Knowledge and Awareness on Premenstrual Symptoms – A Cross Sectional Survey

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Original Research Article

ABSTRACT

Background: A majority of women from all cultures and socioeconomic levels experience myriad symptoms known as premenstrual syndrome during the days prior to menstruation. The present study investigated commonly reported symptoms in the premenstrual phase among college students. The authors further scrutinized potential factors, including subjective perceptions of health, which may be related to the premenstrual-symptom constellation. The aim of the study is to evaluate the awareness of premenstrual symptoms.
Materials and Methods: A questionnaire of 16 questions was created and entered in the online survey creator 'Google Forms' and shared individually among dental students and specialist and data were collected subject to statistical analysis using SPSS software. Statistical tests used were descriptive statistics and Chi-square tests.
Results: Regardless of severity, the 10 symptoms most often occurring among the participants included skin disorders, irritability, fatigue, mood swings, general aches, pains, lowered school or work performance, backache, painful breasts, weight gain, and swelling. Results of this study 90%

of the participants aware about premenstrual symptoms 10% of the participants unaware of premenstrual symptoms and they need an effective education and awareness campaign to increase their knowledge and awareness on premenstrual symptoms. The obtained p-value was >0.05 was considered statistically insignificant.

Conclusions: The present study indicates the prevalence of premenstrual symptoms, regardless of severity, among college students and suggests that negative subjective perceptions of health and stress may be related to the intensity of premenstrual symptomatology.

1. INTRODUCTION

Women of childbearing age have a circumlunar rhythm of the reproductive system. Menstruation, a physiological phenomenon, has multiple biopsychosocial elements, which have repercussions for women from all cultures and socioeconomic levels. In the late luteal phase, for instance, a majority of women experience at least some degree of disharmony of mind and body [1–3]. This is commonly termed premenstrual syndrome (PMS)—a regular late-luteal recurrence of diverse nonspecific physical, emotional, behavioural, and cognitive symptoms, which usually abates shortly after the onset of menses.

More than 200 premenstrual symptoms have been reported, were symptoms and discomfort levels vary from woman to woman. Even when the severity of symptoms does not reach the diagnostic criteria of severe PMS or premenstrual dysphoric disorder (PMDD), the symptomatology could impact an individual's interpersonal relationships, social interactions, occupational activities, and productivity for her entire reproductive-age life. Especially for young women, premenstrual symptoms can be related to academic performance impairments including poor grades [4] and absenteeism [4,5]. The symptomatology renders the women more vulnerable to negative health outcomes in later years, such as postpartum depression [6,7–9]. After more than half a century of examining the subject, however, research has yet to clarify which symptoms most frequently occur and what types of factors worsen premenstrual complaints, which can start early in the teenage years and commonly occur into the twenties [10–13].

Amongst those, some women are so severely affected that it interferes with their mental health, interpersonal relationships, and studies [14]. Several authors found anxiety, depression, fatigue, and anger as the most frequently reported symptoms. Studies also suggested skin disorders, swelling of extremities, gastrointestinal problems (like decreased appetite), and headaches as symptoms experienced by women before menstruation [15–17]. In order to alleviate these symptoms, some of the women use some self-treatment strategies, amongst which the most frequently used are taking analgesics, increasing hot fluid intake, wearing warm clothes, and lying down on the abdomen, while majority refer not to seek any treatment for their complaints [18–20].

Another clinical entity called premenstrual dysphoric disorder is a less common but a far more serious condition than PMS. This disorder also consists of affective and behavioural symptoms during the late luteal phase of the ovulatory cycle. Even then, only a few women are reported to experience premenstrual dysphoric disorder [21–23]. No study was done previously conducted among dental practitioners and the purpose is to analyse the knowledge of risk factor and its treatment perceptions. The aim of the study is to evaluate the awareness of premenstrual symptoms and perceive about the premenstrual symptoms and its treatment strategies.

