

**Original Article****THE STUDY OF PREVALENCE OF PREMENSTRUAL SYNDROME AMONG NURSING AND PARAMEDICAL STUDENTS AND ITS IMPACT ON ACADEMIC AND QUALITY OF LIFE, S V MEDICAL COLLEGE, TIRUPATI, SOUTH INDIA****VANKEEPURAM VISHNU KALYANI\*, Y. ARUNA, BHUVANESWARI**

Department of Obstetrics and Gynaecology, S. V. Medical College, Tirupati, Andhra Pradesh, India

\*Corresponding author: Vankeepuram Vishnu Kalyani; \*Email: [vvishnukalyani@gmail.com](mailto:vvishnukalyani@gmail.com)*Received: 11 Jun 2025, Revised and Accepted: 01 Aug 2025***ABSTRACT**

**Objective:** The term premenstrual syndrome (PMS) describes a group of upsetting symptoms that occur around the time of menstruation. These symptoms may be caused by hormonal changes, which can impair daily functioning and quality of life.

**Methods:** In this cross-sectional study, 165 Nursing and Paramedical students who were unmarried and having regular menstrual cycles in last 6 mo and those who are willing to give written informed consent are included. A self-reported questionnaire containing 3 parts covering all aspects was used. PMS is diagnosed (ACOG criteria) if at least one of the 6 affective symptoms and one of the somatic symptoms were reported 5 d prior to menstrual cycles and ceased within four days of onset of menses.

**Results:** The prevalence of PMS was 62.7%. Back, joint and muscle aches were the most common symptoms, followed by abdominal heaviness and discomfort. PMS was associated with a poorer quality of life across all domains. About half the students had affective symptoms in the premenstrual phase.

**Conclusion:** PMS symptoms significantly affect women's well-being and overall quality of life. Dietary and lifestyle factors such as consumption of sweets and lack of physical activity were associated with the presence of PMS.

**Keywords:** Premenstrual syndrome (PMS), Premenstrual dysphoric disorder (PMDD), Premenstrual symptoms screening tool (PSST), Sheehan disability scale, Quality of life

© 2025 The Authors. Published by Innovare Academic Sciences Pvt Ltd This is an open access article under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>) DOI: <https://dx.doi.org/10.22159/ijcpr.2025v17i5.7054> Journal homepage: <https://innovareacademics.in/journals/index.php/ijcpr>

**INTRODUCTION**

The condition known as premenstrual syndrome (PMS) is defined by the co-occurrence of physical symptoms and mental symptoms, including mood swings, depression, anxiety, irritability, and lack of confidence, without any underlying mental illness. Bloating and mastalgia, which worsen a woman's health during the luteal phase of the menstrual cycle (LPMC) and then go away with menstruation, are common problems [1].

Premenstrual dysphoric disorder (PMDD) is the severe form of premenstrual syndrome (PMS). The psychological symptoms are irritability, emotional lability, anxiety, and depression. Somatic symptoms include oedema, weight gain, mastalgia, headache, syncope, and paraesthesia. They appear about 1 w before the onset of menses and disappear soon after onset of menses [2]. Various studies in India have observed an incidence of PMS to be 20% in general population, with 8% revealing severe symptoms [3].

American College of Obstetrician and Gynaecologist (ACOG) put forward criteria, which consist of any one of the affective symptoms (depression, angry outbursts, irritability, anxiety, confusion, and social withdrawal) and somatic symptoms (breast tenderness, abdominal bloating, headache, and swelling of extremities). These symptoms should occur in the three prior menstrual cycles during the 5 d before the onset of menses, and the symptoms must resolve within 4 d of initiation of the menses and not relapse until after day 12 of the cycle. An unfavourable effect on social or work-related activities must be exerted by these symptoms. <sup>(4)</sup> These conditions are not life-threatening, but they can seriously decrease the quality of life of many women and affect their mental health and their productivity [5].

**MATERIALS AND METHODS**

This was a cross-sectional prospective study done during a period of 6 mo after obtaining approval from institutional ethics committee. A

total of 165 nursing and paramedical students who were unmarried and having regular menstrual cycles in last 6 mo and those who gave written informed consent were included in the study. The purpose of the study was explained to them.

A semi-structured questionnaire, along with the Premenstrual Symptoms Screening Tool (PSST) [6] and the Sheehan Disability Scale [7] in English, was distributed to students who met the inclusion criteria. All aspects of the questionnaire and scales were clearly explained through a PowerPoint presentation to ensure understanding.

Questionnaire consists of 3 parts. First part included a semi-structured self-report including socio-demographic profile, past history, family history, substance use, menstrual history, and lifestyle factors including sleep, exercise, and intake of tea coffee and effect of stress. Second part dealt with PMS by using Premenstrual Symptoms Screening Tool (PSST) [6]. Third part consists of Sheehan disability scale (SDS), [7] developed by Sheehan to assess functional impairment in three interrelated domains: work/school, social life and home life, or family responsibilities are impaired by his or her symptoms on a 10-point visual analogy scale. Students were briefed how to fill up the questionnaire; 30-min time was allotted for filling up the questionnaire.

