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A STUDY OF PREMENSTRUAL SYNDROME AND QUALITY OF SLEEP IN FEMALE STUDENTS

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ABSTRACT

Background: Premenstrual Syndrome (PMS) is becomes a common condition that affects the psychological well-being of every female just prior to menstruation. Premenstrual Syndrome occurs with a set of uncomfortable and distressing symptoms that affects the physical, behavioural or psychological status of women. **Aim and Objectives:**

- To study the common premenstrual syndrome among the students.
- To assess the relationship of sleep quality (AIS) and premenstrual syndrome of the students

Material And Methods: The study design is cross – sectional study. The study participants are 326 female undergraduate medical students of age group 16 to 25 years. The study method is based on questionnaires form that includes socio demographic details, Kelly Wallace premenstrual syndrome (graded like mild, moderate & severe) and for assessing the sleep quality, Athens Insomnia Scale (normal & insomnia). Institutional ethical committee clearance was obtained. Students who gave consent of 16 – 25 yrs age group were included. Those participants who refused consent and were on medications like anti-depressant drugs, menstrual irregularities were excluded. Data analysis were done by MS Excel and SPSS software version 20. **Results:** The most common premenstrual symptoms reported by this study are anxiety (62%), irritability (81%), mood swings (81%), fatigue (65%), depression (59%),breast tenderness (43%), abdominal bloating (38%), acne(67%), backache(82%) and menstrual cramps(68%). These symptoms causes disturbs the students quality of sleep. **Conclusion:** Female student's experiencing the premenstrual syndrome symptoms may be affected by sleep problems like delay in sleep induction, lower the overall quality of sleep, daytime dysfunction and sleep disturbance.

KEYWORDS: Menstruation, Premenstrual Symptoms, Questionnaires, Insomnia, Medical Students.

INTRODUCTION

Menstruation is a natural physiological phenomenon of female reproductive system, starting from menarche and continuing until menopause. Robert Frank in 1931 describe the the term Premenstrual Tension(PMT) with the hormonal imbalance.[1] In 1953, Raymond Greena and Katharina Dalton established the term as "Premenstrual syndrome" (PMS).[2]
Premenstrual Syndrome begins just a week before the menstrual cycle and usually disappears after the onset of menstruation. PMS is becoming a common condition that affects the psychological well-being of every female just prior to menstruation. The Severe form of premenstrual syndrome, especially with the psychological symptoms that differ from PMS in respect to the predominance,functional impairments, then it is called Premenstrual Dysphoric Disorder (PMDD).[3]

Premenstrual Syndrome affect menstruating women of any age and the effect varies for each women. It causes physical, behavioural, psychological changes with different symptoms in the luteal phase of the menstrual cycle and in few days in the follicular phase.[4] The emotional symptoms of premenstrual syndrome are mood swings, anxiety, and irritability and physical symptoms are headache, fatigue, abdominal bloating, nausea, diarrhoea and breast tenderness. These changes leads to disturbance in the normal daily activities and also the sleep quality in life. Among the gynecological problems, menstrual problems are said to be the major ones among adolescent females.[5] So, keeping this in mind, this study is aimed to study the premenstrual syndrome and sleep quality of the medical students.

AIM AND OBJECTIVES

- To study the common premenstrual syndrome among the students.
- To assess the relationship of premenstrual syndrome and sleep quality (AIS) of the students

MATERIALS AND METHODS

The study was carried out among 326 female undergraduate medical students with age group 16 to 25 years of varied body mass index in Sree Balaji Medical College and Hospital, Chennai. The study purpose was clearly explained to the students and written informed consent was obtained before collecting the data. Institutional Ethical Research Committee approval was obtained before starting the study. They were also asked to tick the common symptoms of PMS which they have during their menstrual cycle

The first part of the questionnaires is regarding the social demographic details and menstrual characteristics like age of menarche, interval of cycle, pain during menses, duration of menstrual cycle, regularity of the cycle was collected. The second part of the study was done with Kelly Wallace premenstrual syndrome questionnaires to know about her own experience of any kind of discomfort before the menstrual cycle and whether it affects the normal daily life functioning or not and Athens Insomnia Scale for assessing the sleep quality during premenstrual syndrome.

