

ORIGINAL RESEARCH

Premenstrual Syndrome and Premenstrual Dysphoric Disorder among Medical and Paramedical Students- Prevalence, Pattern and Functional Impairment

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ABSTRACT

Background: Premenstrual Disorders (PMDs) are characterized by physical, emotional, and behavioural symptoms that start after ovulation and subsequently increase during the luteal phase, with a peak of symptoms occurring during the last five premenstrual days, and resolving in 3-4 days following the onset of menstrual bleeding. The symptoms of PMD might lead to impairment in school functions and social interactions. Under reporting of symptoms by women and difficulty in differentiating PMD from normal premenstrual symptoms by clinicians is common. Medical and paramedical students have to face issues like difficulty of course, staying away from home and family, thus lack of social support, which makes them highly vulnerable for stress related mental health issues. The literature suggests inadequate reporting of symptoms of PMDs even in this population which might explain the low prevalence rates of PMDs in this population. Thus it is important to find true prevalence rates of PMDs in this population. To assess prevalence of Pre-menstrual syndrome (PMS) and pre-menstrual dysphoric disorder (PMDD) among medical & paramedical students. To assess pattern and functional impairment PMS and PMDD among medical & paramedical students.

Materials and Methods: Cross sectional study carried out in a tertiary care center. A total of 532 students participated in study. Premenstrual symptoms screening tool (PSST) was applied on the participants to assess prevalence, pattern and functional impairment.

Results: The prevalence of PMDs was 50% out of which moderate to severe PMS was 38% and that of PMDD was 12%. More than 90% of students reported at least 1 premenstrual symptom in the last 2 cycles. The most common symptom was fatigue (93%) followed by anger/irritability (92%). The maximum impairment was in domain of college studies or work (79%) followed by impairment in social life (77%).

Conclusion: The high rate of prevalence highlights the need of adequate reporting and diagnosing PMDs so that a proper & timely treatment can be provided to reduce the distress and functional impairments.

Keywords: Words: Premenstrual syndrome, Premenstrual Dysphoric Disorder, Medical students, Paramedical students.

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INTRODUCTION

Premenstrual Disorders (PMDs) are a psycho-neuro-endocrine disorders characterized by physical, emotional, and behavioural symptoms that start after ovulation and subsequently increasing during the luteal phase, with a peak of symptoms occurring during the last five premenstrual days, and resolving in 3-4 days following the onset of menstrual bleeding.^[1,2] PMDs can be divided into (i) 'core' PMD which includes Premenstrual syndrome (PMS) and Premenstrual Dysphoric disorder (PMDD) and (ii) 'variants' of PMDs.^[3]

75 % of women between the age of 18 to 45 years with regular menstrual cycles experience symptoms of PMS, while PMDD affects only 3% to 8% of women. The symptoms of PMD might lead to impairment in school functions and social interactions. It may also be a reason of mental health issues. Under reporting of symptoms by women and difficulty in differentiating PMD from normal premenstrual symptoms by clinicians is common. These may lead to under diagnosis and under treatment of PMDs. The treatment of PMS and PMDD involves cognitive behaviour therapy, lifestyle modifications and if needed, pharmacotherapy (primarily Selective serotonin reuptake inhibitors).^[3,4]

Medical and paramedical students have to face issues like difficulty of course, staying away from home and family, thus lack of social support, which makes them highly vulnerable for stress related mental health issues. The literature suggests inadequate reporting of symptoms of PMDs even in this population.^[5] It is important to identify stress related illness early as it might affect their study adversely and that in turn is a factor for more stress. This purpose of the study is to find out proportion of Pre-menstrual syndrome (PMS) and pre-menstrual dysphoric disorder (PMDD) and their patterns and impairment among medical and paramedical students.

Aims and objectives

1. To assess proportion of Pre-menstrual syndrome (PMS) and pre-menstrual dysphoric disorder (PMDD) among medical and paramedical students by using premenstrual symptoms screening tool (PSST).
2. To assess pattern and functional impairment of Pre-menstrual syndrome (PMS) and pre-menstrual dysphoric disorder (PMDD) among medical and paramedical students by using premenstrual symptoms screening tool (PSST).

MATERIALS & METHODS

Study design: Cross sectional Study

Center: A tertiary care center in central India.