2. MATERIALS AND METHODS

2.1 Study Design

A cross sectional study was conducted through an online survey from January to March 2021 among female dental practitioners and specialist from 19 to 50 years of age in Saveetha Dental College and Hospitals, Chennai. The sample size was 100.

2.2 Study Subjects

A simple random sampling was used to select the study participants.

2.3 Inclusion Criteria

All the female dentist who were willing to participate were included.

2.4 Exclusion Criteria

Incomplete and repeated google forms were excluded from the study.

Women with menstrural irregularities were excluded.

2.5 Study Methods

Self administered questionnaire of close-ended questions was prepared and it was distributed among dental students from January to March 2021 through the online survey "Google Forms". The collected data were checked regularly for clarity, competence, consistency, accuracy and validity. Demographic details were also included in the questionnaire.

2.6 Statistical Analysis

Data was analysed with SPSS version (23.0). Descriptive statistics as percent were calculated to summarise qualitative data. Chi square test was used to analyze and The confidence level was 95% and of statistical significance P < 0.05. Finally, the result was presented by using bar charts, pie charts and percentage Tables.

3. RESULTS

In Table-1, On data analysis using Descriptive statistics on SPSS version 23, among the population for the question types of premenstrual symptoms, 90% knew about the types of premenstrual symptoms and 10% were not aware of the types of premenstrual symptoms [Fig. 1]. The symptoms and signs of premenstruration with 58% responses as back pain, headache and joint pain as the premenstrual symptoms among participants. 23% as joint pain, 14% as back pain and 5% as headache [Fig. 2] while Signs as 47% experienced mood swings, 42% experienced acne formation and 11% voted as back pain [Fig. 3]. 90% of the population experienced premenstural symptoms while 10% haven't experienced any prementrural symptoms [Fig. 4]. Out of 20-30 years of age 24% got acne during PMS, 4% experienced back pain and 30% experienced mood swings. Among 31-40 years 9% got acne during PMS, 5% experienced Back pain and 14% experienced mood swings during PMS. Among 41-50 years of participants, 9% got acne, 2% experienced back pain and 3% experienced mood swings as premenstrural symptoms [Fig. 5]. Participants of 20-30 years of age, 35% undergo irritability, anger and crying symptoms while 31-40 years age group 9% usually had crying as worst part of PMS symptoms. Rest 41-50 years of age group 9% voted for irritability, anger and crying as worst symptoms during PMS [Fig. 6].
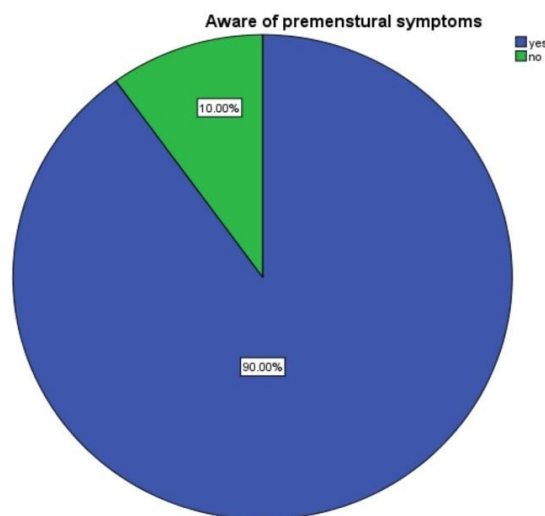

Fig. 1. Pie chart showing percentage of distribution of awareness about premenstrual symptoms of the participants with 90% responded as yes (blue) and 10% responded as No (green)

