A Study to Assess the Effect of Premenstrual Syndrome on Quality of Life among College Students at Chennai

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ABSTRACT

Background: Premenstrual syndrome (PMS) refers to a set of distressing and symptoms skilled around the time of menstrual flow. Hormonal adjustments may also underline these symptoms which can lead to difficulties in everyday functioning and negative quality of life.
Method: In this cross-sectional study, two hundred students attending the B.Sc. Nursing course in a nursing college at Chennai participated. They had been administered with self-reported questionnaires to attain socio demographic, dietary, life style and family details. The Shortened
Premenstrual Assessment Form used to verify PMS, a Symptom Checklist was used to assess premenstrual dysphoric disorder (PMDD) and Short Form 36 used to be used to determine quality of life.
Result: The prevalence of PMS was 68, 8%. Muscle aches, joint pain, back pain were the most common symptoms followed by abdominal heaviness and discomfort. PMS was associated with a poorer quality of life throughout all domains. About fifty percentages of the students had affective symptoms in the premenstrual phase. Conclusion: Dietary and lifestyle factors such as consumption of sweets and lack of bodily activity were associated with the presence of PMS.

Key words: PMS, PMDD, quality, life style, premenstrual syndrome, premenstrual dysphoric disorder.

INTRODUCTION

Premenstrual syndrome (PMS) is a set of distressing bodily and psychological signs and symptoms that begins a few days earlier than menstruation and ends for a few days after. Premenstrual dysphoric disease (PMDD) is a severe form of PMS and occurs for at least two menstrual cycles. PMDD has been covered as a psychiatric disorder in the Fifth Edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5). Previous Indian studies have determined a 40% incidence of PMS in the widely wide-spread populace and amongst these with PMS 12% had severe symptoms. Mandal. R et al. did a project about in turkey amongst 640 college students and found the prevalence of PMS was 28.2% and of PMDD was8.7%. A find out about of college students in Delhi, about 40% of members had PMDD. Yadav et al. did a learn about among female college students to assess elements associated with PMS and observed dietary elements such as consumption of quick food, drinks containing sugar, deep-fried foods and

lifestyle factors such as much less routine exercise and first-class to be appreciably associated with PMS. Women with PMS/PMDD have impairment in physical functioning, psychological fitness and also dysfunctions in occupational and social domains. Esther et al. assessed the quality of life among adolescence with and besides PMDD, in which the physical role rating in girls besides PMDD was once seventy four and with PMDD used to be fifty two, and the emotional score in female except PMDD was seventy and with PMDD used to be forty four. Therefore, there is a great necessity to study the lifestyles of girls with PMS/PMDD. We aimed to study the prevalence of PMS amongst students from a single college in Chennai. We also assessed the quality of life of college students with and without PMS, and analyzed the dietary and life-style factors related with PMS.

METHODS

Following the approval by our institute ethical committee and permission from Head of the department, we did a cross sectional descriptive study amongst students of nursing college in Chennai. Based on previous estimates of prevalence of PMS/PMDD among students which ranged from 8% to 37%, we expected a prevalence of 30%. With a precision of 5% and 95% confidence interval. We required about one hundred fifty participants. To account for dropouts, we estimated a pattern measurement of 200 and choose students by way of convenience for achieving this sample size. 200 hundred students above 18 years of age had been selected from different classes in nursing college itself. Consent used to be obtained after explaining the advantages and disadvantages of the study. The questionnaires had been self-administered in a classroom by ensuring proper privacy. The questionnaire was in English and all individuals know English, as they all have finished their higher secondary education. And were capable to recognize the phrases used in the questionnaire. The

participant has been allowed to ask any doubts or to clarify terms.

Data collection was finished in a single visit by using a self-administered questionnaire which consisted of four parts. The first part consisted of socio demographic profile of the students, details of their menstrual cycle and life-style factors. The second part consisted of the Shortened Premenstrual Assessment Form (SPAF) by Allen et al., which is a 10-item tool validated for the evaluation of PMS.

We obtained permission to use the scale in our study. It has subscales, namely affect, water retention and pain. Each object is scored as: 1 no change; 2 minimal change; 3 slight change; 4 moderate change; 5 severe change and 6 extreme change. The whole were calculated and a score>27 used to be viewed as PMS.. The third part consisted of a checklist based totally on DSM-5.Standards that had a listing of symptoms for diagnosing PMDD. The students were asked to mark the symptoms alone if they had experienced it to be extreme and debilitating for 1 week earlier than the onset of the menstrual cycle for at least two menstrual cycles. Out Of the 11 symptoms, if the participant had at least 5 symptoms of which 1 symptom fell in the first 4 symptoms of the list and had disturbance in activities and decreased productivity, it was considered to have PMDD.

