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PROSPECTIVE SURVEY STUDY ON PREMENSTRUAL DYSPHORIC DISORDER AMONG COLLEGE STUDENTS USING A SELF RATING DAILY SYMPTOM DIARY

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ABSTRACT

Background: Premenstrual dysphoric disorder is a common yet underdiagnosed mental health problem among women of reproductive age group with a significant potential to perturb the social, occupational, academic and interpersonal milieu of the suffering women. **Method:** Premenstrual dysphoric disorder was diagnosed based on penn's daily symptom rating scale (self-administered for 2 months) and an interview based on diagnostic and statistical manual -5 diagnostic criteria for premenstrual dysphoric disorder. **Results:** Overall 191 subjects were studied. Prevalence of premenstrual dysphoric disorder was wound to be 8.9% (n= 17). Most common symptoms found were fatigue irritability, mood swings and A significant correlation between severity of premenstrual and menstrual difficulties was found with PMDD. **Conclusion:** Current study highlights the need for clinicians to assess for premenstrual dysphoric disorder in females visiting the hospital with premenstrual and menstrual complaints.

KEYWORDS: Premenstrual dysphoric disorder, menstrual complaints.

INTRODUCTION

Premenstrual dysphoric disorder is a set of emotional, behavioral and somatic symptoms that are present in the final week before the onset of menses and start to regress in intensity after onset of menses, becoming minimal or absent in the week postmenses. The symptoms presents in a cyclic manner in majority of the menstrual cycles. For the presenting symptoms to qualify as a part of premenstrual dysphoric disorder a significant distress or interference with work, academic, usual social activities, or relationship with others must be present.[1]

A complex interplay and convergence of genetic factors; neurobiological factors such as altered LH pulse,[2] abnormal serotonin system,[3] abnormal prefrontal cortex activation,[4] and psychosocial factors such as stressful life events,[5] poor coping strategies[6] represents the heterogeneous etiopathogenic mechanisms underlying the vivid presentation of this PMDD.

A review of literature reveals multitudinous amount of data on prevalence, socio-demographic and clinical correlates among other characteristics of premenstrual dysphoric disorder from western countries however literature form Asian countries is sparse. Due to variations in sampling methods, scales and criteria used for diagnosis purpose, analysis methods among other variables a wide range of prevalence of PMDD has been reported by researchers over time.
Gehlert et al. (2009) found that 1.3% of a group of 1246 women selected randomly in a survey based study met criteria of PMDD.[7] In Germany, wittchen et al. (2002) found that 5.3% of a group of 1251 young woman (aged 14-24 year) met criteria of PMDD.[8] In Japan, Chung et al. (2014) reported a 20% prevalence rate of PMDD in perimenopausal women in a hospital based study.[9]

Mishra A et al (2015), conducted a survey to explore the prevalence of premenstrual dysphoric disorder and its association with lifestyle factors in the medical students of Smt. N. H. L. Municipal Medical College, Ahmadabad, India, using the criteria based on DSM-IV-TR and reported a 37% prevalence rate of PMDD.[10]

Given the potential of premenstrual dysphoric disorder to significantly disturb the normal functioning in multiple domains of life, throughout the reproductive age of a women, we consider that diagnosis and treatment of PMDD should be given due importance. As premenstrual dysphoric disorder is relatively untouched and considerably under investigated area in India we took up this study to uncover prevalence and symptomatology of PMDD in rural area of Madhya Pradesh.

METHODOGY

Current prospective survey study was conducted to find out the prevalence and study the symptomatology of PMDD among students of Index Medical College Hospital and Research Centre, Indore 191 students from the above college were taken up for the study and evaluated prospectively for presence of PMDD over the period of 2 months.

These subjects were initially divided in batches of 25 each, and were involved in a timebound interactive session on symptomatology of premenstrual dysphoric disorder. Subjects were encouraged to ask questions, any queries thus raised were answered. Participants were given a description for the need of study and were requested to participate in the study. An informed consent was taken from the subjects. Later, they were guided on the way to fill the required socio- demographic and clinical profile sheet for the study.

The details of the profile sheets were studied and subjects who reported to have chronic medical or surgical illness (hypothyroidism, anemia, polycystic ovarian disease), pregnancy, or use of oral contraceptive pills were excluded from the study.