Table 1. Parametric evaluation

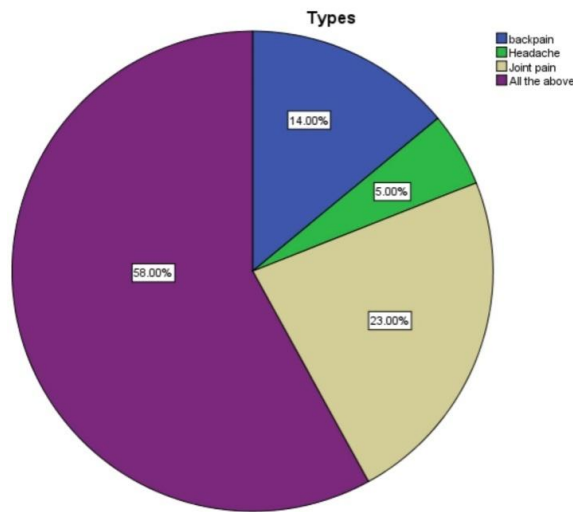| Sl. No	Parameters	Know	Don't know
1	Types of premenstrual symptoms signs	90%	10%
2	Homemade remedies for premenstrual symptoms	90%	10%
3	Worst part of premenstrual symptoms	98%	2%
4	Possible premenstrual symptoms	90%	10%
5	The standard treatment recommended for premenstrual symptoms	58%	42%
6	Complications of premenstrual symptoms	76%	24%

Fig. 2. Pie chart showing percentage of distribution of awareness about types of premenstrual symptoms of the participants. 58% responded back pain, headache and joint pain (purple) and 23% as joint pain (beige), 14% as only back pain (blue) and least 5% responded as head ache (green)
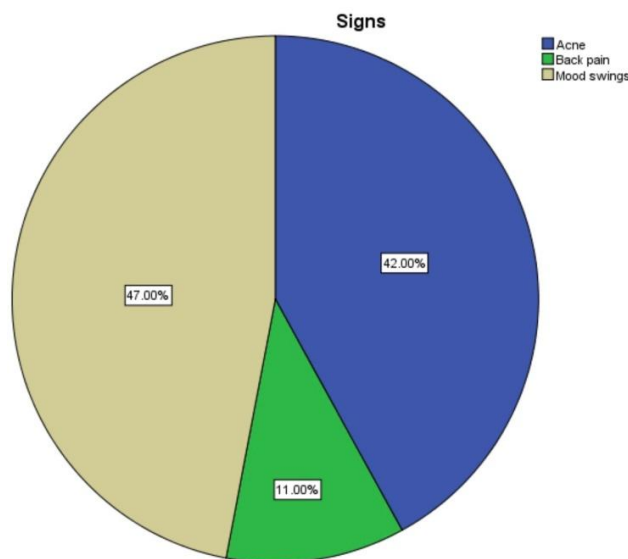

Fig. 3. Pie chart showing percentage of distribution of awareness about the signs of premenstrual symptoms of the participants with 47% (beige) showing that they experience mood swings and 42% (blue) having acne and 11% (green) having back pain
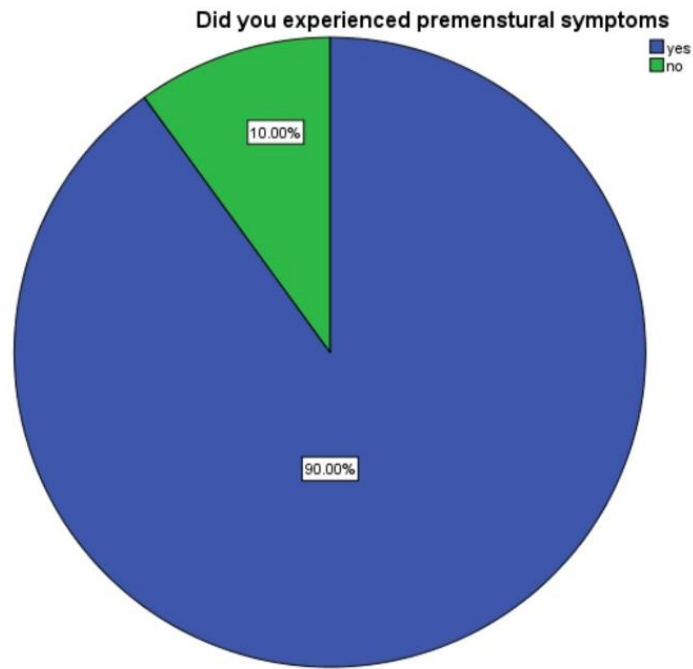
Fig. 4. Pie chart showing percentage of distribution of participants who experienced premenstrual symptoms showing 90% (blue) of the participants have previously experienced premenstrual symptoms and 10% (green) who haven't