**RESULTS**

A total of 165 students who fulfilled inclusion criteria were enrolled in the study. 95% of students belonged to 18-20 y and majority (97%) attained menarche after 12 y of age. Dysmenorrhea was experienced by 62% of students. The students admitted to dietary factors of high caffeine consumption (85%), sweet cravings (92%), and junk food consumption (96%). There was no physical activity reported among 65% of students.

Frequency of premenstrual symptoms was recorded using Premenstrual Symptoms Screening Tool (PSST) and detailed in table

2. Feeling overwhelmed (96%), food craving (96%) and fatigue/lack of energy (95%) were the most commonly reported symptoms. Insomnia (7%), anxiety/tension (43%) and decreased interest in social activities (52%) were less frequently reported symptoms. PMS was diagnosed in 62.7% of the study participants. It is diagnosed based on ACOG criteria where at least one of the 6

affective symptoms and one of the somatic symptoms were reported 5 d prior to menstrual cycles and ceased within four days of onset of menses. Back, joint and muscle aches were the most common symptoms, followed by abdominal heaviness and discomfort. PMS was associated with a poorer quality of life across all domains. About half the students had affective symptoms in the premenstrual phase.

**Table 1: Socio-demographic and lifestyle factors of the study participants**

| Characteristic             | Total (n=165) |
|----------------------------|---------------|
| Age in years               |               |
| 18–20                      | 157(95%)      |
| 21–25                      | 8(5%)         |
| Age at menarche            |               |
| <12                        | 5 (3%)        |
| >12                        | 160(97%)      |
| Dysmenorrhea               |               |
| Yes                        | 102(62%)      |
| No                         | 63(38%)       |
| Family history of PMS/PMDD |               |
| Yes                        | 91(55%)       |
| No                         | 74(45%)       |
| Physical activity          |               |
| Yes                        | 58(35%)       |
| No                         | 107(65%)      |
| Dietary factors            |               |
| Salt intake                | Normal        |
| Caffeine consumption       | 140(85%)      |
| Sweets craving             | 152(92%)      |
| Junk food consumption      | 158(96%)      |

**Table 2: Frequency of premenstrual symptoms according to PSST**

| Symptoms                                | n (%)    |
|---|----------|
| Anger/irritability                      | 152(92%) |
| Anxiety/tension                         | 71(43%)  |
| Tearfulness                             | 119(72%) |
| Depressed mood                          | 12(86%)  |
| Decreased interest in work              | 154(93%) |
| Decreased interest in home activities   | 102(62%) |
| Decreased interest in social activities | 86(52%)  |
| Difficulty concentrating                | 140(85%) |
| Fatigue/lack of energy                  | 157(95%) |
| Overeating/food craving                 | 158(96%) |
| Insomnia                                | 11(7%)   |
| Hypersomnia                             | 154(93%) |
| Feeling overwhelmed                     | 158(96%) |
| Physical symptoms                       | 112(68%) |

**Table 3: Quality of life among students with premenstrual syndrome (PMS)**

| Functional impairment                            | Number (%) |
|--|------------|
| College/work efficiency or productivity          | 69(42%)    |
| Relationships with friends, classmates, teachers | 53(32%)    |
| Relationship with family members                 | 74(45%)    |
| Social life activities                           | 79(48%)    |
| Home responsibilities                            | 96(58%)    |

Impact on quality of life among students with premenstrual syndrome (PMS) was assessed using Sheehan disability scale (SDS). Home responsibilities were affected the most (58%) and relationships with friends, classmates and teachers was least affected (32%). Other parameters affected are mentioned in table 3.

## DISCUSSION

The presence of PMS among our study group is 62.7%. ACOG criteria for diagnosing PMS was used in this study. This estimate is higher than the prevalence of a study conducted in Northern Ethiopia

(37%) and on par with a study conducted by Karpagavalli *et al.* from Chennai (65%) [8, 9]. This can be explained as the study subjects being forthcoming and aware of PMS as they are students in health care.

Physical symptoms, including musculoskeletal aches and pains, abdominal heaviness/discomfort/pain, breast tenderness, water retention/weight gain, feeling bloated and oedema were noted by 68% of students. Back, joint and muscle aches were the most common symptoms, followed by abdominal heaviness and discomfort. This was comparable to other similar studies [9, 10].

Overall poor quality lifestyle was observed among students with PMS. This is comparable to the study done by Al-Batanony MA *et al.* at Al Qassim University among scientific students [11]. They observed an association of PMS with physical symptoms, mental health and vitality, indicating decreased quality of life. Lack of physical activity, high caffeine consumption, high intake of sweets and junk food are the lifestyle factors with a significant association with PMS. Similar observation was made by Mishra *et al.* in their study [12]. They also reported consumption of fast food; drinks with sugar, deep-fried foods, along with physical activity, were attributes of PMS [12].

