Original Article

Premenstrual Syndrome: Frequency and Severity in young college girls

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Abstract

Objectives: To find out the frequency of premenstrual syndrome (PMS) in young college girls and to describe the severity of emotional, physical and behavioural symptoms.

Methods: An observational study was conducted at the Khyber Medical College, Peshawar by convenient sampling on 384 young girls. Data was collected over two cycles by filling a 29 items shortened premenstrual assessment form based on Moos Menstrual Distress Questionnaire after taking consent from medical students. Results were given according to both criteria i.e. ICD-10 and DSM-IV.

Results: The frequency of premenstrual syndrome was 53% according to ICD-10 criteria, among which 42% was mild, 18.2% moderate and 31.7% severe. A total of 64 girls (18.2%) met the DSM-IV criteria for severe PMS or Premenstrual Dysphoric disorder (PMDD). The order of frequency of symptoms occurring in PMS was general body discomfort, anxiety, backache, fatigue and depression. Most frequently reported symptoms in PMDD group were anger, anxiety, stress, depression, fatigue and general body discomfort.

Conclusion: Premenstrual syndrome is a common problem in young girls. Doctors should adopt comprehensive measures to reduce its incidence and improve the quality of life in the affected (JPMA 55;546:2005).

Introduction

Premenstrual syndrome refers to distressing physical, psychological and behavioural symptoms not caused by organic disease, which regularly occurs during the same phase of menstrual cycle and significantly regresses or disappears during the remainder of the cycle.[1]

It has been estimated from retrospective community surveys[2,3] that nearly 90% of women have experienced at least one premenstrual syndrome (PMS) as defined by ICD-10 criteria.[4] Epidemiological surveys have estimated that as many as 75% of reproductive age women experience some symptoms attributed to the premenstrual phase of menstrual cycle.[5] More than 160 symptoms have been associated with the menstrual cycle, ranging from body aches and fluid retention to migraine headaches and fatigue, from instability and mood swings to suicidal and homicidal thoughts and actions.

A small group of reproductive age women (3% to 8%) reported much more severe premenstrual symptoms of irritability, tension, dysphoria and lability of mood, which seriously interfere with their life style and relationships.[6] Without relief from these symptoms, a women's functioning in the home, social situations and at work can be substantially impaired every month often over a span of many years.[5,7,8]

Premenstrual syndrome is often classified under the generic term Premenstrual syndrome which is listed in the International Statistical Classification of diseases and Related Health Problems, 10th revision (ICD-10).[4] Premenstrual research has made a great deal of progress since when the diagnostic criteria for premenstrual dysphoric disorder (PMDD) were defined.[9] The DSM-IV research criteria for this disorder helps to identify and classify women who experience severe psychological symptoms during the premenstrual phase.

Research has been done on PMS and PMDD in many countries but very few studies have been reported on the experience of Pakistani women.

This study was conducted to find out the frequency of PMS in young college girls according to both criteria ICD-10 and DSM-IV, and to assess the severity of emotional, physical and behavioural symptoms.

Methods

The study was conducted at the Khyber Medical College, Peshawar from 15th March to 15th June 2004. Sample size was 384, calculated by using standard statistical formula.

Data was collected on a 29 itemed shortened premenstrual assessment form based on Moos Menstrual Distress Questionnaire.[1] Symptoms studied were physical, psychological and behavioural. Each symptom was rated whether it does not exist, barely noticeable, inhibits activities or alters life. The ratings were prospectively completed for 2 cycles. The days of the period and the days on which the symptoms caused any dysfunction were studied separately. The last week of the luteal phase i.e. the week before onset of

menstruation was compared with first week of follicular phase, beginning on day 2 of the same cycle. Number of the symptoms present were noted on each day of luteal phase starting from day 14 of the same cycle, assuming total cycle length to be 28 days. It was also asked in the questionnaire if symptoms were relieved with onset of menstruation. Questionnaire was discussed, consent taken and given to students to be filled prospectively over 2 cycles.

Inclusion criteria was unmarried girls of Khyber medical college, who had regular menstrual period for last 6 months. Married girls, known case of any psychological or medical disorder, as thyroid disease and girls with irregular cycle in the last 6 months were excluded.

An ICD-10 symptom checklist for PMS was used to identify girls with PMS. The ICD-criteria for PMS includes seven symptoms: minor psychological discomfort, bloating or weight gain, breast tenderness, muscular tension, aches and pains, poor concentration and changes in appetite. Only one of these symptoms is required for diagnosis. Symptoms must be restricted to luteal phase of the menstrual cycle and cease with commencement of menstrual flow.

