National Journal of Multidisciplinary Research and Development
ISSN: 2455-9040; Impact Factor: RJIF 5.22
Received: 07-03-2020; Accepted: 20-03-2020; Published: 09-04-2020
www.nationaljournals.com
Volume 5; Issue 2; 2020; Page No. 15-18

Premenstrual syndrome among high school students

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Abstract
Background: Parents are blessed if they have girl child now a days. But, being the girls, they need to undergo physiological changes of menustration with the Un comfortable symptom of Premenstrual syndrome much during the Adolescent period till the menopause period during their life time. Premenstrual syndrome (PMS) is a frequent fitness trouble among adolescents.
Objective: To assess the prevalence of PMS in Chennai high school students.
Materials and methods: This used to be a potential study conducted amongst adolescent students in St, Lourdes Girls High school at chennai from July to August, 2018. Participants were asked to prospectively entry an anonymous questionnaire, which included facts about demographic data, menstrual patterns, and signs to be recorded on a each day calendar of premenstrual experiences according to the diagnostic standards proposed by the American College of Obstetricians and Gynecologists. All of the information have been prospectively recorded for 90 consecutive days.
Results: of the 300 participants, 289 (72.4%) accomplished the self-report questionnaire. 203 contributors (29.8%; 95% CI, 24.5%–35.4%) pronounced having PMS. The most frequent somatic and affective signs and symptoms among participants with PMS were breast tenderness (74.4%) and angry outbursts (97.7%). There were tremendous differences between the PMS and non-PMS groups, and PMS was associated with a range of problems associated to educational activities, including lack of awareness and motivation, bad work performance, negative collaborative work performance, and low scores. However, there were no large variations regarding interpersonal relationships between the PMS and non-PMS groups.
Conclusions: PMS is a frequent menstrual disorder amongst St. Lourdes school students.
The most habitual symptoms suggested in this learn about have been angry outburst and breast tenderness.

Keywords: premenstrual symptoms, prevalence, association, high school students.

Introduction

Premenstrual syndrome (PMS) is a cyclic phenomenon of somatic and affective signs and symptoms appearing in the days previously to menses and interfering with one's work or life-style accompanied by using a symptom-free interval [1], PMS is variously defined. [2]. The American College of Obstetricians and Gynecologists (ACOG) defined PMS as a clinical circumstance characterized via the cyclic presence of bodily and emotional signs unrelated to any organic ailment that show up all through the 5 days earlier than menses in every of the three prior menstrual cycles and disappear inside 4 days of the onset of menses, besides recurrence till at least cycle day 13.3 Additionally, the American Psychiatric Association (APA) has additionally installed criteria for the prognosis of severe PMS or premenstrual dysphoric disorder (PMDD).4 Women are identified with PMD when their lives are significantly affected via reasonable to extreme symptoms as described in the Diagnostic and Statistical Manual of Mental Disorders, fifth edition.4 10% and 3% of the participants in a Swiss Study had PMS and PMDD, respectively.(7). The occurrence of PMS amongst teens varies from 10% to 53%, relying on the population studied and diagnostic measures used.5–10 For example In a Japanese study, occurrence quotes of average to severe PMS and PMDD were 53% and 1.2%, respectively [8]. In a preceding US population-based study, incidence prices of PMS and PMDD had been 8% and 5%, respectively [9]. Women with PMS have a tendency to have a significantly decrease great of life, elevated absenteeism from work, decreased work productivity, impaired relationships with others, and more established visits to health centers than those who do now not journey PMS.10
As there have yet been no prospective research evaluating PMS occurrence amongst ST. Lourdes Girls high school in accordance to the current ACOG diagnostic criteria,
this learn about was conducted to determine the occurrence of PMS and its impacts on academic things to do and interpersonal relationships among St, Lourdes High School Girls, Chennai, Tamilnadu.