All domains of life were equally affected by PMS in our study participants. About half the students had affective symptoms in the premenstrual phase. Home responsibilities, social life activities, interpersonal relationships and college efficiency were badly affected. A study done among students at Chennai, India in 2020 also reports similar findings. <sup>(9)</sup>Self-reported questionnaire study method poses a limitation of bias or error. Stringent measurement of lifestyle factors was not done by us and the reports are primarily based on subjective reports of the students.

PMS symptoms significantly affect women's well-being and overall quality of life. A definitive diagnosis warrants regular exercise, a balanced diet enriched with vitamins and minerals, and cognitive behavioural therapy (CBT). Pharmacological options and surgeries are the next line of treatment.

## CONCLUSION

PMS symptoms significantly affect women's well-being and overall quality of life. A definitive diagnosis relies on prospective self-reporting of symptoms, yet many cases go unnoticed as these issues are often overlooked during gynaecological exams and routine check-ups. This study highlights the commonality of PMS among students and its effects on their physical health and social life.

## FUNDING

Nil

## AUTHORS CONTRIBUTIONS

All authors have contributed equally

## CONFLICT OF INTERESTS

Declared none

## REFERENCES

1. RCOG Green Top Guideline No 48. In: Panay N, editor. The management of premenstrual syndrome; 2007 Dec. Available from: [www.rcog.org.uk](http://www.rcog.org.uk).
2. Parry BL, Berga SL, Cyranowski JM. Psychiatry and reproductive medicine. In: Sadock BJ, Sadock VA, editors. Kaplan and Sadock's synopsis of psychiatry: Behavioral Sciences/Clinical Psychiatry. 10<sup>th</sup> ed. Vol. 30. New Delhi: Wolters Kluwer/lippincott Williams & Wilkins; 2007. p. 867-8.
3. Chaturvedi SK, Chandra PS, Issac MK, Sudarshan CY, Beena MB, Sarmukkadam SB. Premenstrual experiences: the four profiles and factorial patterns. J Psychosom Obstet Gynaecol. 1993;14(3):223-35. doi: [10.3109/01674829309084444](https://doi.org/10.3109/01674829309084444), PMID [8261031](https://pubmed.ncbi.nlm.nih.gov/8261031/).
4. ACOG. ACOG practice bulletin: premenstrual syndrome. Int J Gynecol Obstet. 2001;73:183-91.
5. O'Brien PM. The premenstrual syndrome a review. J Reprod Med. 1985;30(2):113-26. PMID [3884803](https://pubmed.ncbi.nlm.nih.gov/3884803/).
6. Steiner M, Macdougall M, Brown E. The premenstrual symptoms screening tool (PSST) for clinicians. Arch Womens Ment Health. 2003;6(3):203-9. doi: [10.1007/s00737-003-0018-4](https://doi.org/10.1007/s00737-003-0018-4), PMID [12920618](https://pubmed.ncbi.nlm.nih.gov/12920618/).
7. Sheehan DV, Harnett Sheehan K, Raj BA. The measurement of disability. Int Clin Psychopharmacol. 1996;11Suppl 3:89-95. doi: [10.1097/00004850-199606003-00015](https://doi.org/10.1097/00004850-199606003-00015), PMID [8923116](https://pubmed.ncbi.nlm.nih.gov/8923116/).
8. Tolossa FW, Bekele ML. Prevalence impacts and medical managements of premenstrual syndrome among female students: cross sectional study in college of Health Sciences, Mekelle University, Mekelle, Northern Ethiopia. BMC Womens Health. 2014;14:52. doi: [10.1186/1472-6874-14-52](https://doi.org/10.1186/1472-6874-14-52), PMID [24678964](https://pubmed.ncbi.nlm.nih.gov/24678964/).
9. Karpagavalli G, Rani R. A study to assess the effect of premenstrual syndrome on quality of life among college students at Chennai. Int J Health Sci Res. 2020;10(6):110-5.
10. Ziba T, Maryam S, Mohammad A. The effect of premenstrual syndrome on quality of lifestyles in adolescent girls. Iran J Psychiatry. 2008;3(3):105-9.
11. Al Batanony MA, Al Nohair SF. Prevalence of premenstrual syndrome and its impact on excellent of lifestyles among university scientific students. Public Health Res, KSA. 2014;4:1-6.
12. Mishra A, Banwari G, Yadav P. Premenstrual dysphoric disorder in medical students residing in hostel and its association with lifestyle factors. Ind Psychiatry J. 2015;24(2):150-7. doi: [10.4103/0972-6748.181718](https://doi.org/10.4103/0972-6748.181718), PMID [27212819](https://pubmed.ncbi.nlm.nih.gov/27212819/).