Initially, the subjects were asked to report their daily symptoms on various parameters on a scale of 0-4, 0 being the nil/absent and 4 being very severe, on the Penn Daily Symptom score sheet. The respondents were also asked to indicate the days of their menstrual period by marking these dates in red. They were asked to submit their score sheets after marking their symptoms for a period of two months.

Weekly reminders were given and the subjects were free to meet us during this study period, should they have any doubts.

On returning the completed Performa, they were once again indulged in an interactive session and were asked if they feel like they needed help for their symptoms.

The daily symptom score sheet was reviewed and subjects with features suggestive of PMDD were interviewed based on criteria of PMDD in diagnostic and statistical manual of mental disorders, edition 5, diagnostic research criteria.

Statistical analysis was carried out with the help of SPSS version 16.0 computer software.

RESULTS

A total of 230 subjects were approached, of which 191 were included in the study.

Prevalence of PMMD

In our study 8.9% of the subjects were diagnosed as having PMDD.

Table 1- Distribution of subjects according to presence of PMDD.

PMDD	Number of subjects	Percentage (%)
Absent	174	91.1
Present	17	8.9%
Total	191	100.0

Sociodemographic Correlates of PMDD

Age

In our study, the majority of the subjects were 18-21 years of age (63.4%) followed by, 22-25 years of age (27.7%) and 26-29 years of age (8.9%). Mean age was 21.21 years.

PMDD was predominantly seen in 18-19 years of age as compared to other age groups.

Socio-economic Status

Majority of the subjects were from upper middle and middle class (64.8%). Only 27.2% and 9.9% subjects were from upper and lower middle classes respectively. PMDD was seen in 8.9% of subjects, 41.1% of these were from upper class, 29.4% from upper-middle class, 23.5% from middle class and 5.8% were from lower middle class.

The differences were not statistically significant, indicating that the symptoms were uniform across these all socioeconomic status.

Marital Status

93.2% of the subjects in our study were unmarried, while 6.8% were married. Of those who had PMDD, 94.1 % were unmarried and 5.9% were married.

Regularity and Interval of Menstrual Cycle

In our study, majority of the females (70.2%) had regular menstrual cycle. Majority of females who had PMDD reported having irregular menstrual cycles. The differences were statistically significant. 64.3% females had cycle of 26-30 days; followed by 31-35 days (26.7%), 21-25 days (7.3%), 36-40 days (1%) and 41-45 days (0.5%). The mean duration of cycle was 28.69 days.

Age of Menarche

In our study majority of females attained their menarche at age group 12-14 year (65.4%) followed by 15-17 year age (26.7%) and age 9-11 year (7.8%).

Among those who had PMDD, 70.6% attained their menarche at 12-14 years of age followed by 15-17 years of age (17.6 %) followed by 9-11 years of age (11.8%). The differences were not statistically significant indicating that PMDD symptoms do not vary with age of onset of menarche.

Family History of Depression

In our study 15.2% of females reported positive family history of depression while 84.8% reported negative family history of depression. PMDD was seen in 6.8%

females having family history of depression and 9.3% in females having no family history of depression.

Table 2: Premenstrual dysphoric disorder in association with Socio-demographic variables.

Demographic details	PMDD present (n=17)	PMDD absent (n=174)	Total Number (n=191))
Age(years)			
18-21	11(64.7%)	110(63.2%)	121(63.3%)
22-25	2(11.6%)	51(29.2%)	53(27.6%)
26-29	4(23.5%)	13(7.4%)	17(8.9%)
Socio-economic status			
Upper	7(41.1%)	45(25.8%)	52(27.2%)
Upper-middle	5(29.4%)	50(28.7%)	55(28.8%)
Middle	4(23.5%)	61(35.0%)	65(34%)
Lower-middle	1(5.8%)	18(10.3%)	19(9.9%)
Lower	0(0.0%)	0(0.0%)	0(0.0%)
Marital status			
Married	1(5.9%)	12(6.9%)	13(6.8%)
Unmarried	16(94.1%)	162(93.1%)	178(93.2%)
Menstrual cycle			
Regular	8(47.0%)	126(72.4%)	134(70.20%)
irregular	9(52.9%)	48(27.5%)	57(29.80%)
Interval of menstrual cycle(days)			
21-25	2(11.7%)	12(6.8%)	14(7.3%)
26-30	9(52.9%)	114(65.5%)	123(64.3%)
31-35	5(29.4%)	46(26.4%)	51(26.7%)
36-40	1(5.8%)	1(0.6%)	2(1.0%)
41-45	0(0.0%)	1(0.6%)	1(0.5%)
Age of menarche(year)			
9-11	2(11.8%)	13(7.5%)	15(7.8%)
12-14	12(70.6%)	113(64.9%)	125(65.4%)
15-17	3(17.6%)	48(27.6%)	51(26.7%)
Family history of depression			
Present	6(35.3%)	38(21.8%)	29(15.2%)
absent	11(64.7%)	136(78.2%)	162(84.8%)