DSM-IV criteria was used by the American Psychiatric Association to diagnose premenstrual syndrome which is called premenstrual dysphoric disorder which is characterized by the presence of at least five symptoms (one of which must be affective) that occur in the late luteal phase, are not a luteal exacerbation of an existing psychiatric condition, that significantly interferes with social activities or relationships with others. Symptoms are depressed mood, anxiety and tension, fluctuating moods, anger and irritability, decreased interest, poor concentration, lethargy and fatigue, change in appetite, feeling overwhelmed and out of control. Physical symptoms include breast tenderness and weight gain. Further division in mild, moderate and severe PMS was done according to criteria given by Sternfeld.[10]

Results

Among 384 girls, 350 returned the questionnaires completed in all respects and 186 (53%) girls were subsequently diagnosed as having PMS according to ICD-10 criteria. Among those 186, 93 girls were diagnosed as having mild PMS, 34 as moderate and 59 as severe. Whereas 64 (18.2%) girls were diagnosed as having PMDD according to DSM-IV criteria as in Figures 1 and 2.

Details of symptom severity in PMS group and PMDD group are given in Tables 1 and 2. The frequency of symptoms in both groups are shown in Table 3.

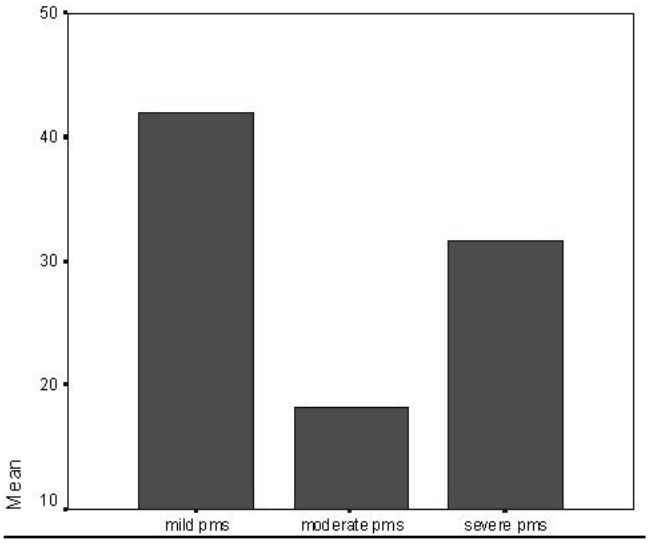

Figure 1. Frequency of mild, moderate and severe PMS.

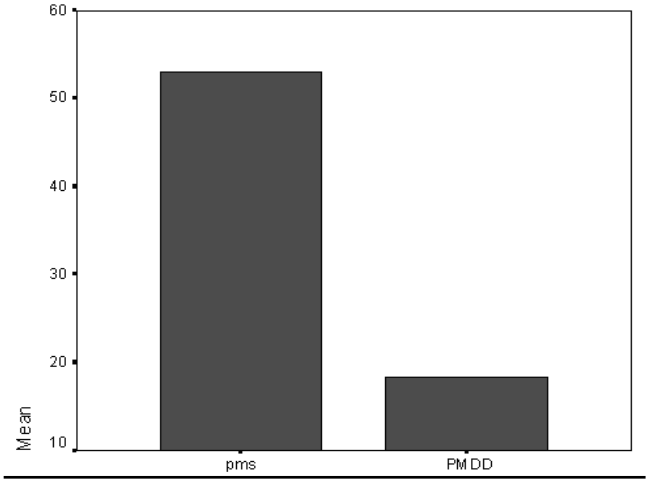

Figure 2. Frequency of PMS and PMDD.

Table 1. Premenstrual symptoms in PMS reported by severity (n=186).

No.	Symptoms	Mild %	Moderate %	Severe %	Total %
	Psychological symptoms				
1	Angered easily	38.6	22.7	5.7	67
2	Anxiety	45.5	27.3	4.5	77.3
3	Confused	39.8	12.5	3.4	55.7
4	Depressed	31.8	22.7	12.5	77
5	Guilt	20.5	4.5	5.7	30.7
6	Hopeless feelings	27.3	9.1	8	44.4
7	Irritability	44.3	20.5	10.2	75
8	Loneliness	23.9	19.3	10.2	54.4
9	Low self esteem	22.7	14.8	4.5	42
10	Moodiness	36.4	25	10.2	62.2
11	Stressful feelings	39.8	20.5	5.7	66
12	Disinterest in life	26.1	19.3	10.2	56.6

