

## Academic Stress on Menstrual Cycle among Adolescents

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### ABSTRACT

Menstrual cycle is a monthly set of adjustments the body makes to get ready for pregnancy is known as the menstrual cycle and uterus prepared for conception. The lining of the uterus sheds through the vagina if the released egg is not fertilized during ovulation. Academic Stress is a pressure that is brought by the fear of failing in exams, parents' and teacher's expectations, competition, or the feeling that students go through while doing academic tasks like studying, taking tests, completing papers, and meeting deadlines, among other things. Students of all ages, academic levels, and disciplines can experience the effects of academic stress, which can negatively influence both their physical and mental health. This Study mainly focuses to measure the influence of the Menstrual symptoms of Academic Stress among Adolescents and also to find out the differences between Academic Stress and Menstrual symptoms on the basis of demographic variables. The study was conducted by employing quantitative research methods for Conducting and gathering the samples. The results highlighted there is a significant relationship between Academic Stress and Menstrual Cycle and also a significant difference in some demographic variables. This implies that Academic Stress leads to Menstrual irregularities in Adolescents, to overcome that Adolescents can be given stress management training, Meditation, yoga etc.

**Keywords:** *Academic Stress, Menstrual Cycle*

Menstruation is considered filthy in India, and dirty menstruating women exclude from religious events and kitchens. The survey done by India National Family Health Survey [2015-2016] estimates that of the 336 million menstruating women in India, about 121 million are using sanitary napkins, and only 36 % out of 336 million use proper sanitation. "The nation's educational system worsens the situation by emphasizing exam results rather than fostering a child's growth and development.

Today's students are more stressed due to rising parental expectations and academic pressure, which puts them at risk for severe depression and suicidal thoughts." The statement was published in an h4 article by India Today. Nowadays, their parents put students under pressure to succeed in their studies. The institution also pressures them to perform extensively and get good marks. The pressure starts when the students enter middle school

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Received: August 27, 2023; Revision Received: September 03, 2023; Accepted: September 07, 2023

## Academic Stress on Menstrual Cycle among Adolescents

and can impact their mental health and physical strength. The 10th and 12th standards are the school levels where most students feel pressured to study hard due to the pressure from society.

*Menstruation* is a monthly process that involves the shedding of blood and tissues from the inner lining of the uterus through the vagina. Menarche starts at an average age at which people begin Menstruation is 12. However, girls can start having periods as young as eight or as old as 16. Generally, most girls begin menstruating a few years after developing breasts and pubic hair. Menstrual bleeding may occur every 21 to 35 days, lasting 2 to 5 days. Long cycles are typical in the first few years after Menstruation begins. However, menstrual cycles tend to get shorter and more regular as people get older. The irregularities can arise during Menstruation due to various factors breastfeeding or being pregnant. A missed period sometimes indicates pregnancy; extreme weight reduction, increased physical activity, and eating disorders like anorexia nervosa can all interfere with the period. PCOS, or polycystic ovarian syndrome, is a condition that can cause irregular periods in women. The absence of normal ovarian function before age 40 is called premature ovarian failure. Women who suffer from this illness will have irregularities that can last long. Menstruation and stress are two components that may relate in various ways. Menstruation can result in physical and psychological symptoms such as cramps, mood swings, headaches, exhaustion, and anxiety that may increase stress levels. The irregularities in hormonal balance result in irregular cycles, heavy bleeding, missed periods, or premenstrual syndrome (PMS), stress can also have an impact on Menstruation.

According to Altbach (1970), graduate students often feel as though educators have too much control over their lives and that they have little control over anything in their own lives. Another stressor experienced by students is the challenge of developing social intimacy. They often lack time for leisure. According to Abouserie's (1994) research, students suffer Academic Stress throughout each semester's tests. Most of this Stress is caused by taking and studying for exams because there is much material to learn quickly. Academic Stress affects students of all academic backgrounds and grade levels regularly. It may impact their interactions with others, academic achievement, and mental and physical health. High expectations, a demanding workload, pressed deadlines, tests, grades, competition, a lack of support, or personal problems are just a few of the variables that might contribute to Academic Stress.

The main focus of this study is to find how Academic Stress affects the Menstruation Cycle among Adolescents; the recent studies conducted in the research fields show how stress affects women, but only a few studies show how Academic Stress affects Adolescents. Overall, the study of Academic Stress in Menstruation is an important and relevant topic; given the increasing Academic Stress among Adolescents and the crucial of stress in Menstruation, this research can find out the effects of Academic Stress on Menstruation and support students in overcoming difficulties as well as to improve the quality of their lives.