Fig. 5. Bar graph representing the association between age group and commonest signs of premenstrual symptoms. The X-axis represents the age group of the participants and Y-axis represents the number of responses. Blue represents Acne, beige represents mood swings, Green represents Back pain. The majority of the participants answered mood swings. Pearson chi-square value: >0.05, which is statistically insignificant
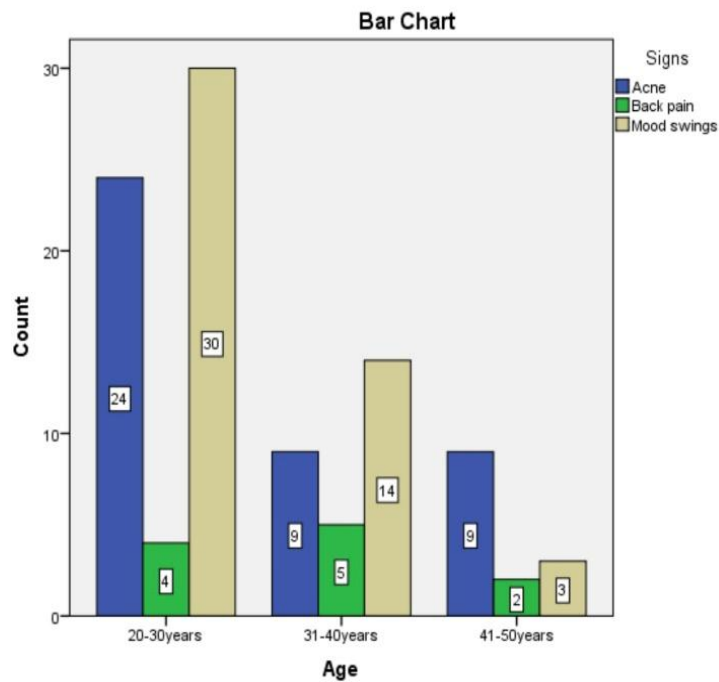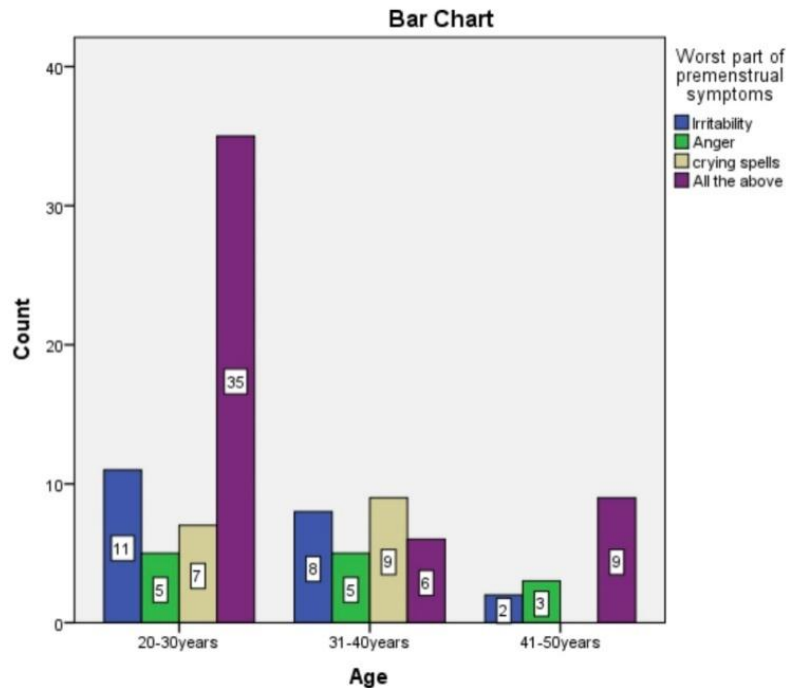
Fig. 6. Bar graph representing the association between age group and worst part of premenstrual symptoms. The X-axis represents the age group of the participants and Y-axis represents the number of responses. Blue represents irritability, beige colour represents crying spells, Green represents anger, purple represents all the above. The majority of participants answered all the above. Pearson chi-square value: >0.05, which is statistically insignificant