2. Materials and methods

The study was used to be conducted from July to August 2019, with the approval of the school management and Ethical committee. We recruited 300 menstruating High school students (8th to 9 th standard Girls) in Chennai, Tamilnadu. A cluster sampling approach was utilized in enrolling the participants. The goal sample measurement used to be estimated to be 300, on the basis of an 80% strength and 95% CI for the expected incidence of 50%, with 10% loss to follow-up. Eligible standards included: 1) age 13–15 years and 2) everyday menstrual cycles (21–35 days). Participants had been excluded if they had histories of: 2) medical troubles which include thyroid disorders, autoimmune disease, asthma, adrenal disorders, or epilepsy; 2) untreated despair or psychiatric disorders; 3) Gynecologic issues consisting of endometriosis or pelvic inflammatory disease; or [4] the use of hormonal medicinal drug such as oral contraceptive pills. The mother and father or guardians of the

taking part school students supplied written knowledgeable consent.

2 Diagnosis of PMS in this find out about was made according to the diagnostic standards proposed by way of the ACOG.3 PMS can be recognized if the affected person reviews at least one of the following affective signs and symptoms consisting of depression, Angry outbursts, irritability, anxiety, confusion, or social withdrawal and at least one of somatic signs such as breast tenderness, abdominal bloating, headache, or swelling of extremities throughout the 5 days before menses in every of the three prior menstrual cycles. In addition, these signs and symptoms are usually relieved after 4 days of the onset of menses, except recurrence till at least cycle day thirteen. The signs are present in the absence of any pharmacologic therapy, hormone ingestion, or drug or alcohol use.

The signs and symptoms must reproducibly happen for the duration of two cycles of the prospective records.3 We applied the ACOG PMS questionnaires and the diary calendar of premenstrual experiences in collecting the data [11]. The questionnaires have been translated into English, Tamil. The questionnaires and diary calendar had been then sent to three authorities for evaluation validation the usage of the Item Objective Congruence index. An acculturated pilot find out about used to be carried out to enhance the questionnaire quality. The questionnaires consisted of four sections. The first phase consisted of demographic information questions which includes age, weight, height, exercising habits, coffee consumption. The second part included gynecological history, menstrual patterns, and dysmenorrhea. The third part covered potential signs on a diary calendar, which was constructed on the groundwork of ACOG PMS diagnostic criteria. The closing phase contained questions about the association with educational activities and interpersonal relationships.

The severity of PMS signs and symptoms was once rated by the participants on the foundation of their impacts on their everyday lives, ranging from slight to reasonable to severe. Mild symptoms were described as not limiting daily activity. Symptoms have been regarded reasonable if there were marked obstacles with regard to day by day activity, and extreme if the participants had been unable to lift out the activities besides discomfort. The anonymous questionnaires and attached consent types had been then allotted to the students,

and participants have been requested to record their signs for 90 days. via x2 test, as appropriate. Statistical significance was once set at P, 0. 05.χ SD or percentage, were used when appropriate for reporting demographic data, occurrence of PMS, incidence of impaired educational activity, and incidence of impaired interpersonal relationships. A 95% CI of the occurrence of PMS was calculated to decide the precision of the foremost outcome. The associations between PMS and participants' educational activities and interpersonal relationships were analyzed by means of the ±Statistical evaluation used to be carried out the usage of SPSS software. Descriptive statistics, consisting of mean and Standard deviation.

Result

Of the 300 contributors who met the inclusion criteria, 289 crammed out the self-report questionnaire completely, amounting to a response rate of 72.4%. Applying the ACOG guidelines, PMS was once recognized in 203 participants (95%; 71.8% CI, 35.4%; 24.5%). Characteristics of the participants in the PMS and non-PMS agencies are proven in Table1. There had been no differences in participants' baseline characteristics. 3

Table 1: Demographic Variables of Students

Characteristics	Non-PMS group(n=86)	PMS group (n=203)
Age (years)	14 +/- 1	14 +/-1
BMI (kg/m2)		
Underweight	26 (30.2)	67 (33.0)
Normal	50 (58.1)	108 (53.2)
Overweight	6 (7.0)	15 (7.4)
Obese	4 (4.7)	13 (6.4)
Education		
Std 08	41 (32.6)	107 (84.3)
Std 09	45 (37.2)	96 (77.7))
Exercise		
Adequate (3 times/week)	32 (37.2)	67 (53.0)
Inadequate (3 times/week)	54 (49.8)	136 (92.0
Coffee consumption		
Yes	29 (33.7)	66(32.5)
No	57 (51.3)	137 (92.5)
Menstruation		
Menarche (year)	12+/- 1	12+/-1
Dysmenorrhea		
Present	65 (62.9)	153 (92.4)
Absent	21 (19.4)	50 (24.6)