### REVIEW OF LITERATURE

Academic Stress is the pressure or expectations from parents and teachers on students to excel in their studies. Academic Stress can also have many factors, such as the student being an older sibling and economic background; if a student is from the middle class or lower class, they will have the pressure to excel in studies to have a better future.

## Academic Stress on Menstrual Cycle among Adolescents

The study conducted in India among Adolescent Girls in pre-universities and universities in Dharwad City aims to examine the educational Stress that adolescents experience and its causes. The variables of the study were Background, family, and Academic Stress. The Sample Size was 314, which was randomly selected. The age was between 16 - 19 years; the methodology used in this study is A cross-sectional survey, Educational Stress Scale for Adolescents, a personality inventory, an IQ test, and a structured sociodemographic data sheet (ESSA). The findings of most Adolescent girls in undergraduate programs were under Academic Stress. Students' personality types, educational backgrounds, the combination of pre-university courses they picked, and the number of siblings all impacted how stressed they were about their education. Creating appropriate stress prevention programs can make students aware of how to manage Academic Stress [Rentala, S., Nayak, R. B., Patil, S. D., Hegde, G. S., & Aladakatti, R. (2019).

According to the literature Reviews by Oduwaiye et al. (2017), Stress can have positive and harmful impacts. Positive Stress, however, can endure for a while; negative pressure, on the other hand, generates anxiety, lasts a long time, creates fear and panic, disturbs, and lowers one's morale and productivity, among other things (Gulzhaina et al., 2018). Positive Stress, on the other hand, enhances a person's attitude, behavior, and performance and inspires excitement and motivation. Stress impacts individuals' emotional and physical health. Stress can generally impact a person's physical, emotional, economic, and social conduct (Saqib & Rehman, 2018). Stress seriously harms academic performance (Lin & Huang, 2014). Stress can significantly affect a person if it is not adequately managed and controlled. Academic Stress can also be associated with culture, ethnicity, gender, age, and political and socioeconomic status (Kiani et al., 2017).

A study was conducted on the women and combined impacts of the risk factors for early menopause and irregular menstrual cycles in adult women in Korea. The sample size was 7001, and the participants were 19 and above—methodology; The Survey on National Health and Nutrition in Korea (KNHANES). The purpose of the KNHANES was to gather information for formulating and assessing health policies and programs by assessing Koreans' health and nutritional status, tracking trends in health risk factors, and examining the prevalence of major chronic diseases. In the findings, The presence of menstrual cycle irregularity, menopausal age, and menarche age was determined using a self-reported questionnaire. Results showed that among premenopausal women, irregular menstruation was a significant relationship with smoking status, obesity, and perceived level of stress. Mainly, women with > 3 modifiable risk factor scores were 1.7 times more likely to experience irregular periods than those with a score of 0. Among postmenopausal women, early smoking initiation (19 years) was also strongly related to early menopause. [Bae, J., Park, S., & Kwon, J. W. (2018).

Another Study was conducted in educational institutions in the urban areas of a major city in South India to determine the duration of menstruation, Flow of menstruation, whether its long or short, Menstrual Disorders. The findings of the study shows that 73.1% of women had cycles lasting 21 to 35 days. Half of the participants reported having menstrual blood flow for 5 to 6 days, while 12% of the subjects had flow lasting more than seven days. The study's results identified a higher prevalence of long blood flow duration as the significant benchmark of early adolescence. A lot of blood loss was identified by 30.1%. There was no difference between early and late adolescence in dysmenorrhea at 66.8%. [Omidvar, S., Amiri, F. N., Bakhtiari, A., & Begum, K. (2018). ]