PHENOMENOLOGY

Among the studied ***symptoms***, fatigue (71.2%), mood swing (55.5%)and irritability (52.5%) were the most commonly reported symptoms followed by feeling hopeless(48.7%); headache(45.05); anxiety (42.4%); swelling/bloating sensation (41.4%); depression(41.4%); body aches(39.8%)craving for food (35.65); low interest in usual activities (32.5%);, breast tenderness (29.3%); feeling overwhelmed and out of control (29.3%); abdominal cramps (25.1%); diffiiculty in concentration 24.6%); sleep disturbance (18.8%).

Very few females had very severe symptoms

Table 3: Phenomenology of PMDD.

SN	Symptoms	Not at all	Mild	Moderate	Severe	Very Severe
1	Fatigue	55	98	31	7	0
2	Co-ordination	175	14	2	0	0
3	Overwhelmed/out of control	135	38	17	1	0
4	Feeling of hopelessness/ Worthlessness	98	45	46	2	0
5	Headache	105	65	21	0	0
6	Anxiety	110	48	33	0	0
7	Aches / Body Aches	115	40	32	4	0
8	Irritability	90	51	40	10	0
9	Mood swings	85	66	35	5	0
10	Swelling/ Bloating	112	38	28	11	2

11	Cravings (Food)	123	45	20	3	0
12	Low interest in usual activities	125	47	4	7	4
13	Cramps	143	15	22	5	6
14	Depression	112	36	31	12	0
15	Breast Tenderness	135	28	25	3	0
16	Sleep	155	21	13	2	0
17	Concentration	144	45	2	0	0

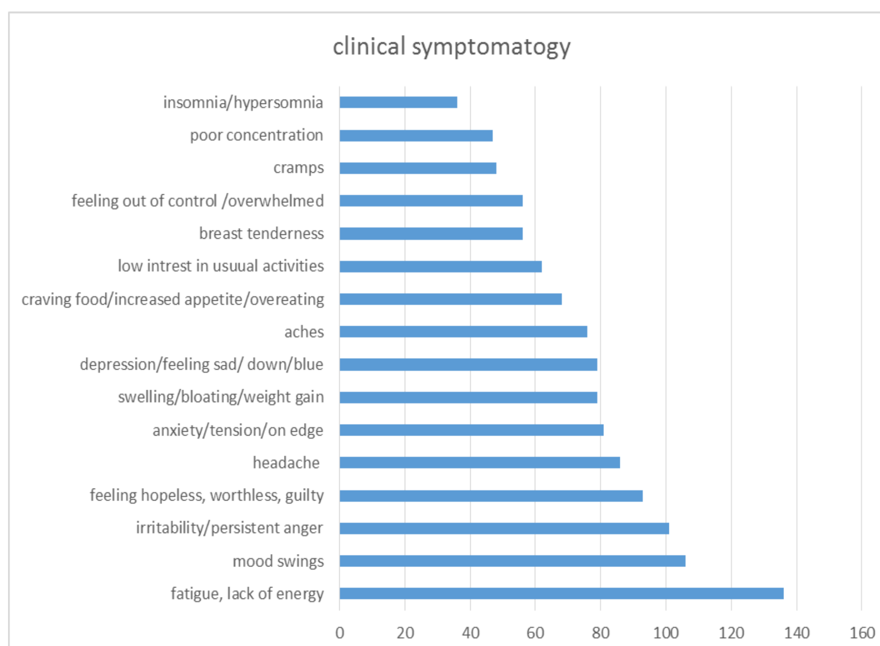

Chart 1: Phenomenology of PMDD according to penn daily symptom report.

