

Premenstrual Symptoms: Correlation with Temperament

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ABSTRACT

Background: Premenstrual syndrome is particularly common problem in the young age group and represents significant public health problem (Halbreich et al., 2003). During adolescence, temperament plays a major role to determine how a person will deal with a stressors and different type of physical and psychological changes. **Aim:** The aim of this study was to assess the correlation between temperament and premenstrual tension symptoms in adolescent girls. **Method:** In this study 4 girl's schools were selected in Ranchi, Jharkhand. Participants from the schools were recruited by purposive sampling method as per the inclusion and exclusion criteria. All the participants were given a brief description about the study and ensured about the confidentiality. Subsequent doubts were thoroughly clarified and asked to give an informed consent. All the tools (premenstrual symptoms checklist, TEMPS-A, were administered at the same time. **Results:** Findings of current study show that there is significant correlation of various type of temperament namely dysthymic, cyclothymic and irritable with premenstrual symptoms. There was significant correlation found between various type of temperament and various sub domains of premenstrual symptoms namely, biological, psychological and somatic. **Conclusion:** The study found significant correlation between temperament and premenstrual tension symptoms.

Keywords: *Premenstrual Symptoms, Temperament, Dysthymic, Cyclothymic, Temps-A.*

Premenstrual syndrome is used to refer to the symptoms a woman experiences leading up to her menstruation. It is defined as recurrent moderate psychological and physical symptoms that occur during the luteal phase of menses and resolve with menstruation (Carren-Le Sauter, I. (2010). Dalton and Holton (1999) defined 3 patterns in which these symptoms present themselves throughout the menstrual cycle.

- The first is four days prior to menstruation.
- The second pattern involves symptoms at the time of ovulation which remit within a day or two and then return about 7-10 days prior to menses and continue through the third day.
- The third pattern also begins at the time of ovulation but the symptoms continue to increase in severity until the beginning of menses.

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This first phase of the menstrual cycle is known as the follicular phase and occurs on the first day of menses. Following that ovulatory phase of the cycle begins approximately on day 13 or 14 with a surge in luteinizing hormone that stimulates the release of an egg (ovulation). The luteal phase begins after ovulation and usually lasts approximately 14 days, unless fertilization has occurred. PMS occurs during the luteal phase of the cycle, most often with one week before menses (Kroll, A., 2010). The common symptoms of premenstrual syndrome can be broken down into 3 categories: physical, behavioral, and mood/psychological symptoms (Freeman, 2003).

- **Physical symptoms:** Breast tenderness and swelling, weight gains, headaches, swelling of hands and feet, nausea, abdominal and muscle pains.
- **Behavioral symptoms:** Fatigue, insomnia, food cravings, changes in appetite, social withdrawal.
- **Psychological/ Mood symptoms:** Mood swings, lack of concentration, irritability, anger, depressed mood, crying and tearfulness, anxiety, confusion, restlessness (Woods, Most & Dery, 1982; Rapkin, 2003).

Adolescence is one of the most dynamic stages of human development. It is accompanied by dramatic physical, social and emotional changes. It is a phase of storm and stress and also the most vulnerable group to suffer various health problems, psychosocial problems and sexually related problems (Agrawal, S., Fatma, A., & Singh, C. M., 2007).

Temperament and PMS:

Temperament describes the way in which person approaches and reacts to the world. Temperament defined as a biologically determined, hereditary core of the personality, being stable and relatively unchangeable throughout life, which determines the basic level of reactivity, mood and energy of given individual. Akiskal described four major type of temperament namely dysthymic, hyperthymic, cyclothymic and irritable (Dembińska-Krajewska et al., 2014).

- Dysthymic temperament is characterized by a tendency to rigid thinking, self-accusation, shyness and lack of assertiveness. These people are more sensitive to criticism (Dembińska-Krajewska, et al., 2014).
- Hyperthymic temperament is characterized by the highest number of positive features, i.e. optimistic attitude toward life, merry and sociable. They manifest the highest amplitude of emotional intensity (Dembińska-Krajewska, et al., 2014).
- Cyclothymic temperament is characterized by lability of mood, a tendency to rapid changes in the level of energy and changes in social relations (Dembińska-Krajewska, et al., 2014).
- Irritable temperament overlaps with the cyclothymic temperament. The main difference is a higher level of energy and a lower level of empathy, displayed by persons with irritable temperament. They tend to be grumpy, dissatisfied and quick to be angry (Dembińska-Krajewska, et al., 2014).