## Academic Stress on Menstrual Cycle among Adolescents

A study was conducted to find out Menstrual cycle irregularity during examination among female medical students at King Abdulaziz University in Jeddah, Saudi Arabia; a cross-sectional survey was carried out among female medical students between September and October 2021. The Rao soft sample size calculator was used to get this study's approximate sample size (n = 450). So, 450 female medical students in their second through sixth years were chosen by stratified random sampling. Data on demographics, menstrual irregularities during exams, kind of irregularities, menstrual history, family history of irregular periods, premenstrual symptoms, medication use, medical and family consultations, and absenteeism were gathered using a validated online questionnaire. In the Results, it was found out 48.2% of participants experienced irregular periods while taking the examinations. Dysmenorrhea was the most prevalent abnormality (70.9%), followed by a prolonged cycle (45.6%) and severe bleeding (41.9%). Ninety-three percent of medical students experienced premenstrual symptoms, and sixty-four percent utilized prescription drugs, over-the-counter medications, and home remedies to treat menstrual irregularities. Twelve percent of the students skipped class as a result of monthly irregularities. Menstrual irregularities during exams did not significantly correlate with student demographics, academic year, or age at menarche; however, oligomenorrhea, a heavier-than-normal bleed, a longer-than-normal cycle, and missed classes because of menstrual irregularities did correlate significantly more with single students than with married students. (Alhammedi, M.H., Albogmi, A.M., Alzahrani, M.K. et al.2022).

A study was conducted among Female Undergraduate students in Uyo, South Eastern Nigeria, to determine whether Academic Stress and menstrual Disorders were associated—variables – Menstrual Disorders, Academic Stress. The Sample size was 392 female undergraduates. The age between 16- 35, The methodology used in this study was Questionnaire SSAQ and Menstrual History. The findings of the study were that 37.5% of women reported menstrual pain; other disorders that the participants complained of were amenorrhea, [5.9% women], oligomenorrhea (19.9%), and premenstrual syndrome (PMS; 33.1 %) and two participants who reported Academic Stress had amenorrhea {5.9%} and oligomenorrhea {19.9%}. Academic Stress has made higher chances of having Menstrual irregularities in females. The study shows a significant relationship between menstrual problems and Academic Stress in females [Ekpenyong, C. E., Davis, K. J., Akpan, U. P., & Daniel, N. E. (2011).

According to a study [Rafique and Al-Sheikh (2018)], this is due to the prolonged stimulation of the hypothalamic-pituitary-adrenal axis by stress, which changes hormonal profiles and naturally interferes with ovulation and menstruation. In contrast to mild stress, Schliep et al. (2016) observed that high daily stress was linked to decreased LH, luteal progesterone, higher FSH concentrations, and increased odds of irregular oligomenorrhea.

Another study was conducted on female medical students of the University of Kristen Indonesia, to measure the relationship between Stress Levels and Menstrual Cycle Regularity. The sample size of the study was 52. The age of the participants was 18-21 years. The methodology was random sampling; the Medical Student Stressor Questionnaire (MSSQ) tool was used to measure stress. There are 40 stress questions on the questionnaire. In the findings, it was shown that 18 of them experienced mild to moderate stress with monthly menstruation. Some women reported mild-moderate stress, and 10% reported irregular menstrual cycles. While 17 Participants reported having high-stress levels with regular menstrual cycles, only 15 reported severe stress levels with irregular menstrual periods. [Achmad, Luana N. and Sirait, Batara I. and Semen, Gerald Mario (2021)].

## Academic Stress on Menstrual Cycle among Adolescents

A study was also conducted on the stress level of female menstrual dysfunction students. The sample size was 136. The age of the participants was 18-23. The questionnaire used was the psychological stress scale and the Beck scale. In the findings, 82.4% of the examined female students had various menstrual irregularities; the highest irregularity was premenstrual syndrome (91.1%) and dysmenorrhea (85.7%). [O. Lesnaya, T. Mansur, Nadezhda Lesnaya, N. Ketova, & N. Sturov, 2021] .

Another study was conducted in Saudi Arabia to determine whether there is an influence of academic stress on the menstrual cycle. The sample size was 204 female college students; the age group of the participants was 18 – 20. The methodology used was cross - a sectional study. The questionnaire used an exam stress social networks questionnaire. In the findings, 204 girls responded to the research questionnaire. Out of 204 respondents, 165 girls (80.9%) had changes in their menstruation during exams, whereas 39 girls (19.1%) stated no changes. The analysis shows that 112 girls (54.9%) had changes related to the timing of their Periods, whereas 103 girls (50.5%) had changes in the menstruation blood flow, 122 girls (59.8%) had changes to the level of their menstrual pain and 113 girls (55.4%) had more than one change in characteristics. This result shows that menstrual pain is the most affected characteristic during exams. [AlJadid, Muneerah & AlMutrafi, Ohoud & Bamousa, Rawan. (2016).

