiya Vidyavihar University during the menstrual cycle.
- b) There is no significant difference between the mean score of eating habits of female college students of Somaiya Vidyavihar University during the menstrual cycle.

1.6 Operational Terms:

(Hailes, 2022)

1. Menstrual Cycle:

The menstrual cycle is a cycle of bodily changes controlled by female hormones that cause a regular bleed. This bleed, which usually occurs monthly, comes from the uterus (womb) and flows out from the vagina. 'Period', 'menstruation' or 'menses' are all words used to describe the blood loss women experience at this time.

The menstrual cycle begins at menarche (the first period) and ends with menopause (the final period). Every woman's cycle is unique and individual. The average age of menarche in Western countries is 12-13 years, but it can start as early as nine and as late as 16. If your periods have not started by 16-17, you should see your doctor to investigate why they haven't started. Most women reach menopause between 45 and 55 years, and the average age of menopause for women from a Western country is 51-52 years.

(Better Health Channel, 2022)

2. Menstruation:

Menstruation is commonly known as a period. When you menstruate, your uterus lining sheds and flows out of your vagina. Your period contains blood, mucus, and some cells from the lining of your uterus. The average length of a period is three to seven days.

3. Irregularities during the Menstrual Cycle:

(Communications, 2017)

For most women, a normal menstrual cycle ranges from 21 to 35 days. However, 14% to 25% of women have irregular menstrual cycles, meaning the cycles are shorter or longer than normal; are heavier or lighter than normal; or are experienced with other problems, like abdominal cramps. Irregular cycles can be ovulatory, meaning that ovulation occurs, or anovulatory, meaning ovulation does not occur.

➤ The most common menstrual irregularities include:

Amenorrhea or absent menstrual periods. When a woman does not get her period by age 16, or when she stops getting her period for at least 3 months and is not pregnant.

Oligomenorrhea or infrequent menstrual periods: Periods that occur more than 35 days apart.

Menorrhagia or heavy menstrual periods. Also called excessive bleeding. Although anovulatory bleeding and menorrhagia are sometimes grouped together, they do not have the same cause and require different diagnostic testing.

Prolonged menstrual bleeding: Bleeding that exceeds 8 days in duration on regular basis.

Dysmenorrhea: Painful periods that may include severe menstrual cramps.

Additional menstrual irregularities include:

Polymenorrhea: Frequent menstrual periods occurring less than 21 days apart.
 Irregular menstrual periods with a cycle-to-cycle variation of more than 20 days.
 Shortened menstrual bleeding of less than 2 days in duration⁴
 Intermenstrual bleeding: Episodes of bleeding that occur between periods, also known as spotting.

(Medically reviewed by Stacy A. Henigsmann, 2021)

If someone's menstrual cycle is shorter than 24 days, more than 38 days long, or if the length varies significantly from month to month, they have irregular periods. Doctors call this oligomenorrhea.

It is normal for the menstrual cycle length to vary slightly from month to month, especially if someone is going through puberty, breastfeeding, or approaching menopause.

Many other factors can affect period regularity, too, such as stress, medications, and mental or physical health conditions.

Estrogen, progesterone, and follicle-stimulating hormone are the main hormones responsible for regulating the menstrual cycle. If something disrupts or alters how these hormones rise and fall each cycle, it can cause irregular periods.

4. PCOS:**(Conquer PCOS, 2021)**

PCOS affects your menstrual cycle: every month, a follicle matures and gets released by your ovaries to get fertilized. But because of the hormonal imbalance seen in PCOS (typically higher levels of androgens like testosterone and high levels of luteinizing hormone), the follicle doesn't mature or get released. Instead of being released, the follicle (often mislabeled a cyst) stays in the ovaries where it can be seen on an ultrasound. Abnormally higher levels of androgens can interfere with your menstrual cycle to the level of inhibiting ovulation (egg release). Thus, inhibition of egg release ceases the subsequent stages of the menstrual cycle, causing disruption in hormonal levels and overall interruption in the normal cycle, leading to the cessation of menstrual bleeding.