Study Population: A total of 940 female students of various course colleges (MBBS, Occupational therapy, Physiotherapy, Nursing) were approached for study. 110 out of them were less than 18 years of age and thus excluded from study. Out of remaining 830 students 532 gave consent to participate in study.

Methods of Data Collection: Premenstrual symptoms screening tool (PSST) was applied on the participants to assess prevalence, pattern and functional impairment. PSST (19-item questionnaire) comprises of 14 items pertaining to premenstrual symptoms and 5 to functional impairments. The items/ questions are rated on a 4-point likert scale as appeared in the week before menses and remitted within few days after the onset of menses, during most of the cycles in the last 12 months. It has the specified criteria for the diagnosis of PMS and PMDD individually.^[6]

Statistical Analysis: The data was analyzed using SPSS 21.0. The data obtained was tabulated, analyzed, and presented using descriptive statistics as frequency (percentages). To compare categorical variables Chi-square test was used. Value of $p < 0.05$ was considered statistically significant.

RESULTS

Table 1: Distribution as per grade of PMS (No/Mild PMS / PMS / PMDD)

| No/Mild PMS / PMS / PMDD | Frequency | Percentage |
|--|-----------|------------|
| No/Mild PMS | 260 | 48.9 |
| Moderate to severe Premenstrual syndrome (PMS) | 205 | 38.5 |
| Premenstrual dysphoric disorder (PMDD) | 67 | 12.6 |
| Total | 532 | 100.0 |

PMS: Premenstrual syndrome; PMDD: Premenstrual Dysphoric Disorder

Table 2: Pattern of symptoms across grades of PMS

| Symptoms | Premenstrual Syndrome | | | Total | P value |
|--|-----------------------|------------------------|-------------|--------------|---------|
| | No/Mild PMS | Moderate to severe PMS | PMDD | | |
| Anger / Irritability | 219 84.2% | 204 99.5% | 67 100% | 490 92.1% | 0.001* |
| Anxiety / Tension | 183 70.4% | 189 92.2% | 65 97.0% | 437 82.1% | 0.001* |
| Tearfulness / Increased sensitivity to rejection | 150 57.7% | 183 89.3% | 64 95.5% | 397 74.6% | 0.001* |
| Depressed mood / hopelessness | 138 53.1% | 197 96.1% | 67 100% | 402 75.6% | 0.001* |
| Decreased interest in work activities | 201 77.3% | 197 96.1% | 63 94.0% | 461 86.7% | 0.001* |
| Decreased interest in home activities | 195 75.0% | 191 93.2% | 61 91.0% | 447 84.0% | 0.001* |
| Decreased interest in social activities | 177 68.1% | 192 93.7% | 62 92.5% | 431 81.0% | 0.001* |
| Difficulty concentrating | 183 70.4% | 198 96.6% | 66 98.5% | 447 84.0% | 0.001* |
| Fatigue / lack of energy | 230 88.5% | 200 97.6% | 63 94.0% | 493 92.7% | 0.001* |
| Overeating / food cravings | 174 66.9% | 180 87.8% | 65 97.0% | 419 78.8% | 0.001* |
| Insomnia | 105 40.4% | 121 59.0% | 53 79.1% | 279 52.4% | 0.001* |
| Hypersomnia | 158 60.8% | 165 80.5% | 55 82.1% | 378 71.1% | 0.001* |
| Feeling overwhelmed or out of control | 138 53.1% | 171 83.4% | 66 98.5% | 375 70.5% | 0.001* |
| Physical Symptoms: Breast tenderness, headaches, joint / | 199 76.5% | 198 96.6% | 57 85.1% | 454 85.3% | 0.001* |

| | | | | | |
|---------------------------------------|--|--|--|--|--|
| muscle pain, bloating, weight gain | | | | | |
|---------------------------------------|--|--|--|--|--|

PMS: Premenstrual syndrome; PMDD: Premenstrual Dysphoric Disorder.

Table 3: Functional impairment across grades of PMS

| Functional Impairment | Premenstrual Syndrome | | | Total | P value |
|---|-----------------------|------------------------|-------------|--------------|---------|
| | No/Mild PMS | Moderate to severe PMS | PMDD | | |
| College / work efficiency of productivity | 164 63.1% | 193 94.1% | 62 92.5% | 419 78.8% | 0.001* |
| Relationship with friends | 134 51.5% | 182 88.8% | 63 94.0% | 379 71.2% | 0.001* |
| Relationship with family | 124 47.7% | 195 95.1% | 66 98.5% | 385 72.4% | 0.001* |
| Social life activities | 154 59.2% | 191 93.2% | 67 100% | 412 77.4% | 0.001* |
| Home responsibilities | 165 63.5% | 167 81.5% | 60 89.6% | 392 73.7% | 0.001* |

PMS: Premenstrual syndrome; PMDD: Premenstrual Dysphoric Disorder.