A study was conducted on female athletes, menstrual cycle characteristics, and disorders in athletes performing different sports, also evaluating perceived stress and Quality of life' Variables – Menstrual Disorders, Menstrual duration Perceived stress and quality of life. The sample size is 11. The age group is 14 -45. The methodology used was a cross-sectional study. Three questionnaires were used (1) Gynecological health, (2) Perceived stress scale (PSS), and (3) Quality of life. In the findings compared to controls, athletes. Experienced significantly more heavy menstrual bleeding (HMB) and irregular periods (p 0.01) and less dysmenorrhea (p 0.01). Additionally, athletes had lower mental QoL (44.9 9.9 vs 47.6 9.0) and greater physical QoL (53.9 5.9 vs 51.2 6.0) (p 0.05) than controls but higher PPS levels (17.3 4.8 vs 13.8 4.8). Compared to athletes with normal bleeding, athletes with HMB [beta-hydroxy-beta-methyl butyrate] had lower mental scores (39.7 .8.9 vs 45.6 9.9) and higher PSS scores (19.8 .3.2 vs 17.0 .4.9). There was no difference in gynaecological health, PSS level, or quality of life across sports. Elite athletes with elevated PSS and lowered QoL should be considered for an increased prevalence of HMB. [Vannuccini, S., Fondelli, F., Clemenza, S., Galanti, G., & Petraglia, F. (2020).

A study was conducted on medical students to check whether exam stress impacts the Menstrual Cycle; the research was done on 100 participants. According to DSM-5 criteria, 66% of individuals had (PMS), and 6% had Premenstrual dysphoric disorder (PMDD). Premenstrual symptoms affected 88% of individuals in the Premenstrual Symptoms Screening Tool (PSST). Of these findings, 58% had mild or no Premenstrual Syndrome, and 30% experienced moderate to severe PMS. 5% of subjects also met the PSST requirements for PMDD. On the PSS, participants with light stress scored 26%, whereas those with moderate stress scored 74%. Participants with painful menstruation (dysmenorrhea) (93.75%) had PMS, and this association was statistically significant. According to the data, 93.2% of participants with moderate stress had PMS, compared to 73.1% of participants with mild stress, and this link was shown to be statistically significant. (Rathi, A. K., Agrawal, M., & Baniya, G. C. 2019).

### **METHODS**

#### *Objective*

1. To measure the influence of the menstrual symptoms of academic stress among adolescents
2. To find out the differences between academic stress and menstrual symptoms on the basis of education.

#### *Hypothesis*

H0 There is no significant relationship between academic stress and menstrual cycle among adolescents.

H0 There is no significant difference in academic Stress and menstrual symptoms based on education.

#### *Participants*

There were 100 responses, 98 of which were examined for the study. Due to incomplete responses and the exclusive criteria, two responses were removed. Based on the samples' demographic characteristics (age, gender, location, education. The researcher can assess the features of the sample and how they affect how Academic stress can affect the menstrual cycle. Snowball sampling, a form of non-probability sampling, was the sampling strategy used by the researcher. Research about people with particular characteristics who would be hard to find otherwise can benefit from snowball sampling (Nikolopoulou, K. 2023). In the study on academic stress and menstrual cycle among adolescents, snowball sampling may be used to recruit participants who meet the inclusion criteria, including female adolescents currently studying in high school or college.

#### *Instruments*

##### **Academic Stress Scale: Jain. P. & Dikshit. N (2016)**

The academic stress scale is a self-administrative scale, in which questions mainly are about Academic pressure, academic content, Difficulty in understanding the subject, exam fear and pressure, and attitude of Teachers, and in which the participants have to read and choose the answer from the Likert scale, where the questions should be answered on the basis strongly agree, agree, undecided, disagree, strongly disagree. The tool was constructed and standardized by Dr Poorva Jain and Dr Neelam Dikshit at Noble College of Education, Sagar, and the questionnaire was by Agra Psychological Research Cell, Balanganj, Agra. The scale is used to measure students' levels of academic Stress; The scale was given to 10 specialists who were asked to rate the items. The items with more than 80 % acceptance were taken to make the final scale which has 28 items. The reliability and validity of the scale were split half, and test-retest reliability was administered to 300 students; the coefficient of the scale was calculated; the retest reliability was 0.86, The reliability index was 0.93, and the split reliability coefficient for split half was 0.79. The scale was discussed with eight teachers and two psychologists. The positive replies were taken into consideration as an indicator of the scale's validation. The scoring is done as 5- strongly agree-4- Agree, 3 - Undecided, 2- Disagree, and 1- Strongly Disagree.