Inclusion criteria: Those who were willing to take part in the study were included.
(a) Age range of 16 -25 years;
(b) Regular menstrual cycles (3-7 days of menstruation between intervals of 21-35 days);

Exclusion criteria: Irregular menstrual cycle, drug use (due to internal conditions including endocrine disorders, autoimmune diseases and gynaecological diseases such as polycystic ovaries and endometriosis), bipolar disorder, personal disorders and psychosis, (i.e anti-depressants, hormonal therapy). For anthropometric measurement, students height and weight was obtained. Body Mass Index (BMI)was calculated by the formula.

$$BMI=weight(kg)/ Height(m^2).$$

Scoring system for PMS and sleep quality: No symptoms, mild, moderate and severe. Data were entered in Microsoft Excel and analyzed with the statistical software SPSS version 20.

RESULTS

The study participants is 326 students, Mean age of the students is 20.83±2.656 years of range 16–25 years. Mean age at menarche is 14.375±1.980 years. Among 326 students, 11.34% attained menarche before 12 years, 88% of them at the age of 12 – 16 yrs. Majority of the girls (60.7%) has the duration of menstrual periods for 3 – 5 days. 67.2% suffer from dysmenorrhoea.

Table 1: Regarding the menstrual history of the participants.

MENSTRUAL HISTORY	N= 326
MENARCHE- AGE	
BEFORE 12 YRS	37
12 – 14 YRS	266
15 – 16 YRS	21
AFTER 16 YRS	2
REGULAR INTERVAL	
LESS THAN 24 DAYS	11
25 – 29 DAYS	174
30 – 34 DAYS	91
>34 DAYS	50
DURATION OF PERIODS	
3 DAYS	47
3 – 5 DAYS	198
5 – 7 DAYS	77
>7 DAYS	4
DYSMENORRHOEA	
YES	107
NO	219

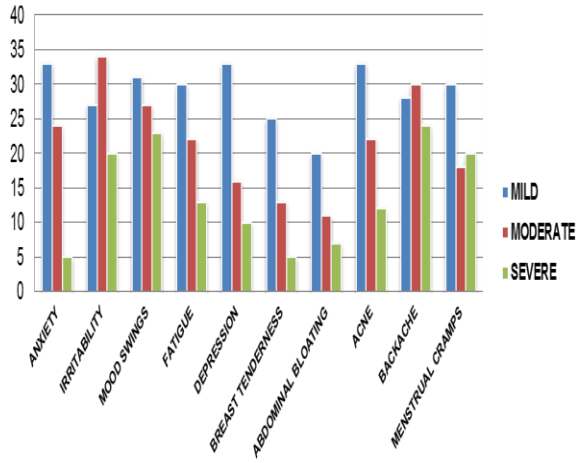

Fig 1: The most common PMS symptoms with grading of the participants.

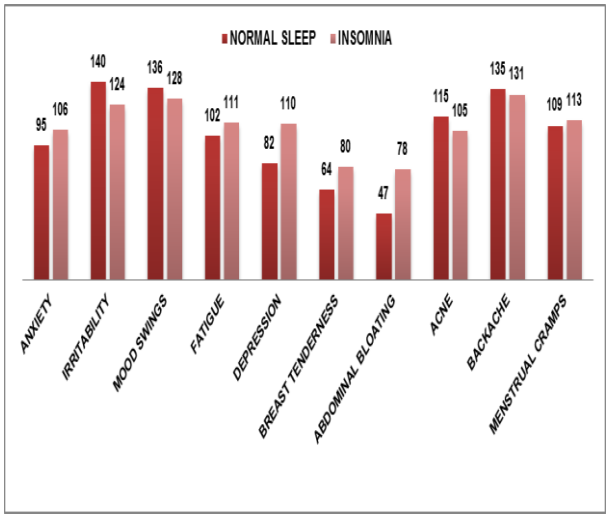

Fig 2: Premenstrual symptoms with sleep quality of the participants.