4. DISCUSSION

Present study findings from a large sample size of adolescent and young adults and across disciplines that has not been conducted in India before. It corroborates much of the previous literature [24–26]. Understanding PMS is important for family physicians as appropriate management strategies are available. A healthy lifestyle including stress reduction, balanced diet, regular exercise and sleep pattern can alleviate PMS symptoms in many patients. Selective serotonin reuptake inhibitors have shown clinical improvement in PMS and PMDD cases in various research studies [27].

In the previous study done by Takeda et al., participants tended to have only basic knowledge of premenstrual symptoms and were unaware of many risk factors. The study findings align with other studies which demonstrate poor awareness of premenstrual symptoms of the participants [28,29].

In an earlier study almost 95% participants had premenstrual symptoms keeping with other studies [28]. Similar to other studies in adolescents [29,30,31], anger or irritability (36.5%) was the commonest (moderate–severe) symptom but followed by fatigue or lack of energy (34.3%) and by decreased interest in work activity (27.7%).

In the current examination, 90% of the population of the population were aware about premenstrual symptoms and 10% of the population was not sure about premenstrual symptoms. This study is similar to the study done by Derman et al., the prevalence rates of PMS seem to vary in different populations. Derman et al. (2004) reported that 61.4% of Turkish adolescent girls could be characterized as suffering from PMS [32], while Tabassum et al. (2005) [33] and Nisar et al. (2008) found that around 50% of college girls in Pakistan had PMS, and Chayachinda et al. (2008) [34,35] demonstrated that the prevalence of PMS in Thai nurses was 25.1%. Moreover, Potter et al. (2009) interviewed 2836 French women and reported 12.2% of participants with moderate or severe PMS [30,32]. In this study, 39.85% of the participating

Taiwanese female university students were found to have PMS [32].

In the earlier study, 365 females (79.5%), were asked about their experience during PMS phase, while 92 (20.5%) said they do not experience PMS. When evaluated according to the criteria, it turned out that only 107 females (23.9%) actually experienced PMS. A profound gap was found between self-perceived PMS and actual PMS [35,36]. Our team has extensive knowledge and research experience that has translate into high quality publications [37,11,38–50,24–26,51,52].

In the previous study shows the symptoms of PMS among the 356 females who self-reported to have PMS [53,54]. Irritability was the most common complaint with 81.7% females reporting it as one of their symptoms. Angry outbursts (66.9%), depression (53.1%), anxiety (46.9%), crying spells (42.7%), in our study (27%) irritability (13%) Anxiety, (16%) crying spells. Further research is required on a larger population including women from various socio-economic backgrounds for better assess of the situation and strategize to manage this rising problem. The majority of females said that stress exacerbates their PMS, and stress is a prevalent condition in our society.

5. CONCLUSION

This research concludes that PMS is a common problem affecting the quality of life of women significantly. Despite the growing awareness, there remains a considerable deficiency of knowledge about the necessity to consult a doctor or seek any treatment for their symptoms. It is important that a healthy culture is promoted which is stress-free in order to avoid the symptoms of PMS, which tend to disturb normal routines and reduce productivity.

CONSENT AND ETHICAL APPROVAL

Returning the filled questionnaire was considered as implicit consent as a part of the survey. Ethical approval for the study was obtained from the Institutional Review Board (IRB) of Saveetha Dental College and Hospitals, Chennai.

SOURCE OF FUNDING

ACKNOWLEDGEMENT

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/80193