##### **Menstruation Checklist**

The menstruation checklist is made, and the investigator checks and constructs reliability under the supervisor's guidance. The menstruation checklist contains 15 questions based on the duration, onset of the participant's menarche, and the menstrual difficulties related to school/ college.

## Academic Stress on Menstrual Cycle among Adolescents

### ***Research Design***

This study aims to understand how academic stress affects adolescent girls' menstrual cycles. *Academic stress* is the strain brought on by academic anxiety, failure fear, and academic excellence. Academic pressures can be present in a student's surroundings in several contexts, including school, family, among their friends, and even in their neighborhood. The menstrual cycle is a monthly process involving regular hormonal and structural changes in the female body as she prepares to conceive. If fertilization is unsuccessful, the egg will shed via the uterus, which might result in bleeding that typically lasts for three to five days.

The descriptive design was taken for consideration in this study. The population or phenomenon under study is described in terms of its characteristics using the descriptive research method. This methodology emphasises the "what" of the study topic more so than the "why" of the topic. (Manjunatha N, 2019 June 1)

The technique used to elaborate on the participant context, data gathering, and ethical concerns. Adolescents will be the study's participants. They will be hired from colleges and schools. One hundred participants will make up the sample size. In the study's data gathering, a quantitative Design was used. The responses will be gathered using questionnaires. It uses the Academic Stress Scale (ASSA) and the Menstrual Checklist.

In conclusion, this research tries to better understand the connection between adolescents' menstrual cycles and academic stress.

### ***Procedure for data collection***

The instruments used in data collection based on the variables are the Academic stress scale [Jain, P. & Dikshit, N (2016)] and the menstruation checklist; the academic stress scale contains 28 questions, and the menstruation checklist contains 15 questions. The target population is done through convenience sampling. The data collection is mainly done through Google Forms; The google forms are circulated through social media; there are 28 questions in the academic stress scale questionnaire and 15 items in the menstruation checklist. The researcher utilized SPSS for statistical analysis and applied the coding method to generate diverse results. The sampling used a snowball sampling method and parametric tests to analyze the data. A t-test was used to compare the means of two groups, comparing demographic variables like religion, locale, and education. A one-way ANOVA was used to determine the difference between dependent and independent variables in three or more data groups, allowing for the identification of differences and similarities in subgroups.

### ***Ethical safeguards/considerations***

***Confidentiality***; The researcher collects the name and knows who the participants are for identification purposes, but this information is not taken into the research phases. In order to prevent default in confidentiality, the participant's details, such as name and email, are all removed from the research process; the participant's responses are used only for research purposes and will not be shared with anyone. The participant's privacy, trust, and response to the questionnaire are secure.

***Informed consent***; During the collection of the responses for the questionnaire, the participants are told about the purpose and instructions regarding the questionnaire; The participants are also informed under which guidance the research is done, and the researcher's Email id is Given.

## Academic Stress on Menstrual Cycle among Adolescents

**Voluntary Participants;** Every participant is free to do the questionnaire in the study if they feel obligated to do so. There is no requirement that participants give a justification for not doing the questionnaire. The participants have the right to choose whether or not to do the questionnaire, and they are not pressured to complete it.

**Results;** Research malpractice is the fabrication of information, deception of data analysis, and inaccurate reporting of findings in study papers, which shows the dishonesty of the researcher in the dissertation.

### RESULT FOR ANALYSIS

**Table 1; Descriptive Statistics of Academic Stress on Menstrual Cycle Among Adolescents (N=98)**

Variable	Mean	Std Deviation	Std Error	N
Academic Stress	92.33	23.088	2.332	98
Menstrual Cycle	23.22	4.088	.413	98

Table no 1 shows the descriptive statistics between Academic Stress and Menstrual Cycle, the total Number of Participants in the research was 98. The mean value in Academic Stress is 92.33, Standard Deviation is 23.088, and Standard Error is 2.332. The mean value in Menstrual Cycle is 23.22, Standard Deviation is 4.088, and Standard Error is 0. 413. It can be seen that the standard deviation in Academic stress is higher than menstrual cycle, and std error is also higher in Academic Stress than Menstrual Cycle.