The final part consisted of a quality of life assessment by using the Short Form-36 Health Survey (SF-36), which is reachable in the public domain .It has eight sections which includes vitality, physical functioning, bodily pain, general health perceptions, physical role functioning, emotional role functioning, social role functioning and mental health. The scores range from 0 to 100 where the place of lower score implies poorer functioning and quality of life.

Confounding variables such as age, class, residence, place of stay, family type, family income, age at menarche, duration of cycle, dysmenorrhea and treatments to

alleviate, family history of PMS/PMDD, physical activity, hours of sleep and dietary habits (caffeine consumption, salt intake, sweets and junk foods) were expressed as using frequency and percentage .Physical activity categorized as present or absent primarily based on the presence of normal involvement in physical activities.

Hours of sleep, Caffeine consumption should not be quantified and categorized as present or absent. Consumption of salt used to be rated as moderately high if the participant occasionally took pickles and extra salt to the plate. It was scored as high if the participant routinely took extra salt or pickles. Intake of sweets and junk meals was taken as present or absent.

Prevalence of PMS is suggested as frequency or percentage. Quality of life among participants with and without PMS was summarized using mean and standard deviation. Association of confounding variables on premenstrual signs was found out by using the chi-square test. All statistical analyses were carried out at 5%level of significance and $p<0.05$ used to be considered statistically significant. The analyses were carried out using SPSS version 18software package. (IBM, Chicago, Illinois, USA).

RESULTS

200college students who participated in our project were between 18 and 22 years of age (Table I). The participants were from 4 classes in B.Sc. Nursing course. A majority of them (70%) have been from city areas and belonged to a nuclear family (80. 2%). The family earnings used to be between `10 001 and `50 000per month amongst 112 (45.3%) of the participants. The suggest age at menarche was once 12 (range 10–16) years. The mean (SD) period of the cycle was 4.2 (1.05) days, 58% (164) had dysmenorrhea and much less than half of them (81) took some remedies for it. A family history of PMS/PMDD was once existing in120 (40.3%) individuals and 124 (41.3%) individuals did regular physical activity. The suggest (SD) period of sleep amongst them was 7.56 (1.21) hours. A majority of members (195 [65%]) drank coffee and 26 (8.7%) consumed a high quantity of salt.

About fifty percent of the participants (46.2%) fed on sweets daily. The most common premenstrual signs had been body, muscle and joint aches (71.3%) followed by using abdominal heaviness sand discomfort (64.3%). About half of the respondents mentioned the affective domain symptoms of the SPAF questionnaire of moderate severity or worse (Table II).

We determined that 168 out of 200 (62.66%) members had PMS using the defined score. Presence of dysmenorrhea, a family history of PMS, indulging in physical activity, consumption of caffeine, consumption of high amount of salt, frequency and type of sweets and consumption of junk food have been associated with PMS (Table I).We studied the first-rate of existence ratings (SF-36) of participants with and without PMS (Table III).

The mean score of general health among students besides PMS used to be 71.7 (23.89) and that of individuals with PMS used to be 27.9 (17.18).

PMDD premenstrual dysphoric disorder as per the DSM-5 checklist, 177(65.7) had at least one item endorsed on the PMDD. Physical symptoms have been most commonly endorsed by means of 70% of participants. The correlation coefficient between the SPAF rating and PMDD checklist item count was $r=0.748$ ($p<0.001$). The frequent symptoms endorsed on the PMDD checklist covered breast tenderness or swelling, headaches, joint or muscle pain, bloating or weight gain. Subjective experience of being overwhelmed or going out of manipulate (25.7%) was once the least common symptom.

TABLE I. Socio demographic and lifestyle factors of the study participants

Characteristic	Total	Premenstrual syndrome (PMS)		p value
	n=200	Present	Absent	
	n (%)	n=168(%)	n= 32(%)	
Age in years				
18–20	192 (97.3)	160 (95.7)	32 (100)	0.53
21–25	8 (4.3)	8 (4.3)	0	
Ageat menarche (years)				
<12	18 (6.0)	7(7.37)	11 (9.8)	0.87
12–15	177 (92.3)	157(89.3)	20 (24.1)	
>15	5 (1.7)	4 (2.1)	1 (0.9)	
Dysmenorrhoea				
Yes	154 (58.0)	143 (76.0)	11 (27.7)	<0.001
No	46 (42.0)	25 (23.9)	21(32.3)	
Family history of PMS /PMDD				
Yes	99 (59.7)	79 (59.0)	20 (8.9)	<0.001
No	111 (40.3)	89(20.9)	22 (71.0)	
Physical activity				
Yes	56(41.3)	44 (35.0)	12(68.8)	<0.001
No	144 (58.7)	124 (75.0)	20 (31.3)	
Duration of sleep (hours)				
<6	10 (3.7)	5 (4.2)	5 (2.7)	0.52
6–10	180 (95.0)	160 (95.2)	20 (30.6)	
>10	10 (1.3)	3(02.5)	7 (2.7)	
Caffeine consumption				
Yes	175 (65.0)	150 (78.7)	25 (41.9)	<0.001
No	25(35.0)	18(21.2)	7 (8.0)	
Amount of salt intake				
Normal	146 (85.3)	130 (70.8)	16 (92.9)	0.63
Moderately	28 (6.0)	14 (7.8)	14(3.6)	
High	26 (8.7)	24 (11.7)	2 (3.6)	
Consumption of sweets				
Yes	147 (82.3)	120 (95.2)	27 (60.7)	<0.001
No	53 (17.7)	48(41.8)	5 (39.3)	
Consumption of junk food				
Yes	163 (81.0)	140 (92.6)	23(61.6)	0.004
No	37(19.0)	28 (17.4)	9 (38.4)	