No.	Symptoms	Mild %	Moderate %	Severe %	Total %
	Physical symptoms				
13	Abdominal Bloating	35.2	11.4	4.5	51.1
14	Absent Mindedness	28.4	14.8	8	51.2
15	Back Pain	34.1	28.4	14.8	77.3
16	Binge eating	29.5	3.4	9.1	42
17	Breast tenderness	30.7	6.8	2.3	39.8
18	Constipation	18.2	5.7	5.7	29.6
19	Edema	11.2	1.1	2.3	14.6
20	Fainting, Vertigo	18.2	6.8	6.8	28.4
21	General body discomfort	31.8	36.4	19.3	87.5
22	Insomnia	25	5.7	4.5	35.2
23	Weight gain	31.8	5.7	5.7	43.2
24	Headache	25	13.6	3.4	42
25	Fatigue	36.6	22.7	13.6	75.9
26	Nausea	28.4	4.5	3.4	36.3
	Behavioural symptoms				
27	Prone to violent out bursts	23.9	4.5	8	36.4
28	Abstinence from work	18.2	22.7	1.1	42
29	Personality change	31.8	14.8	3.4	50

Table 2. Premenstrual symptoms in PMDD reported by severity (n = 64)

No.	Symptoms	Mild %	Moderate %	Severe %	Total %
	Psychological symptoms				
1	Angered Easily	38.1	42.9	11.9	92.9
2	Anxiety	33.3	50	9.5	92.8
3	Disinterest in life	26.2	28.6	19	73.8
4	Confused	45.2	23.8	7.1	76.1
5	Depressed	19	47.6	26.2	92.8
6	Guilt	26.2	9.5	9.5	45.2
7	Hopeless feelings	35.7	19	16.7	71.4
8	Irritable	31	38.1	21.4	90.5
9	Loneliness	16.7	40.5	19	76.2
10	Low self-esteem	26.2	31	9.5	66.7
11	Moodiness	28.6	35.7	19	83.3
12	Stressed out feelings	47.6	33.3	11.9	92.8
	Physical symptoms				
13	Abdominal bloating	31	23.8	7.1	61.9
14	Absent Mindedness	26.2	19	16.7	88.1
15	Back pain	23.8	33.3	23.8	80.9
16	Binge eating	21.4	4.8	19	45.2
17	Breast tenderness	16.7	7.1	4.8	28.6
18	Constipation	14.3	9.5	11.9	35.7
19	Edema	4.8	2.4	2.4	9.6
20	Fainting, vertigo	19	7.1	7.1	33.2
21	Fatigue	38.1	30.6	21.4	90.5
22	General body discomfort	14.3	45.2	31	90.5
23	Headache	16.7	21.4	4.8	42.9
24	Insomnia	28.6	9.5	9.5	47.6
25	Weight Gain	33.3	9.5	9.5	52.3
26	Nausea	33.3	4.8	4.8	39.9
	Behavioural symptoms				
27	Abstinence from work	26.2	28.6	2.4	57.2
28	Prone to violent outbursts	31	4.8	16.7	52.5
29	Personality change	40.5	14.3	7.1	62.1

Discussion

Our study indicated that approximately 53% of the young college girls experience PMS. This figure is higher as reported earlier on experience of Pakistani women (33%).[11] The difference could be due to the previous study being community based. Two other studies from France[12] and China[13] also reported a lower incidence of 35% and 30.4% respectively. In contrast Johnson[5], and Cleckner-Smith[14] reported 75% and 88% prevalence of PMS respectively, a figure quite higher than ours. In our study, frequency of mild and moderate PMS were less as compared to an earlier Chinese study.[13] Frequency of PMDD and PMS according to DSM-IV criteria was higher in our study, which does not conform with earlier reports.[6,15,16] The reason could be a stressful life of the developing world or may be that medical students are more tense.

Another important finding in our study was time off work taken by girls with severe PMS and PMDD, which is quite high, as compared to 7.4% reported by Safaty et al.[12]

The symptoms and their severity in our study subjects are in accordance with those reported in earlier studies. There was no specific contrast between symptoms severity and frequency in severe PMS group and PMDD group. The most frequent symptoms were psychological and behavioural with anger being more in PMDD group. Similar results have been reported earlier.[10]

The limitations of our study included a highly selective sample comprising of medical students which was also small in size. Girls using psychotropics were excluded, ensuring an untreated sample.

The study concluded that PMS/PMDD is a common problem in the reproductive age group and severe forms are more prevalent in this part of the world. Measures should be adopted to reduce the incidence of this disorder which influences the quality of life in young girls.

Table 3. Premenstrual symptoms in order of severity in descending order.

No.	Mild PMS	%	Moderate PMS	%	Severe PMS	%	PMDD	%
1	General Body Discomfort	86.5	Irritability	100	Anxiety	96.4	Angered easily	92.9
2	Back Pain	75.7	Anxiety	93	Stressful feeling	92.9	Anxiety	92.9
3	Fatigue	62.1	Depressed	87.6	Depressed	92.9	Stressed out feeling	92.8
4	Moodiness	60.4	General Body Discomfort	81.3	Fatigue	92.8	Depressed	92.8
5	Anxiety	54	Angered easily	81.3	General Body Discomfort	92.8	Fatigue	90.5
6	Irritability	54					General Body Discomfort	90.5

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