**Table 2.; Pearson correlation coefficient of academic stress, menstrual cycle and age among adolescents (n=98)**

Variable	Academic Stress	Menstrual Cycle	Age
Academic Stress	1	0.33**	-0.44**
Sig		.001	.000

*sig at 0.01 level*

Table no: 2 shows that the relationship between academic Stress and adolescent menstrual cycle is 0.33, which is significant at 0.01 level. It indicates a positive relationship between academic Stress and the menstrual cycle among adolescents, which means that when Academic Stress increases, the problem of menstrual irregularities also increases: its length, disruptions in the menstrual flow, and other factors. Academic Stress can happen at any time for students to become used to new Academic habits, professors, and classes. Students may experience Stress due to the increased difficulty as they advance in their academic careers and begin taking more challenging courses. It is highly typical of adolescents starting high school. Academic Stress can impact academic performance, motivation, and the chance of dropping out of school—the longer-term effects include a lower likelihood of long-term employment. Hence the null hypothesis is rejected.



## Academic Stress on Menstrual Cycle among Adolescents

**Table 3; t-test result comparing Education on Academic Stress among adolescents (n=98)**

Variable	group	N	Mean	Standard Deviation	Standard Error	t	Sig
Academic stress	School	51	103.41	21.300	2.983	5.69**	.619
	College	47	80.30	18.624	2.717		

**sig at \*\* 0.01 level**

Table 3 shows the t-test result comparing education on Academic Stress among Adolescents. The total number of participants in schools and colleges is 51, and 47 out of 98 samples. The mean value in School is 103.41, and in college is 80.30. The standard deviation in both Schools and colleges is 21.300 and 18.624. The standard error in School is 2.983, and college is 2.717. The t value is 5.98, indicating a significant difference at 0.01 in academic stress of education among adolescents. Hence the null hypothesis is rejected. So, it shows that there is a high possibility of having Academic Stress in Education, in 72 countries found that at the age of 15–16 years In the OECD nations as a whole, 66%, of students said they felt anxious about getting bad results, and 59% said they frequently worry about how hard an exam will be (OECD). The OECD also discovered that 55% of pupils experience extreme anxiety before school tests, even when well-prepared. 37% of students said they felt highly anxious while studying, with girls reporting more anxiety than boys (OECD, & Pascoe, M.C et al. 2019). The null hypothesis is rejected.

**Table 4; t-test result comparing Education on Menstrual Cycle among adolescents (n=98)**

Variable	Group	N	Mean	Standard Deviation	Standard Error	t	Sig
Menstrual cycle	School	51	23.63	3.364	.471	1.017	0.31
	College	47	22.79	4.750	.693		

Table 4 shows the total number of participants in Schools and colleges is 51 and 47 out of 98 samples. The mean value in school is 23.63, and in college is 22.79; the standard deviation in both school and college is 3.364 and 4.750, and the standard error in school is 3.364 and college is 4.750. The standard Deviation and Standard error from college is higher than from school. The t value in Education is 1.017, and Sig is 0.31. From the Findings from the above Table, there is no significant difference between menstruation and Education. Thus, the null hypothesis is accepted.

## **DISCUSSIONS**

The study began with a query in mind and possibly explained several aspects of the menstrual cycle and academic stress. The first and most crucial point is that contrary to popular belief, menstruation is not a terrible event. The menstrual cycle helps to know whether the hormones in the female's body are balanced or not through regularity and paying attention to menstruation duration. Menstruation can lead to iron loss, leading to various problems such as anaemia and low Energy. Menstruating can free women from the risk of heart disease, stroke, and Alzheimer's disease. According to Dr Lauri Grossman, the colour, smell, and texture of a woman's menstrual blood might reveal important details about her health—chair of the American Medical College of Homeopathy's Department of Medicine and Humanistic Studies.

## Academic Stress on Menstrual Cycle among Adolescents

Academic stress can be impacted if the students experience excessive academic stress since it may increase the prevalence of psychological and physical issues like depression, anxiety, nervousness, and stress-related ailments. Academic dissatisfaction, disagreement, worries, and pressures are the four main elements of academic stress typically seen in students. Based on participants' responses, their most significant academic stressors are tests, grades, homework, academic and achievement expectations, and parental pressure. Ineffective teaching strategies, teacher-student interactions, a demanding course load, unfavorable classroom conditions, and the inability to balance leisure activities and school are the. According to the Saudi Arabian study, the majority (80.9%) of female college students reported changes in their menstrual cycles around exam times. The participants in this study reported alterations in timing, blood flow, and discomfort, providing compelling evidence of the link between academic stress and changes in the menstrual cycle.