DISCUSSION

The occurrence of PMS was once 62% among college students of a nursing college. The estimate using the PMDD checklist in this team was once 65%. This estimate of PMS/PMDD in our study is greater than that in the study conducted among college students (women) in a university of health sciences in Northern Ethiopia, in which the prevalence was 37%, and in the study carried out amongst medical students in New Delhi, the prevalence of PMDD was 37%. However, it is similar to the study done in Al Qassim University, which showed a prevalence of 78.5%. Our study being performed in nursing college, the participants might also have been extra forth coming and inclined to discuss their symptoms. I additionally determined that the prevalence estimate of PMDD was once paradoxically higher than that of PMS itself. Hence, I have executed similar analysis of association for PMS alone. The high degree of correlation between the numbers of items endorsed on the PMDD checklist with the SPAF scores provides an extra validator of the high frequency of PMS in the study population. The frequency of musculoskeletal aches and pains (71.3%) which is about comparable to the studies performed in Peshawar, was once 73% and 77.3%, respectively. The second most common symptom is abdominal heaviness/discomfort and pain (64.3%), which is comparable to the Peshawar study about (61.9%).

We found out the poor quality of lifestyles among students with PMS. This is comparable to the study carried out in Al Qassim University among medical students, which also showed an association of PMS with physical problems, vitality, mental health and body pain, indicating decreased quality of life. Lifestyle factors such as physical activity, caffeine consumption and consumption of sweets and junk food had a

significant association with PMS. Mishra et al. also showed that lifestyle factors such as sleep, physical activity and total tea/coffee.

Consumption have been significantly related with PMS and PMDD. A study from Thailand proved that 88.5% of college students who had PMS, showed the excess intake of sweet-tasting food items more than those (70.2%) who had less. It also confirmed that different factors such as intake of coffee and junk food had been significantly related with PMS.

Hence, it is evident that life style factors had a significant association with PMS and PMDD.

TABLE II. Frequency of premenstrual signs (defined by a cutoff of 4 on every item)

Symptom	n(%)
Affective	
Feeling unable to cope	100(50)
Feeling under stress	106 (54)
Irritability or bad temper	94 (48)
Feeling sad or blue	103 (52)
Pain	
Breast tenderness	84 (28)
Backaches, joint and muscle aches	157 (71.3)
Abdominal heaviness/discomfort	147 (64.3)
Water retention	
Weight gain	93 (31)
Oedema/	96 (32)
Feeling bloated	125 (41.7

TABLE III. Quality of life among college students with and without premenstrual syndrome (PMS)

Domain	Mean (standard deviation)		P value
	With PMS	Without PMS	
	(n=168)	(n=32)	
Physical functioning	36.38 (18.90)	82.05 (23.81)	<0.001
Role barriers due to physical health	27.53 (24.87)	82.44 (26.41)	0.022
Role barriers due to emotional problems	32.28 (25.70)	81.55 (31.62)	<0.001
Energy/fatigue	22.77 (18.76)	72.99 (27.00)	<0.001
Emotional well-being	27.51 (19.96)	76.93 (25.67)	<0.001
Social functioning	37.89 (20.03)	85.56 (24.52)	0.002
Pain	34.63 (22.48)	79.61 (25.10)	0.102
General fitness	27.86 (17.18)	71.67 (23.89)	<0.001

Limitation

The family history of, PMS signs and symptoms was Self-reported by means of the members and this is liable to bias or error as we have no longer independently proven it. We have not used stringent strategies to measure excessive salt diet, physical activity and other life-style factors such as consumption of sweets or junk food and these are primarily based on self-reports of the participants.

CONCLUSION

It is observed a high occurrence of PMS (62.7%) amongst college students. The most frequent premenstrual symptoms were back pain, joint pain and muscle aches. Participants with PMS had poorer quality of life than those who had not PMS.

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