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Need of the study:

Premenstrual syndrome is a common problem in the young age group (Halbreich et al., 2003). During adolescence, temperament plays a major role to determine how a person will deal with a stressors and different type of physical and psychological changes. Although many researchers have reported the prevalence of premenstrual tension syndrome but its correlation with temperament is still sparse. Hence present study is an attempt to explore the relationship between temperament and premenstrual tension symptoms in school going adolescents.

METHODOLOGY

Sample:

The present study was conducted on adolescent girls between the age group of 14-18 year .4 girl's schools were selected in Ranchi, Jharkhand. Participants from the schools were recruited by purposive sampling method as per the inclusion and exclusion criteria.

Inclusion Criteria:

- Students who have given written informed consent.
- Those who are studying in various schools in Ranchi.
- Girls who have regular menstrual periods in the last 6 month.
- Girls who have age range between 14 to 18.

Exclusion criteria:

- Girls who has irregular menstrual cycles in the last 6 month.
- Presence of any severe or acute mental illness.
- Age less or more than 14 to 18

Instruments:

These measures were used in this study,

- 1. Socio-Demographic Data Sheet:** It was included details regarding class, section, age, sex, education, Residence, religion and family income.
- 2. Clinical Data Sheet:** It was included details regarding age of menarche, last menstrual cycle, nature of menstrual cycle, medical illness and family history of any mental/medical illness, present medication, and gynecologist consultation.
- 3. Premenstrual Symptoms Checklist:** The scale was developed by Chandra and Chaturvedi in 1989 in study done at NIMHANS Bangalore. It consists of 50 symptoms which were further categorized in to three group namely psychological symptoms, biological symptoms and somatic symptoms on the basis of their content. Psychological symptoms consist of items- 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 29, 38 and 43. The biological symptoms consist of items -19, 22, 23, 25, 26, 27, 31, 37, 44, and 48. The somatic symptoms consist of items - 2, 17, 18, 20, 21, 24, 28, 30, 32, 33, 34, 35, 36, 39, 40, 41, 42, 45, 46, 47, 49, 50. This scale assessed the presence of various feeling and experiences which can possibly occur in relation to premenstrual period. The women had to rate the presence and absence of each item during their premenstrual phase.

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- 4. Temperament Evaluation of the Memphis Pisa, Paris and San Diego Auto Questionnaire-A (TEMPS-A):** This questionnaire was developed by Akiskal et al., (2005). It is a 'yes' or 'no' type self-report questionnaire designed to measure affective temperamental traits, present over the course of a person's entire life. The original scale consists of 50 items. It measures 5 temperament subtypes-depressive, hyperthymic, irritable, cyclothymic and anxious. Dysthymic temperament consist of items 1-11, cyclothymic 12-26, hyperthymic 27-39 and irritable 40-50. Test-retest reliability is 0.73-0.91, and internal consistency 0.77-0.85.

Procedure:

Participants from the schools were recruited by purposive sampling method as per the inclusion and exclusion criteria. First of all permission was taken from school authority, after that written informed consent was taken from the participants after briefing them about the study and ensured about the confidentiality. Subsequent doubts were thoroughly clarified. After filling the socio-demographic and clinical data sheet of the student, Premenstrual Symptoms Checklist, TEMPS-A were administered at the same time on group.

RESULTS

Table 1: Correlation between premenstrual symptoms and temperament types

Domains of temperament	Premenstrual symptoms
DYSTHYMIC	.32**
CYCLOTHYMIC	.34**
HYPERTHYMIC	.07
IRRITABLE	.26**

**p < 0.01

Table 1 shows significant correlation (.32**) between premenstrual symptoms and dysthymic temperament. Cyclothymic temperament was significantly correlated (.34**) with premenstrual symptoms.

There was no significant correlation (.07) found between hyperthymic temperament and premenstrual symptoms. Irritable temperament was also significantly correlated (.26**) with premenstrual symptoms.