DISCUSSION

Each menstrual cycle represent a duration in life of a female where nature prepares her body to support pregnancy. Complex interplay between various hormones like LSH, estrogen and progesterone does not only results in various physical changes in the body of a women but by interaction with other factors it also results in polymorphic behavioral and psychological symptoms.[11] Due to the myths and taboos associated with the menstrual cycle women's, especially in rural area, are often reluctant to discuss the physical and psychological problems that are recurrently associated with their periods. Historically the complaints associated with menstruation first came in attention when Dr. Robert Frank published his report in New York academy of medicine in 1931 and used the term premenstrual tension for the premenstrual and menstrual complains of females.[12] But the psychological and behavioral symptoms associated with menstruation gained researchers attention much later. Description of these symptoms was given a diagnostic name, "Late luteal phase dysphoric disorder" in DSM-III-TR and placement in the appendix A, coded as depressive disorder not otherwise specified.[13] Updated version of older DSM-III-TR criteria of LPDD was renamed as "Premenstrual dysphoric disorder" in DSM-IV, and it continued to stay in appendix B under the code, "criterion sets and axes provided for further study".[14] Based on the empirical data, a task force of experts on PMDD submitted a report to APA DSM-5 executive committee in 2012 and recommended the promotion of PMDD from appendix of DSM –IV to main body of DSM-5 under the category of depressive disorder. Currently PMDD is listed as a separate diagnostic in DSM-5 under a diagnostic code 625.4.[1]

In our study majority of females were from 18-21 years of age group (63.4%) followed by 22-24 years of age group (27.7%), only 8.9% had age more the 24 year. Mean age was 21.21 years. 56% subjects belonged to class higher then middle class, flowed by middle class (34%). Majoriy of participants were unmarried (93.2%). 70.2% females reported to have regular menstrual cycles and majority had a menstrual cycle duration of 26-30 days (64.3%). Mean duration of menstrual cycle was 29.69 days. 65.4% of subjects attained their menarche between age group 12-14 year. Mean age of attainment of menarche was 13.59 year. 15% participants reported a positive family history of depression. In current study we found a positive correlation between PMDD and late age group (26-27 years) and regularity of menstrual cycle. On the contrary we did not found any correlation between PMDD and age of menarche, duration of menstrual cycle, socioeconomic status, marital status and family history of depression.

Prevalence of PMDD in current study (8.9%) is in line with published literature. A number of studies have

reported prevalence rate of PMDD ranging from 1.3-6.4%[5] to 3-8%.[15,16] majority of subjects reported at least on physical and psychological symptom during premenstrual and menstrual period. Although substantial number of women reported subjective sense of disturbance in functioning during premenstrual and menstrual period, only a small number fulfilled the diagnostic criteria of premenstrual dysphoric disorder given by diagnostic and statistical manual of mental disorders -5, diagnostic and research manual. Wittchen et al.,[8] in his study "prevalence, incidence and stability of premenstrual dysphoric disorder in the community" reported 18.6% prevalence of subsyndromal PMDD.

Fatigue (71.2%), mood swing (55.5%) and irritability (52.5%) were the most commonly reported symptoms followed by feeling hopeless(48.7%); headache(45.05); anxiety (42.4%); swelling /bloating sensation (41.4%); depression(41.4%); body aches(39.8%)craving for food (35.65); low interest in usual activities (32.5%); breast tenderness (29.3%); feeling overwhelmed and out of control (29.3%); abdominal cramps (25.1%); difficulty in concentration (24.6%); sleep disturbance (18.8%). Irritability has been identified as the most common pre-menstrual symptom in United States and European samples.[17,18] However, recent analysis of community and clinical samples for DSM-5 demonstrated that mood swings or affective lability was the most severe premenstrual affective symptom, followed by irritability.[19] In Casablanca, McHichi alami Kh et al (2002)[20], conducted a study to evaluate the prevalence of a potential premenstrual dysphoric disorder (PMDD) during one menstrual cycle, according the DSM IV criteria and reported 50.2% prevalence of potential PMDD. The most severe symptoms reported were fatigue and irritability.

