

Effect of academic stress on premenstrual syndrome

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ABSTRACT

Background: Premenstrual Syndrome (PMS), is a common problem among girls, PMS is associated with various psychological, physiological and behavioral symptoms that leads to various social and work life impairments. Stress has been hypothesized as an important etiological factor of premenstrual symptoms. Academic stress may also be responsible for the increasing symptoms in college and school going students. The objective of this study was to study the effect of academic stress on symptoms of premenstrual syndrome. **Objectives:** To find the effect of academic stress on premenstrual syndrome. **Methods:** This is two group survey research studies among female college and school going students. The sample of 60 students was taken, and the data was collected by using Premenstrual Syndrome Scale (PMSS) and Student Stress Inventory (SSI). Correlation is used for statistical analysis. **Results:** The results shows that there is positive correlation between academic stress and premenstrual syndrome students having severe level of academic stress has shown severe level of symptoms of premenstrual syndrome while those with mild level of academic stress did not show the symptoms of premenstrual syndrome. **Conclusion:** Academic stress among the college going students have the impact on the intensity level of premenstrual syndrome. Thus academic stress can have effect on symptoms of premenstrual syndrome.

Keywords: Premenstrual syndrome (PMS), Stress, Academic Stress

Premenstrual syndrome is a very common problem prevailing among women in today's world. Surveys have shown that there are 90% of women who are experiencing the symptoms of premenstrual syndrome (Campagne & Campagne, 2007). If a women have a high level of stress in the two weeks period before the commencement of menstruation then those women are more likely to experience depression, sadness and crying spells as well as other bodily symptoms of PMS that are body aches, bloating, low back pain, cramps and headache compared to those women who did not feel stressed during the early period of their menstruation cycles. There are many factors that are related to the symptoms of premenstrual syndrome hormonal changes, changes in chemicals of brain etc. Among them stress has also been found as an important factor of symptoms of PMS (Ekpeyong CE. et al. 2011). Stress in college setting can arise due to academic stress one faces in exam, increasing competition, increasing academic course and limited span of

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time to cover it are some of the academic stresses that students suffers from in the college and school setting (Rathi, Agarwal and Baniya 2019).

It has been reported that there has been increase in the symptoms of premenstrual symptoms among women residing in academic setting during the increase of academic demands (Hulstein 2009). Various girls have different academic performance during their menses, some face lack of interest, lack of concentration and inattentiveness at the time of menses while some perform with the same capacity as other time during the time of their menses (Janula and Suguna, 2017).

In India the rate of PMS was 18.4%. Moderate to severe PMS was 14.7% and PMDD was 3.7% the symptoms that were commonly reported were lack of energy and fatigability , lack of interest in work , anger and irritability with these the most common item in which there was impairment is decreased level of work/school efficiency and productivity (Raval, Panchal and Tiwari et al 2016.

Objectives

The main objective of the study was stated as:

1. To assess the academic stress of adolescent girls.
2. To assess the symptoms of premenstrual symptoms in adolescent girls.
3. To find the effect of academic stress on premenstrual syndrome.

Hypothesis

- **H₁**: There will be significant impact of academic stress on level of Premenstrual Syndrome.
- **H₂**: There will be significant relationship between Academic stress and Level of Premenstrual symptoms.

MATERIALS AND METHODS

Research Design

The research design that was used is Export facto- Correlational design. The correlation between academic stress and premenstrual syndrome was established using this design.

Variables

Independent variable: Level of Academic Stress

Dependent Variable: Level of Premenstrual Syndrome in Girls

Description of the tools used

Following scales were used in the research:

1. Premenstrual Syndrome Scale
2. Student Stress Inventory

Premenstrual Syndrome Scale: This scale was developed by Gnecdogan in 2006 to assess the level of premenstrual symptoms. The level of symptoms were graded as 'No symptoms', 'Mild', 'Moderate', 'Severe' and 'Very Severe' symptoms. It is a 40 items instruments with 3 domains:

The first domain is of physiological symptoms

The second domain is of psychological symptoms

The third domain is of behavioral symptoms

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The inter-rater reliability of the tool is .81 and .97 and its sensitivity ranges from 83- 100% and specificity ranges from 64- 90%.

Student Stress Inventory: it was developed by Mohammed Aziz Shah et al. This inventory is used to measure the level of stress among university students. SSI contained 40 negative items to measure 4 subscales (10 items for each subscale) which are:

Subscale 1: Physical (10 items)

Subscale 2: Interpersonal Relationship (10 items)

Subscale 3: Academic (10 items)

Subscale 4: Environmental Factors (10 items)

As for scoring the SSI was designed with ordinal scale of the 'Never', 'Somewhat Frequent', 'Frequent' and 'Always'. The SSI has a good validity of 0.805 and has high reliability of .857.