DISCUSSION

Among 326 students, mean age at menarche is 14 years. About 11.34 % attained menarche before 12 years, 88% at the age of 12 – 16 yrs. The onset of menarche differs from adolescent girls due to change in life style. The menarche age of girls in john et al study is 12.2yrs.[6] In study conducted in urban area of Mumbai by Joshi. B. N et al found that the mean age of menarche is 10.8yrs.[7]

The menstrual cycle is in regular interval of 25 to 29 days of cycle for 53.3% of students. The duration of the menstruation of 84.3% students is ranged for 3 – 7 days.In mona et al study, among female nursing students (85.2%), it is ranged for 3- 6 days and 60.5% had regular menstruation.[8]

A cramping lower abdomen pain which may radiate to back during or before onset of menstruation has been classified as Dysmenorrhoea. In our study, 67.2% suffer from dysmenorrhoea. Similar to our study, the adolescent girls in rural school of 59.4% suffers from dysmenorrhoea. Dysmenorrhoea can lead to college absenteeism, student's lacks the attention in class, which is associated with poor academic performance. In normal body mass index students, all the commonest symptoms were experienced.

In underweight, the symptoms like irritability, mood swings, backache and menstrual cramps were found to be severe.In underweight (13.2%) and obese (5.5%)students, only 50% are affected by insomnia. Whereas, in normal (61.3%) and overweight (20%) individuals, the sleep disturbance is almost for 65 percent.

Overall 65% of students suffers from the commonest premenstrual symptoms. The most common premenstrual symptoms reported by this study are anxiety (62%), irritability (81%), mood swings (81%), fatigue (65%),depression (59%),breast tenderness (43%), abdominal bloating (38%), acne(67%), backache(82%) and menstrual cramps(68%). These symptoms are observed in all the participants to have in a milder extend.

The symptoms like irritability (35%), backache (30.1%), mood swings (27%), anxiety(24%) are in moderate level, along with the above symptoms menstrual cramps(20%) are in severe level among the students. In Iranian adolescents, the lower abdominal and back pain are complaint of the respondents. Similarily in Aditya Prasad et al study, irritability was the commonest psychological symptom and abdominal distension to be the most-common physical symptoms.[9] In a study by Taşçı, et.al, premenstrual period symptoms were reported as most common symptoms affecting the daily[10]

PMS are a serious problem that affect majority of women, nearly 85 - 97% of women experience various somatic and affective disorders prior to menstruation that reflect upon the health related quality of life.[11]

We found that the emotional and physical symptoms were affecting the sleep of the students. The students suffer from the abdominal bloating, breast tenderness, anxiety, depression, fatigue and menstrual cramps symptoms have sleep disturbances.

These symptoms causes awakening during the nights, it makes to fall asleep after going to bed, sleepiness during the day. This disturbance cause students to sleep during class hours and that reduce the concentration level and academics performance. Certain symptoms of PMS like irritability, mood swings, acne and backache affects 50% of the overall sleep quality of the students during the premenstrual periods. The mood swings, menstrual cramps affects the study time of the individuals.In another study, indicating that 80% of the individuals had experienced various degrees of symptoms with behavioural changes and sleep disorders.[12]

CONCLUSION

We conclude that among medicos, these symptoms affects the sleep in varies way like delay in sleep induction, lower the overall quality of sleep, daytime dysfunction, unfavourable effect on social and academic activities. Its effects in affective,somatic, behavioural ways of life. Since there is no permanent solution for PMS, strategies for prevention or reduction of symptoms are the best ways to manage this symptoms in each degrees of premenstrual syndromes. The counselling services from the faculities can be provided to the students and help them to handle and manage this premenstrual syndrome.

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