5. PCOD:**(Sofy.in, 2019)**

Females with Polycystic Ovary Disease the egg doesn't mature. Instead, there are a number of immature eggs which become cysts. It is because of the presence of these multiple small cysts in the ovaries, that they get the name 'polycystic'. Sometimes, though not always, most girls with PCOD will have enlarged ovaries with many cysts. Since the egg doesn't mature and releases, you miss your period. And that's why women with PCOD have irregular periods or their periods just stop.

Polycystic Ovary Disease is a genetic condition. So, if your mother has it, you might also have PCOD.

How will you know if you have PCOD? Some common symptoms are:

- Irregular periods or no periods at all
- Acne
- Extra hair on the face
- Increased body fat
- Insulin insensitivity

Critical Evaluation of the Literature:

The research scholars went through many research articles and got to know the influence of the menstrual cycle on mood swings and eating habits of adolescent girls and in general women. The research scholars while going through the reviews from various websites developed profound knowledge and clarity to go ahead with the research study in its truest sense. The literature reviewed was from recent years to get the latest facts and study on this particular topic which needs to be discussed more often at global platforms without hesitation.

METHODOLOGY OF STUDY

3.1 Design of the study:

This study, is a survey method where the researchers used questionnaires of mood swings and eating habits to collect data from the target audience, interpret data and draw meaningful and resourceful research conclusions.

3.2 Selection of sample:

The study used the purposive sampling method as it is a non-probability sampling technique where the researcher relies on their discretion to choose variables for the sample population.

The research is done on female college students of K.J. Somaiya College of Arts and Commerce at Somaiya Vidyavihar University.

3.3 Selection of Variables:

According to Stangor (1998), a variable is “any attribute that can assume different values among different people or across different times or places.”

The study focuses on three important issues faced by girls/women during the menstrual cycle. The variables used in the study are:

1. Mood swing
2. Eating Habits

3.3.1 Table of Variables:

| Variable | Tool | Author |
|---------------|-------------------------------------|--------------------|
| Mood swing | Premenstrual Syndrome Questionnaire | Dr.Ricki Pollycove |
| Eating habits | Healthy Eating Assessment | Paxton |

3.4 Procedure of the study:

The main purpose of the study is to find out the effects of Mood swings and Eating habits on female college students during the menstrual cycle by comparing mean scores of the respective variables to see if there is any significant change or difference.

The researchers collected data from 100 girls from KJ Somaiya College of Arts and Commerce.

The research methodology adopted by the researchers for this study was a survey method using a questionnaire as a testing tool.

The researcher explained the study and questionnaires and urged the girls to fill out the questionnaires related to the three variables relating to the menstrual cycle. The researcher also wants to create awareness about various phases and changes which happen during the menstrual cycle.

3.5 Statistical Procedure used:

The statistical procedure adopted by the researchers for the analysis and interpretation of data is the “Measures of Central Tendency Mean.”

ANALYSIS AND INTERPRETATION OF DATA

The study was conducted on 100 girls from KJ Somaiya College of Arts and Commerce.

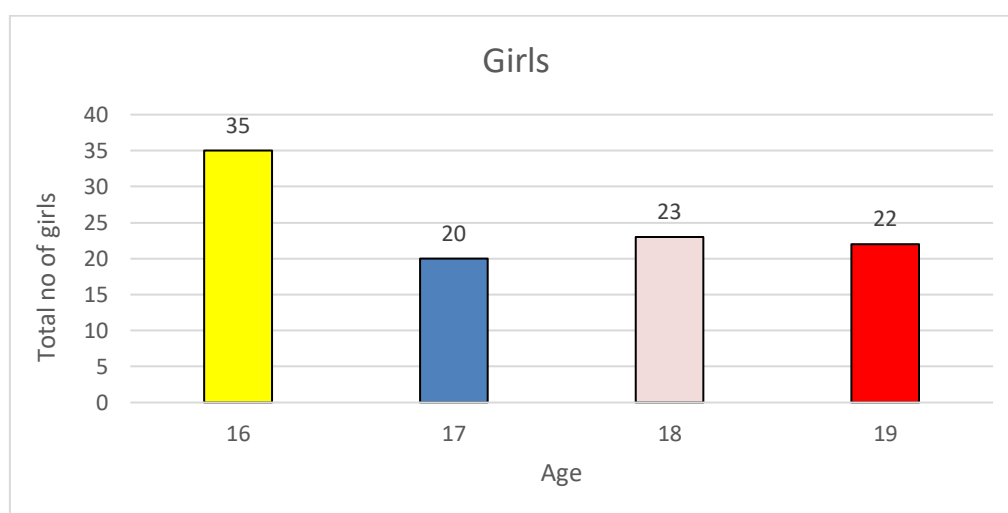
Analysis of Data:

The data was analysed using the measures of central tendency mean. Bar graphs were used to show the graphical representation of the data.

Table 4.1 Comparison of Age-wise distribution of girls from KJ Somaiya College of Arts and Commerce.

| Age | Girls |
|-----|-------|
| 16 | 35 |
| 17 | 20 |
| 18 | 23 |
| 19 | 22 |

Figure 4.1 Graphical Representation of Age-wise Distribution of girls from KJ Somaiya College of Arts and Commerce.



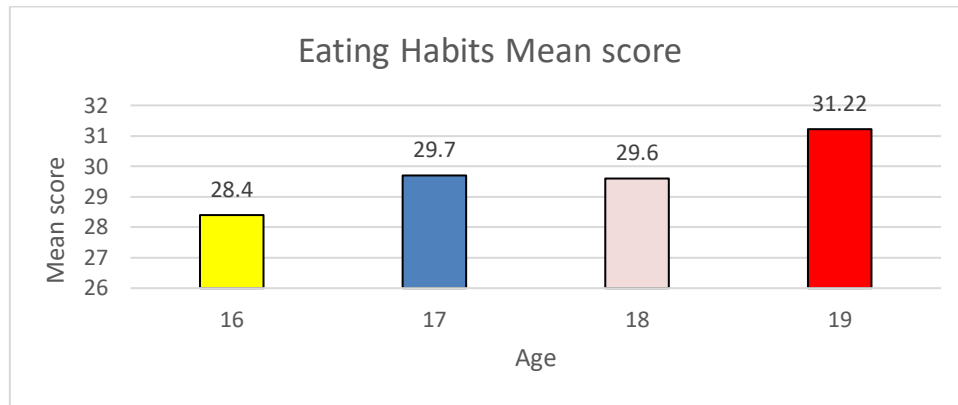
Interpretation of Data:

The data interprets that the researchers received 35 responses from girls aged 16, 20 responses from girls aged 17, 23 responses from girls aged 18, and 22 responses from girls aged 19.

1. Eating Habits:

Table 4.2 Comparison of Eating Habits Mean score of girls from KJ Somaiya College of Arts and Commerce.