TABLE 2: Correlation between various sub-domain of premenstrual symptoms and temperament types

TYPES OF TEMPERAMENT	SUB-DOMAIN OF PREMENSTRUAL SYMPTOMS		
	PSCP	PSCB	PSCS
DYSTHYMIC	.28**	.23**	.32**
CYCLOTHYMIC	.30**	.22**	.34**
HYPERTHYMIC	.02	.05	.07
IRRITABLE	.28**	.22**	.26**

**p < 0.01 (PSCP=Psychological sub domain, PSCB=Biological sub domain, PSCS= Somatic Sub domain)

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Table-2 shows the correlation between Types of temperament and premenstrual symptoms. Dysthymic temperament positively correlated with total premenstrual symptoms (.34) psychological (.28) biological (.23) somatic (.32) domains of premenstrual symptoms. Cyclothymic was positively correlated with total premenstrual symptoms (.34) psychological (.30) biological (.22) somatic (.34) domains of premenstrual symptoms. There was no correlation found between hyperthymic temperament and various sub domains of premenstrual symptoms. Irritable was positively correlated with total premenstrual symptoms (.29) psychological (.28) biological (.22) somatic (.26) domains of premenstrual symptoms.

DISCUSSION

In present study there was significant correlation found between various types of temperament and premenstrual symptoms. Dysthymic temperament was positively correlated with premenstrual symptoms. Study done by Gonda et al., (2010) indicates that neurotic trait-like tendency increases the likelihood of noticing negative events and phenomena and also makes subjects more prone to label neutral bodily changes as distressing. Bias towards negative life events also increases perceived stress in the late-luteal phase of the cycle, which leads to an increased likelihood of the manifestation of premenstrual symptoms. Dysthymic temperament includes characteristics like shyness, lack of assertiveness, self-accusation, sensitive to criticism and deficiency in energy (Dembinska-Krajewska et al., 2014).

In present study Cyclothymic temperament was also significantly correlated with premenstrual symptoms. As per Akiskal et al.,(2005) in females with cyclothymic temperament the mood swings were present in the whole menstrual cycle but during the premenstrual period there was an accentuation in anger outbursts. Sassoon, Colrain and Baker (2011) also found that women with severe PMS had a higher prevalence of personality disorders and they were more likely to have odd-eccentric, dramatic-erratic, and anxious-fearful personality disorder. Câmara et al., (2016) also found significant correlation between premenstrual syndrome and cyclothymic temperament.

There was no significant correlation found between hyperthymic temperaments with premenstrual symptoms.

There was significant correlation found between irritable temperament and premenstrual symptoms. Hallman et al., (1987) also found that participant with high premenstrual symptoms scored significantly higher as regards somatic anxiety, indirect aggression, verbal aggression and neuroticism and have lower regards for socialization than the normal participants.

In present study, findings indicate that sub domain of temperament namely; dysthymic was significantly correlated with sub domains of premenstrual symptoms namely psychological, biological and somatic. There have been studies which show that dysthymic temperament was positively associated with depressive symptoms, neuroticism and agreeableness

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personality traits (Walsh et al., 2012). Freeman et al., (1995) found that the Harm Avoidance dimension was correlated with premenstrual depression and physical aches.

In current study significant (<0.01) significant correlation was found on cyclothymic sub domain of temperament with sub domains of premenstrual symptoms namely, biological, psychological and somatic and total premenstrual symptoms scores. Some previous study showed that cyclothymic and irritable temperament was associated with mood disorders and impaired functioning. It was positively associated with borderline symptoms and impulsivity (Walsh et al., 2012). It was also found that cyclothymic temperament has been related with a higher number for all types of bipolar affective episodes (Kochman et al., 2005, Cassano et al., 1992). Shen et al., (2008) found the positive relationship between cyclothymic temperament, regularity and severity of depressive symptoms and sleep duration.

In current study no significant correlation was found with hyperthymic temperament and various sub domains of premenstrual symptoms namely psychological, biological and somatic.

There was significant (<0.01) positive correlation found between irritable sub domain of temperament and various sub domains of premenstrual symptoms namely, biological, psychological and somatic and total premenstrual symptoms. There has been a study which shows that irritable temperament was associated with mood disorders and impaired functioning (Walsh et al., 2012).

CONCLUSION

There was significant positive correlation found among the various domains of temperament namely dysthymic, cyclothymic and irritable with premenstrual symptoms.

There was significant positive correlation found among the various types of temperament namely dysthymic, cyclothymic and irritable with various sub domain of premenstrual symptoms namely biological, psychological and somatic.

The major limitation of this study was that we screened PMS by retrospective self-report. In a retrospective design some students were unable to recall the premenstrual problem in the past. The study had a cross sectional study design. The samples were selected by using purposive sampling technique.

Premenstrual symptoms are common among adolescent students and create major problem which can interrupt their daily life functioning. So a prospective kind of study should be undertaken. Impact of premenstrual symptoms on the process of puberty, interpersonal relationship, and social and educational performance can be included in future study.

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