CONCLUSION

Premenstrual dysphoric disorder is fairly prevalent in young females of reproductive age group in general population. Since research participants who were diagnosed with PMDD also has higher intensities of physical symptoms we conclude that patients visiting the gynecological department with moderate to severe premenstrual or menstrual complaints should be screened for PMDD and referred to mental health professionals.

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CONFLICTS OF INTEREST

Nil.

REFERENCES

1. Diagnostic and Statistical Manual of Mental Disorders, Fifth edition. Arlington, VA, American Psychiatric Association, 2013.
2. Eriksson O, Bäckström T, Stridsberg M, et al. Differential response to estrogen challenge test in women with and without premenstrual dysphoria. Psychoneuroendocrinology, 2006a; 31(4): 415–427.
3. Rapkin AJ & Akopians AL Pathophysiology of premenstrual syn drome and premenstrual dysphoric disorder. Menopause International, 2012; 18(2): 52–59.
4. Baller EB, Wei SM, Kohn PD, et al. Abnormalities of dorsolateral prefrontal function in women with premenstrual dysphoric disorder: a multimodal neuroimaging study. American Journal of Psychiatry, 2013; 170(3): 305–314.
5. Epperson CN, Steiner M, Hartlage SA, et al. premenstrual dysphoric disorder: evidence for a new category for DSM-5. American Journal of Psychiatry, 2012; 169(5): 465–475.
6. Di Giulio G & Reissing ED Premenstrual dysphoric disorder: preva- lence, diagnostic considerations, and controversies. Journal of Psychoso- matic Obstetrics and Gynaecology, 2006; 27(4): 201–210.
7. Gehlert S, Song I, Chang C, Hratlage S. The prevalence of premenstrual dysphoric disorder in a randomly selected group of urban and rural women. Psychological Medicine, 2009; 39: 129-136.
8. Wittchen HU, Becker E, Lieb R, Krause P. Prevelence, incidence and stability of premenstrual dysphoric disorder in the community. Psychological Medicine, 2002; 32: 119-132.
9. Chung SH, Kim TH, Lee HH, Lee A, Jeon DS, Park J, et al. Premenstrual syndrome and Premenstrual dysphoric disorder in perimenopausal women. J Menopausal Med., 2014; 20: 69-74.
10. Amrita Mishra, et al. Premenstrual dysphoric disorder in medical students residing in hostal and its association with lifestyle factors. Ind Psychiatry J., Jul-Dec, 2015; 24(2): 150-157.
11. Hacker & Moore. Essentials of Obstetrics & Gynecology. 3rd ed. Philadelphia. WB Suanders.
12. Frank RT: The hormonal causes of premenstrual tension. Arch. Neurol. Psychiatr, 1931; 26: 1052-7.
13. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision Washington, DC, American Psychiatric Association, 1987.
14. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision Washington, DC, American Psychiatric Association, 2000.
15. Andersch B, Wendestam C, Hahn L, Ohman R. Premenstrual complaints. Prevelence of premenstrual symptoms in a Swedish urban population. J Psychosom Obstet Gynecol, 1986; 5: 39-49.
16. Hurt SW, Schnurr PP, Severino SK, Freeman EW, Gise LH, Rivera Tovar A, et al. Late luteal phase dysphoric disorder in 670 women evaluated for premenstrual complaints. AM J Psychiatry, 1992; 149: 525-30.
17. Endicott J, Amsterdam J, Eriksson E, et al. Is premenstrual dysphoric disorder a distinct clinical

entity? Journal of Women's Health and Gender-Based Medicine, 1999; 8(5): 663–679.
18. Pearlstein T, Yonkers KA, Fayyad R, et al. Pretreatment pattern of symptom expression in premenstrual dysphoric disorder. Journal of Affective Disorders, 2005a; 85(3): 275–282.
19. Hartlage SA, Freels S, Gotman N, et al. Criteria for premenstrual dysphoric disorder: secondary analyses of relevant data sets. Archives of General Psychiatry, 2012; 69(3): 300–305.
20. McHichi alami Kh et al. Assessment of premenstrual dysphoric disorder symptoms: population of women in Casablancha. Encephale, Nov-Dec, 2002; 28(6pt 1): 525-30.