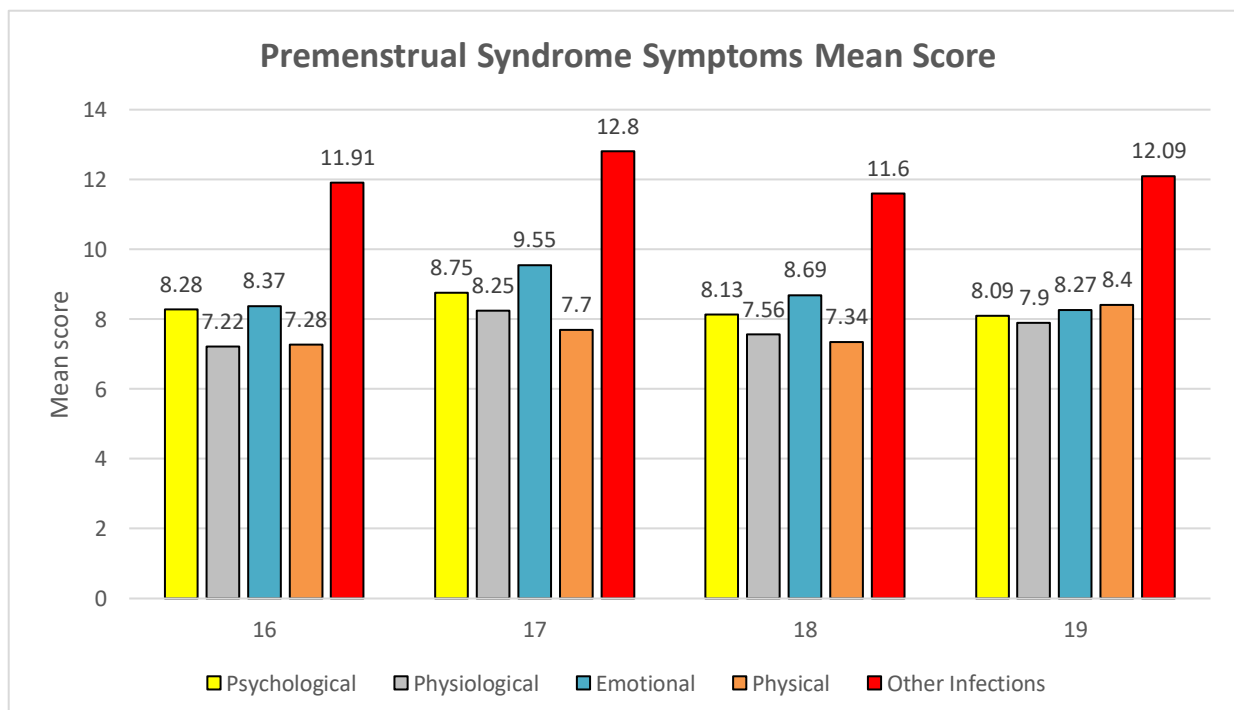
| Age | Eating Habits Mean score |
|-----|--------------------------|
| 16 | 28.4 |
| 17 | 29.7 |
| 18 | 29.6 |
| 19 | 31.22 |

Figure 4.2 Graphical Representation of Eating habits mean score of girls from KJ Somaiya College of Arts and Commerce.**Interpretation of Data:**

The data interprets that the eating habits of girls improve with age. The study says the mean score of eating habits of girls aged 16 is 28.4, girls aged 17 is 29.7, girls aged 18 is 29.6, and girls aged 19 is 31.22.

2. Mood swing:**Table 4.3.1 Comparison of Premenstrual Syndrome Symptoms Mean Score of girls from KJ Somaiya College of Arts and Commerce.**

| Age | Psychological | Physiological | Emotional | Physical | Other Infections |
|-----|---------------|---------------|-----------|----------|------------------|
| 16 | 8.28 | 7.22 | 8.37 | 7.28 | 11.91 |
| 17 | 8.75 | 8.25 | 9.55 | 7.7 | 12.8 |
| 18 | 8.13 | 7.56 | 8.69 | 7.34 | 11.6 |
| 19 | 8.09 | 7.9 | 8.27 | 8.4 | 12.09 |

Figure 4.3.1 Graphical Representation of Premenstrual Syndrome Symptoms Mean Score of girls from KJ Somaiya College of Arts and Commerce.

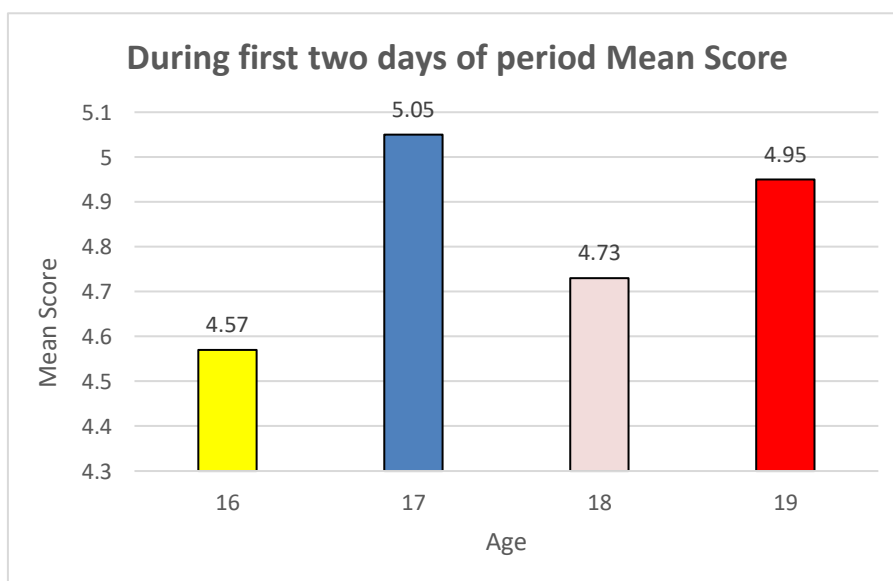
Interpretation of Data:

According to the study, the mean scores of premenstrual syndrome symptoms are higher in 17-year-old girls than in other age groups. The mean score for psychological symptoms is 8.75, 8.25 for physiological symptoms, 9.55 for emotional symptoms, 7.7 for physical symptoms, and 12.8 for other infections.

Table 4.3.2 Comparison of During first two days of the period Mean Score of girls from KJ Somaiya College of Arts and Commerce.

| Age | During first two days of period Mean Score |
|-----|--|
| 16 | 4.57 |
| 17 | 5.05 |
| 18 | 4.73 |
| 19 | 4.95 |

Figure 4.3.2 Graphical Representation of During first two days of period Mean Score of girls from KJ Somaiya College of Arts and Commerce.

**Interpretation of Data:**

According to the study, during the first two days of the period, girls of all ages experience a high level of effect. Girls aged 16 have a mean score of 4.57, girls aged 17 have a score of 5.05, girls aged 18 have a score of 4.73, and girls aged 19 have a score of 4.95.

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary:

- Studying the impact of menstruation on mental health, social function and economic health are vital. This research will inform policymakers and drive real change in our society to create a diverse, equal society where we can all reach our full potential.
- The study emphasizes areas of emotional and psychological factors faced during the menstrual cycle. Female college students and society, in general, will get to know the details regarding these key variables through our study. The readers can definitely get to know more about the menstrual cycle.
- We as a team aim to create normalcy regarding this topic and have conversations about it openly and create a better understanding among the female college students in the age bracket between 16 to 19 years.
- The day when the majority of Men and Boys start to understand the menstrual cycle will create a sense of happiness in the females because they will be understood better during this time.
- **(K, 2022)**
A female has an average of 450 menses throughout her lifetime; therefore, it is important to understand the menstrual cycle and its physiology because of the various complications, consequences, and distress that it may have for a female.
- Through our sample collection, we came to know that not girls but boys are also interested to know about the menstrual cycle. We came across questions like how are we going to do the analysis and statistics and how it will help the females, it will be an achievement for us if we are able to make even a minor change in the thinking and mentality of our society.

Conclusion:

- This study's findings will benefit college girls, considering the menstrual cycle plays a great role in a woman's life. Female college students will be able to understand the menstrual cycle better and all myths regarding it can be removed from their young minds over some time. Teachers, Parents can understand which is the appropriate age and in what manner the knowledge and importance of the menstrual cycle should be conveyed. The purpose of the menstrual cycle, a mature egg is produced by the ovaries and the lining of the uterus thickens to support a possible pregnancy.
- Age-wise analysis of data brought to the knowledge of the researchers the significant changes in the mean scores of the variables and their various symptoms across the age groups.
- The results of the research will definitely bring change, and questions and have a butterfly effect on having more research related to this topic. This will be the real success of our research.

➤ Suggestions and Recommendations:

(Davis, 2021)

1. Meditation helps to keep the mind relaxed during periods.

(Hirsch, 2018)

2. Research says not to use pads for more than 4 to 5 hours.

(Hologic, 2018)

3. Yoga helps ease cramping and aching. The deep breaths promoted during yoga practice help oxygen circulate through the body and get into the muscles.

(Gupta, 2021)

4. Managing better sleep during periods can help alleviate painful cramps, improve mood, reduce fatigue and discomfort, and make the period cycle more comfortable.