Additionally, studies have demonstrated that high amounts of stress can result in hormonal imbalances that might harm the menstrual cycle. This is because extreme stress can cause the hormone cortisol to be released, which can interfere with the production of other hormones like progesterone and estrogen, which are crucial for a regular menstrual cycle. Stress can also interfere with the reproductive system. The results of the research, based on the hypothesis, there will be no significant relationship between academic stress and the menstrual cycle among adolescents. The findings of our research suggest that there is a significant relationship between academic stress and menstrual disorders among adolescents. The study shows that increased academic stress increases the risk of menstrual irregularities, such as more extended periods, disruptions in menstrual flow, and other factors.

On the other hand, there is no significant difference between education and menstrual cycles. However, there is a significant difference between academic stress and education, as well as academic stress and religion. These findings could help develop interventions to improve adolescents' mental and physical health, particularly in reducing academic stress and its impact on menstrual health.

### **SUMMARY**

This study aims to measure the effect of Academic Stress on the Menstrual Cycle among Adolescents. The quantitative research method was taken for this research, and the design was taken in Descriptive Research. Snowball Sampling was taken based on the study; The survey was done through Google Forms. The sample size obtained from the survey was 100 after eliminating two responses due to exclusion criteria. The Responses were then coded into numeric after that; the data was uploaded in SPSS Version 25. According to the results of this study, the adolescent menstrual cycle and academic stress are significantly related. Moreover, having more extended periods, menstrual flow, and other menstrual irregularities are associated with higher levels of academic stress.

On the other hand, there is also a significant difference between the demographic Variable Education and academic stress. However, there is no difference in Education in the menstrual cycle, nor is there any significant difference between menstrual cycle, locale, and Education. These findings may aid in creating treatments to enhance adolescents s' mental and physical health, notably by lowering the effects of academic stress on menstrual health. From the study, we can assume the effects of academic stress and menstrual irregularities on adolescents, such as absenteeism during periods, Lack of concentration in classes, low grades in academics, Unable to perform well in co-curricular Activities. Irritability, Anger,

and Mood swings can be disadvantages to the Physical and Mental well-being of the students.

### REFERENCES

- Achmad, L. N., Sirait, B. I., & Semen, G. M. (2021). The relationship between stress levels and menstrual cycle regularity in students of the faculty of medicine, universitas kristen Indonesia, class of 2017. *International Journal of Medical and Health Research*, 7(8), 74–79. <http://repository.uki.ac.id/id/eprint/5216>
- Bae, J., Park, S., & Kwon, J. (2018). Factors associated with menstrual cycle irregularity and menopause. *BMC Women's Health*, 18(1). <https://doi.org/10.1186/s12905-018-0528-x>
- Cheng, J., Santiago, K., Abutalib, Z., Temme, K., Hulme, A., Goolsby, M., Esopenko, C., & Casey, E. (2021). Menstrual Irregularity, Hormonal Contraceptive Use, and Bone Stress Injuries in Collegiate Female Athletes in the United States. *Pm&R*, 13(11), 1207–1215. <https://doi.org/10.1002/pmrj.12539>
- Demeke, E., Zeru, A. B., Tesfahun, E., & Mohammed, W. B. (2023a). Effect of menstrual irregularity on academic performance of undergraduate students of Debre Berhan University: A comparative cross-sectional study. *PLOS ONE*, 18(1), e0280356. <https://doi.org/10.1371/journal.pone.0280356>
- Ekpenyong, C. E., Davis, K. L., Akpan, U. P., & Daniel, N. (2011). Academic stress and menstrual disorders among female undergraduates in Uyo, South Eastern Nigeria - the need for health education. *PubMed*, 26(2), 193–198. <https://pubmed.ncbi.nlm.nih.gov/22547190>
- Garg, S., & Anand, T. (2015). Menstruation related myths in India: strategies for combating it. *Journal of Family Medicine and Primary Care*, 4(2), 184. <https://doi.org/10.4103/2249-4863.154627>
- Gilbrech, K. I. (n.d.). *The Impact of Stress on the Menstrual Cycle*. ScholarWorks@UARK. <https://scholarworks.uark.edu/nursuht/102/>
- Ozimek, N., Velez, K., Anvari, H., Butler, L. S., Goldman, K. N., & Woitowich, N. C. (2022b). Impact of Stress on Menstrual Cyclicity During the Coronavirus Disease 2019 Pandemic: A Survey Study. *Journal of Womens Health*, 31(1), 84–90. <https://doi.org/10.1089/jwh.2021.0158>
- India Today. (2020a, November 30). *Parent's expectations and academic pressure: A major cause of stress among students*. <https://www.indiatoday.in/education-today/featurephilia/story/parent-s-expectations-and-academic-pressure-a-major-cause-of-stress-among-students-1743857-2020-11-25>
- Jha, N., Bhadoria, A. S., Bahurupi, Y., Gawande, K., Jain, B., Chaturvedi, J., & Kishore, S. (2020). Psychosocial and stress-related risk factors for abnormal menstrual cycle pattern among adolescent girls: A case-control study. *Sage Journal*, 9(1), 313. [https://doi.org/10.4103/jehp.jehp\\_419\\_20](https://doi.org/10.4103/jehp.jehp_419_20)
- Kaur, N., & Byard, R. W. (2021b). Menstrual health management: Practices, challenges and human rights violations. *Sage Journal*, 89(4), 241–246. <https://doi.org/10.1177/00258172211052111>
- Maity, S., Wray, J., Coffin, T., Nath, R., Nauhria, S., Sah, R., Waechter, R., Ramdass, P., & Nauhria, S. (2022). Academic and Social Impact of Menstrual Disturbances in Female Medical Students: A Systematic Review and Meta-Analysis. *Frontiers in Medicine*, 9. <https://doi.org/10.3389/fmed.2022.821908>
- Manjunatha.N. (2019, June 1). *Descriptive Research*. <https://www.jetir.org/view?paper=JETIR1908597>