SD. ±Note: Data are presented as numbers (percentage) or mean Abbreviations: BMI- Body mass index; PMs- Premenstrual

Including age, body mass index, exercise, Menustration and coffee consumption between the PMS and non-PMS groups. Dysmenorrhea was the most frequent peculiar menstrual symptom in each group (92.4% in the PMS group and 62.9% in the non-PMS group). Their Two hundred sixty-eight individuals (85.8%) pronounced having at least one of the 10 signs of PMS. The pronounced premenstrual somatic and affective signs and symptoms. Frequency amongst the 203 contributors with PMS are presented in Table 2. The three most frequent somatic signs had been breast tenderness (50.4%), headache (40.1%), and abdominal bloating (21.9%). The three most common affective symptoms were angry outbursts (47.7%), anxiousness (40.3%), and irritability (30.6%). In most cases, these symptoms had been rated as moderate to reasonable in severity. 4

The impacts of PMS on instructional things to do and interpersonal relationships are suggested in Table 3 PMS was once significantly associated with a number of problems concerning educational activity, as shown with the aid of lack of attention and motivation, poor work performance, and low scores.

Table 2: Prevalence of premenstrual somatic and affective signs and Symptoms of PMS (n=203)

Symptoms	Total prevalence	Severity of symptoms		
		Mild	Moderate	Severe
Somatic				
Breast	54 (50.4)	21(20.7)	30 (28.6)	3 (4.7)
tenderness				
Headache	41 (40.1)	15 (14.2)	21 (20.8)	5 (6.2)
Abdominal	22 (21.9)	08 (07.5)	10 (09.5)	2 (4.0)
bloating				
Swelling	08 (6.7)	05 (72.2)	03 (27.8)	0 (0.0)
extremities				
Affective				
Angry outbursts	54 (47.7)	10 (09.3)	38 (36.5)	6 (7.1)
Anxiety	43 (40.3)	32 (30.7)	11 (09.9)	0 (0.0)
Irritability	32 (30.6)	10 (09.3)	20 (19.8)	4 (6.8)
Depression	25 (23.8)	10 (09.3)	15(14.2)	20 (0.0)
Confusion	10 (09.3)	04 (6.8)	06 (7.1)	0 (0.0)
Social withdrawal	11 (09.0)	04 (03.5)	07 (35.5)	0 (0.0)

Notes: $a.1 symptom/student. b. On the basis of self-rating with the aid of participants, these are categorized in accordance to three levels, as follows: Mild (no limitation of daily activity), Moderate (marked limitation of daily activity), and Severe (unable to perform daily activity without discomfort). Data are introduced as percentage (%).Abbreviation: PMS- premenstrual syndrome.

However PMS among high school students was now not highly related with absenteeism, difficulty in working, or the first-rate of interpersonal relationships. Forty-six (46.4%) of the members in the PMS team said that they self-administered treatment. The most common coping methods have been analgesic capsules (38.4%) and recreational activities (26.3%). The members additionally consulted their friends (33.9%) and their parents (22.8%) when they have been suffering from these symptoms. Only 3% of them sought medical consultation.

5. Discussion

30%. PMS frequently happens among ladies with excessive stress levels. Prolonged stress publicity could lead to the incidence of PMS in St. Lourdes High school students in this study used to be persistant mal functioninf of the neuro endocrine system and set of PMS(12).

Table 3: Association of PMs with moderate-to-severe impairments affecting educational activities and interpersonal relationships:

Factors	Non Pmsgroup	Pmsgroup	P-value
Educational activities			
lack of concentration	40 (46.5)	69 (34.0)	0.045
lack of motivation	42 (48.8)	57 (28.1)	0.001
Poor character work Per formance	44 (48.8)	74 (36.5)	0.020
Poor collaborative	33 (38.4)	45 (22.2)	0.005
Per formance	48 (55.8)	61 (30.0)	0.001
low scores absenteeism	7 (8.1)	26 (12.8)	0.254
Difficulty in working activities	9 (10.5)	22 (10.8)	0.925
Interpersonal relationship			
Poor relationships with friends	6 (7.0)	23 (11.3)	0.260
Poor relationship with family	5 (5.8)	22 (10.8)	0.180
Social withdrawal	39 (45.3)	101 (49.8)	0.493

Note: Data are as percentage (%).Abbreviation: PMs- premenstrual syndrome.