Sample

After the concern was taken from the subject, the study was carried out. For this purpose, the sample of 60 students were taken from university. The sample was taken from students of Geetanjali university and from students of Mohan lal Sukhadiya university
Sampling technique used is Purposive Sampling

Sampling Criteria

Inclusion Criteria:

1. Girls in the age group of 18 – 25 years
2. Having attained menarche
3. Willing to give informed consent
4. Girls studying in university

Exclusion Criteria:

Pre – existing medical and gynecological illnesses (anaemia, diabetes, hypothyroidism, asthma, migraine, epilepsy, pelvic inflammatory disease, endometriosis and amenorrhea) Using medication affecting menses (e.g., antidepressants, anticonvulsants or herbal medicines, hormones and vitamins) within the past 3 months.

Sample Distribution

S. No	Category	Sample Size
1	Mild	20
2	Moderate	20
3	Severe	20

Procedure

At first ethical clearance was taken from the Geetanjali University for taking the consent for conducting the research than 60 participants were gathered for conducting the research and consent was taken first from the participants then the participants were provided with the Premenstrual Syndrome Scale (PMSS) inventory and Student Stress Inventory (SSI) and were asked to fill the test after the collection of data all the data was scored and then the master chart was prepared for conducting further statistical operations for getting the result of the study , after the computation of result the results were statistically analyzed using t-test and the correlation was found.

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Statistical Analysis

After finding Mean and SD scores; correlation has been found by using Karl Pearson's product movement correlation and significance by using t value

RESULTS

Table 1: Mean and SD of Academic Stress and Level of Symptoms of Premenstrual Syndrome

	N	Mean	SD
Academic Stress	60	83.38	22.11
Premenstrual syndrome	60	100.61	32.79

The mean and standard deviation value of academic stress is 83.8 and 22.11 and premenstrual syndrome is 100.61 and 32.79.

Correlation of academic stress and premenstrual syndrome

Table 2: all students with academic stress and premenstrual syndrome

Category	N	Mean	SD	R
Academic stress	60	83.38	22.11	0.62
Premenstrual syndrome	60	100.61	32.79	

The correlation is 0.62 thus academic stress and premenstrual syndrome has positive relation and if there will be rise in the level of academic stress then there will be rise in the level of premenstrual syndrome.

Table 3: severe academic stress and premenstrual syndrome

Category	N	Mean	SD	R
Academic stress	20	103.25	14.33	0.174
Premenstrual syndrome	20	139.9	18.85	

There is high positive correlation that is 0.174 between severe academic stress and premenstrual syndrome thus if academic stress will be at severe level then there will be rise in the level of premenstrual syndrome.

Table 4: moderate academic stress and premenstrual syndrome

Category	N	Mean	SD	R
Academic Stress	20	78.8	20.98	-0.084
Premenstrual Syndrome	20	93.45	9.09	

The correlation is negative that is -0.084 between moderate level of academic stress and premenstrual syndrome thus if the academic stress is at moderate level then it will not affect the level of premenstrual syndrome

Table 5: mild academic stress and premenstrual syndrome

Category	N	Mean	Standard Deviation	r
Academic stress	20	68.1	14.05	-0.034
Premenstrual syndrome	20	68.5	11.67	

The correlation is negative that is -0.034 between mild academic stress and premenstrual syndrome thus when the academic stress is at mild level then it will not affect the level of premenstrual syndrome.

DISCUSSION

H₁ – There will be significant impact of academic stress on level of premenstrual symptoms

The finding of academic stress has significant impact on premenstrual syndrome. Table 2 shows the correlation and significance of academic stress with premenstrual syndrome.

The positive relationship has been found between the academic stress with premenstrual syndrome. The correlation between academic stress and premenstrual symptoms is high in severe stress while the correlation is negative in mild and moderate academic stress.

Previous studies has also shown that there is a high correlation between academic stress and symptoms of premenstrual syndrome as per the study conducted by Ruchi Singh et al(2015) between medical and non-medical students showed that there is high correlation between academic stress and premenstrual syndrome and the premenstrual tension is seen higher in the medical students than the non-medical students maybe because of the higher academic demands for the medical students than those of non-medical students.

Another study which approves the result of the study is Audra L Gollenberg et al (2010) in which the results showed that higher perceived stress increases the perimenstrual symptoms thus stress being the factor for the increase in the perimenstrual symptoms and the stress reduction techniques can be helpful in reducing the symptoms.

Other studies have also showed the positive relation between stress and premenstrual syndrome a cross – sectional study conducted by Tamaki Matsumoto, Miho Egawa and et al (2019) showed that the negative perceptions about health and stress are also related to the intensity of premenstrual symptoms.

Another study conducted by Dvivedi et al. (2011) showed that 61 point relaxation exercise can have impact of reducing the symptoms of PMS thus the stress reduction exercise can be helpful in reducing the symptoms which shows that the symptoms gets severe due to stress.

CONCLUSION

Thus, it can be concluded from the study that there is a positive correlation between academic stress and premenstrual syndrome and the students with severe academic stress have severe level of symptoms of premenstrual syndrome.

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Conflict of Interest

The author declared no conflict of interest.

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