## Academic Stress on Menstrual Cycle among Adolescents

- Malloy, S. M., & Bradley, D. (2021). The Relationship Between Perceived Stress During the Covid-19 Pandemic and Menstrual Cycles and Symptoms. *Fertility and Sterility*, 116(3), e72. <https://doi.org/10.1016/j.fertnstert.2021.07.202>
- Omidvar, S., Amiri, F. N., Bakhtiari, A., & Begum, K. (2018). A study on menstruation of Indian adolescent girls in an urban area of South India. *Journal of Family Medicine and Primary Care*, 7(4), 698. [https://doi.org/10.4103/jfmpc.jfmpc\\_258\\_17](https://doi.org/10.4103/jfmpc.jfmpc_258_17)
- Ozimek, N., Velez, K., Anvari, H., Butler, L. S., Goldman, K. N., & Weitowich, N. C. (2022). Impact of Stress on Menstrual Cyclicity During the Coronavirus Disease 2019 Pandemic: A Survey Study. *Journal of Womens Health*, 31(1), 84–90. <https://doi.org/10.1089/jwh.2021.0158>
- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2019a). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 25(1), 104–112. <https://doi.org/10.1080/02673843.2019.1596823>
- Rentala, S., Nayak, R. B., Patil, S. D., Hegde, G., & Aladakatti, R. (2019). Academic stress among Indian adolescent girls. *PubMed*, 8, 158. [https://doi.org/10.4103/jehp.jehp\\_116\\_19](https://doi.org/10.4103/jehp.jehp_116_19)
- Rathi, A. K., Agrawal, M., & Baniya, G. C. (2019). A study of impact of stress: examinations on menstrual cycle among medical students. *International Journal of Research in Medical Sciences*, 7(12), 4703. <https://doi.org/10.18203/2320-6012.ijrms20195542>
- Upadhyay, A. (2019, May 29). *Menstrual Hygiene Day Facts: Only 36 Percent of The Women in India Use Sanitary Pads During Periods | Menstrual Hygiene*. NDTV-Dettol Banega Swasth Swachh India. <https://swachhindia.ndtv.com/menstrual-hygiene-day-facts-26-percent-use-sanitary-pads-periods-34309/#:~:text=Only%2036%20Percent%20Women%20Use%20Sanitary%20Pads%20In,are%20using%20sanitary%20napkins%2C%20locally%20or%20commercially%20produced.>

### **Acknowledgement**

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

### **Conflict of Interest**

The author(s) declared no conflict of interest.

**How to cite this article:** Govind, G.K. & Gayathri, D. MS (2023). Academic Stress on Menstrual Cycle among Adolescents. *International Journal of Indian Psychology*, 11(3), 3031-3042. DIP:18.01.287.20231103, DOI:10.25215/1103.287