Adolescents are in the technique of present process exquisite physical and psychological changes on their way to adulthood. Moreover, they frequently have stress associated to their studies, as well as their sexual and reproductive health. The most popular somatic signs were breast tenderness (50.4%). The most popular affective signs and symptoms included irritated outbursts (47.7%), nervousness (40.3%), and irritability (30.6%), which was comparable to before reported findings amongst adolescents.(6,8,10)

In the existing study, a substantially excessive proportion of contributors stated about having at least one PMS symptom (86%). It has been recommended that the etiology of PMS is multi factorial. Several factors related with PMS have been proposed, such as social factors, that is, ethnicity and culture, socioeconomic status, cigarette smoking, alcohol consumption, exercise, dietary habits, and menstrual factors that is age at menarche and menstrual patterns [13-16]. 6 40% consulted their friends regarding PMS. In addition, few individuals (3.1%) in this study had consulted their medical doctors for PMS, which was once comparable to findings from a preceding study with the aid of Sharma *et al* 21 in which~The version in the occurrence of PMS across studies would possibly be due to variations in culture, diagnostic criteria, types of studied populations, and information collection strategies used.6,17 Theoretically, accurate PMS prognosis requires, the potential each day charting of symptoms, which is a time-consuming task. Most studies, however, were based totally only on retrospective self-reporting, which may want to lead to recall bias. In this study, the analysis of PMS was made on the groundwork of potential daily recording of symptoms for ninety consecutive days, for this reason increasing the value of this study. This study observed that PMS was appreciably associated with a number of troubles associated to academic activities,

consisting of lack of concentration, lack of motivation, absentism or collaborative work performance, and low scores. These findings had been consistent with the findings from previous studies.18–21 Most participants, however, had been hardly ever worried about these signs due to their low tiers of severity. As we found in the study, solely a small share of participants consulted their friends (33.9%) or parents (22.8%) related to PMS. This is in contrast to the outcomes of a find out about by means of Lee *et al*,20 which found that 80% of individuals consulted their moms and PMS was evaluated in youth girls (4%). There are a wide variety of boundaries in this study First, self-rating of affective symptoms may additionally be incredibly tough for adolescents, which may additionally increase worries about the reli- capacity of the data. Second, no clinical/psychiatric diagnosis to knock out underlying mental health issues used to be carried out in this study. Third, facts involving the pattern of PMS signs and symptoms modified over the time had been unavailable in the existing study. However, the strengths of this study were that it was a prospective one, it used a popular daily calendar for potential recording, and its criteria for PMS prognosis were strict.

To the best of our knowledge, this is the best find out about PMS to follow potential statistics and the self-recording of signs to diagnose PMS. The fantastically excessive incidence of PMS in high school students discovered in this learn about warrants similarly large-scale learn about to evaluate the impact of PMS on their academic performance, quality of life, and advantageous interventions for alleviating PMS amongst this high-risk population.

Conclusion

Prevalence of PMS in St. Lourdes High School students was once 71.8% (95% CI, 24.5%–35.4%). The most usual symptoms remarked were breast tenderness and Angry outbursts. PMS had a positive association with a number of educa tional activities. Our study was significantly related to the study done by Rapkin AJ, Mikacich JA. on Premenstrual dysphoric ailment and severe premenstrual syndrome among adolescent in Egypt 2013.

Acknowledgement

We are very grateful to the study supervisor, school administration and staffs of the respective schools who helped in data collection, study participants that is school students, University which motivated us to do the research. Ethical committee clearance obtained. Official permission was obtained from school management. Finally written informed consent was taken each student and their parents/guardians since the study participants are below eighteen years old. There was no funding organization. conflicts of interest none declared.

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