DISCUSSION

Different research and nations have reported varying levels of PMDD prevalence. In our study the prevalence of moderate to severe PMS was 38% and that of PMDD was 12% which means that half of the study population had significant symptoms. This depicts that the prevalence of PMDs is actually high. Our data was in concordance with previous study conducted on medical students which reported premenstrual syndrome incidence to be 34% and PMDD prevalence to be 19%.^[7] In another study conducted, the prevalence of moderate-to-severe Premenstrual syndrome was 15.13%, and the prevalence of PMDD was 5.04%.^[8] The difference in findings might be due to different tool used for assessment and the subjective experience rating. A study conducted in south India reported the prevalence of Premenstrual syndrome and premenstrual dysphoric disorder to be 14.3% and 3.7% respectively.^[9] The high prevalence in our study could be because of awareness about the symptoms in the population group. More than 90% of students reported at least 1 premenstrual symptom in the last 2 cycles, as assessed by premenstrual symptoms screening tool (PSST). Symptom of anger / irritability was seen in 490 (92.1%) students; anxiety / tension in 437 (82.1%) students; tearfulness / increased sensitivity to rejection in 397 (74.6%) students; depressed mood / hopelessness in 402 (75.6%) students; decreased interest in work activities in 461 (86.7%) students; decreased interest in home activities in 447 (84%) students; decreased interest in social activities in 431 (81%) students; difficulty concentrating in 447 (84%) students; fatigue / lack of energy in 493 (92.7%) students; overeating/ food cravings in 419 (78.8%) students; insomnia in 279 (52.4%) students; hypersomnia in 378 (71.1%) students; feeling overwhelmed or out of control in 375 (70.5%) students; and physical symptoms in 454 (85.3%) students. In our study, in No / Mild Premenstrual syndrome category, fatigue / lack of energy (88.5%) was the most common symptom, followed by anger / irritability (84.2%) and decreased interest in work activities (77.3%). This is in the line of various other studies which also reported fatigue as most common symptom in milder variant of PMS.^[9,10] In the current study, in moderate to severe

premenstrual syndrome, anger / irritability (99.5%) was the most common symptom, followed by fatigue / lack of energy (97.6%), difficulty concentrating (96.6%) and physical symptoms (96.6%) which was in concordance with one study.^[9] However, in other studies, the most common symptoms in moderate to severe PMS were low mood & decreased interest in work.^[8,10] The difference in these findings may be due to variations in subjective experience of symptoms. In our study, in PMDD category, anger/irritability (100%) and depressed mood / hopelessness (100%) were the most common symptoms, followed by difficulty concentrating (98.5%) and feeling overwhelmed or out of control (98.5%) which was in concordance with one study.^[8] Other studies,^[9,11] reported anxiety/tension as most common symptom in PMDD. In our study, we found that impairment was present in all domains of function; however, the most common functional impairment amongst all students was in college/ work efficiency or productivity (78.8%). It was irrespective of the premenstrual syndrome category. In No/Mild premenstrual syndrome category, home responsibilities (63.5%) was the most common functional impairment, followed by college / work efficiency of productivity (63.1%) and social life activities (59.2%). In moderate and severe premenstrual syndrome category, relationship with family (95.1%) was the most common functional impairment, followed by college / work efficiency of productivity (94.1%) and social life activities (93.2%). In PMDD category, social life activities (100%) was the most common functional impairment, followed by relationship with family (98.5%) and relationship with friends (94%). This was in concordance with other studies.^[8,9,11] The study population of medical and paramedical students was probably the reason of maximum impairment in college studies/work. However the impairment in social life was also significant depicting the importance of social support in this population.

CONCLUSION

The prevalence of PMDs was 50% which is significantly high. The impairments in various domains of life were also seen in almost 3/4th of students. This highlights the importance of adequately diagnosing PMDs. Also there is a need to create awareness in population for identifying the symptoms and reporting them to the clinician. Adequate and timely diagnosis gives a window of opportunity for treatment and thus reductions in impairments and distress.

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