(Henigsmann, 2021)

5. Doing more exercises and stretching.

REFERENCES

1. (2019, 3 29). Retrieved from Sofy.in: <https://www.sofy.in/blog/body-mind/pcos-polycystic-ovarian-syndrome/what-is-pcod-how-it-affects-your-menstrual-cycle/>
2. 2022, September 06). Retrieved from Better Health Channel: <https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/menstrual-cycle>
3. Anjum, A. (2018). Attitude towards menstruation, social adjustment, and mood states during menstruation among young women. *Pakistan Journal of Psychological Research*, 591-606.
4. Baker, F. C. (2022). Menstrual Cycle Effects on Sleep. *Sleep Medicine Clinics*, 17(2).
5. Bąk-Sosnowska, M. (2016). Assessment of the menstrual cycle, eating disorders and self-esteem of Polish adolescents. *Journal of Psychosomatic Obstetrics & Gynecology*, 38(1):1-7.
6. Biggers, A. (2020, June 29). (*What causes mood swings in males and females?* Retrieved from Medical News Today: <https://www.medicalnewstoday.com/articles/mood-swings#common-causes>
7. Communications, O. o. (2017, 1 31). Retrieved from National Institute of Child Health and Human Development.: <https://www.nichd.nih.gov/health/topics/menstruation/conditioninfo/irregularities>
8. *Conquer PCOS*. (2021). Retrieved from Gynaecworld: <https://conquerpcos.org/all-about-pcos/irregular-periods-in-pcos/>
9. Davis, A. (2021, 9 22). Retrieved from <https://www.blissbabyoga.com/meditation-and-the-menstrual-cycle/>
10. Dayanand, A. (2019). Prevention of Premenstrual Syndrome in Adolescence. *International Journal of Nursing Science Practice & Research*, 59-63.
11. Grohol, J. (2016, May 17). *PsychCentral*. Retrieved from PsychCentral: <https://psychcentral.com/lib/all-about-mood-swings#1>
12. Gupta, A. (2021, 9 17). Retrieved from <https://www.healthshots.com/intimate-health/menstruation/do-you-need-more-sleep-during-your-periods/>
13. Hailes, J. (2022, February 10). *Jean Hailes for Women's Health*. Retrieved from Jean Hailes for Women's Health: <https://www.jeanhailes.org.au/health-a-z/periods/about-the-menstrual-cycle#what-is-a-menstrual-cycle>
14. Henigsman, S. A. (2021, 11 17). Retrieved from <https://www.medicalnewstoday.com/articles/326364>
15. Hirsch, L. (2018, July). Retrieved from <https://kidshealth.org/en/teens/changing-pads.html>
16. Hologic. (2018, 9 20). Retrieved from <https://gynsurgicalsolutions.com/change-the-cycle-blog/health-wellness/benefits-of-yoga-on-your-period/>
17. K, D. (2022). Physiology, Menstrual Cycle. *National library of medicine*.
18. Kammoun, I. (2016). Change in women's eating habits during the menstrual cycle. *Annales d'Endocrinologie*, 78(1).
19. Liisa Hantsoo 1, S. R. (2022). Premenstrual symptoms across the lifespan in an international sample: data from a mobile application. *Arch Womens Ment Health*, 25(5):903-910.
20. Lingling Bu, Y. L. (2019). Negative Mood Is Associated with Diet and Dietary Antioxidants in University Students During the Menstrual Cycle: A Cross-Sectional Study from Guangzhou, China. *Antioxidants*, 9(1):23.
21. Matthew Obaineh Ojezele 1, A. T. (2022). Mood Swing during Menstruation: Confounding Factors and Drug Use. *Ethiopian Journal of Health Sciences*, 32(4):681-688.
22. Medically reviewed by Stacy A. Henigsman, D. —B. (2021, 11 23). *Medical News Today*. Retrieved from <https://www.medicalnewstoday.com/articles/178635>
23. Parkhad, S. (2013). Effect of yoga on premenstrual and menstrual cycle disorders in adolescent girls. *Biomedicine*, 170-175.
24. Sogari G, V.-A. C. (2018). College Students and Eating Habits: A Study Using An Ecological Model for Healthy Behavior. . *Nutrients*.