



ORIGINAL RESEARCH PAPER

Psychiatry

A Study of Pre-Menstrual Dysphoric Disorder and associated Depression and Anxiety.

KEY WORDS: PMDD, Depression, Anxiety.

Dr Keshav Jee	MD (Psychiatry) Senior Resident, Department of Psychiatry, Rajendra Institute of medical sciences, Ranchi, Jharkhand, India-834009
Dr Mary Pushpa Bara	MD.(Physiology). Associate Professor, Department of Physiology Rajendra Institute of medical sciences, Ranchi, Jharkhand, India-834009
Dr. Ajay Kumar Bakhla	M.B.B.S., M.D, DPM. Associate Professor, Department of Psychiatry Rajendra Institute of medical sciences, Ranchi, Jharkhand, India-834009

ABSTRACT

Introduction: Premenstrual dysphoric disorder (PMDD) is characterized by emotional, psychological and somatic symptoms, associated with the luteal phase of menstrual cycle. The prevalence and functional impairment is quite high with PMDD.

Aims and objectives : To find prevalence of PMDD among female students of medical graduation, and its association with anxiety and depression in students with and without PMDD.

Material and methods: The study was conducted among undergraduate (UG) medical students of large medical college. Students were assessed on their premenstrual symptom severity using the Daily Record of Severity of Problems (DRSP), Hamilton depression rating Scale (HAM-D) for depression and Hamilton anxiety Rating Scale (HAM-A) for anxiety. The study population was divided into two groups: with and without PMDD and depression and anxiety was compared in both the groups. Statistical analysis was done using SPSS10.0 version.

Results: PMDD was reported in 25% female medical students and Co-morbid depression and anxiety were significantly higher in group with PMDD as compared to those without PMDD.

Conclusion : This study founds a prevalence of PMDD in 25% in medical graduate students and significantly associated depression and anxiety among students with PMDD.

Introduction

Premenstrual dysphoric disorder (PMDD) is considered a severe form of premenstrual syndrome (PMS) with a prevalence rate of 3% to 9% in the general population [1,2]. Whereas 40% of women have mild to moderate pre menstrual symptoms.

PMDD is characterized by emotional lability, irritability, anxiety and depression with somatic symptoms of oedema, weight gain, headache, breast pain, syncope and paresthesias [1]. The etiology of PMDD is thought to be biological contributions such as central nervous system (CNS) sensitivity to reproductive hormones, genetic factors, and psychosocial factors such as stress. The onset and offset timings in PMDD suggests hormonal fluctuation in PMDD's pathogenesis [3]

There are significant comorbidities has been reported with PMDD like, major depressive disorder, Anxiety disorders like, post-traumatic stress disorder, social phobia, specific phobia, somatoform disorder, alcohol abuse/dependence and insomnia. [4]. However Major depressive disorder, dysthymia, generalized anxiety disorder (GAD) and bipolar disorder are most commonly associated with PMDD and 30-76% of women with PMDD have history of depression. Both depression and PMDD have bilateral negative impact on each other [3-6].

Medical students are among the high stress people. Thus, it is predictable that depression and Pre menstrual syndrome (PMS) have elevated frequencies in this population [7].

According to Delara et al. in a study among adolescents between 14- 19 years, 37.2% (224 out of 607) met the diagnostic criteria for PMDD [8].

In a recent study in Gujarat, India the prevalence of PMS reported was 18.4% and PMDD 3.7% according to Diagnostic & Statistical Manual for Diseases – IV Text Revision(DSM- IV TR)and 91% according to the International Classification of Diseases,10th edition criteria (ICD-10) among the college students [9].

Another study from western India reported 12.22 % of females to be suffering from PMDD with all showing work impairment during the period. Also co- morbid depression was reported in 18.52% of those who suffered from PMDD [10]

Considering the above findings, it is predictable that medical students are at high risk for PMDD and a prompt and early awareness about this common and yet neglected diagnosis can help prevent these individuals from disabling consequences of the disorder. We plan this study with an aim to find co-morbid depression & anxiety with PMDD in medical students and to compare the severity of depression and anxiety in those with / without PMDD.

Material and Methods

This was a cross-sectional observational study was descriptive in design. It was conducted among undergraduate (UG) medical students of a large medical college. All consenting female students of all semester were considered provided if she had having regular menstrual cycles. The exclusion criteria included subjects having irregular menstrual cycles or major medical / gynaecological illness, currently using oral contraceptives/ hormonal preparations or psychotropics. The following instrument and scales were used.

1. Daily record for severity of problems (DRSP) [11] : A questionnaire used to assess pre- menstrual symptoms and their severity starting on the day of their cycle. The questionnaire is based upon all symptom criteria required for diagnosis of PMDD as per DSM- IV TR. It is a prospective charting where each student should tick the form each night before going to bed for the whole month. This is evaluated for a period of 2 months following which a diagnosis of PMDD can be made. A luteal phase score \geq 30% above the follicular phase gives a diagnosis of PMDD. This tool will help to diagnose and separate the two groups those having PMDD and those not.

2. Hamilton depression rating scale (HAM- D): It is a 17 item scale used to measure the severity of depression. Scores \leq 7: normal, scores between 8-13: mild depression, scores between 14-18 : moderate depression and scores 19 and above as severe depression [12].

3. Hamilton anxiety rating scale (HAM- A): It is a 18 item scale with scores between 0-56 used to measure severity of anxiety. Mild anxiety < 17, Moderate anxiety: 18-24, Severe anxiety : > 25 [13].

Out of 300 students who were given the proforma, 240 forms

were complete in all respect and fulfilling the inclusion and exclusion criteria and thus included in the final analysis. The students were divided in two groups on whether suffer from PMDD or not. Assessment of co-morbidity and comparison of severity of depression and anxiety was done between both the groups.

Data analysis was done using the SPSS 11 software. Chi square test was used for the categorical variables. Unpaired 't' test was used for quantitative data .

RESULTS

The entire age group of the study population varied from 18- 25 years. The mean age of the study sample was 20.52 years with standard deviation (SD) of 2.32 years.

PMDD was reported in 25% of medical students. Depression as measured by the HAM- D scale was absent in 53% of students while mild, moderate and severe depression was reported in 36.66%, 10% and 0% of the students. Mild anxiety as observed by HAM- A scale was reported in 36.66 of students, 35% had moderate and 3.3 % had severe anxiety as shown in table 1.

Two groups were made, one group diagnosed with PMDD and other group with NO PMDD. Anxiety and Depression was compared among them. Out of 180 students diagnosed with NO PMDD 132 students (73.33%) had no anxiety symptoms, 46 students had mild (25.55%), no students (0%) had moderate anxiety symptoms and 2 students(1.1%) had severe anxiety symptoms. when compared with PMDD group chi square test was 83.45 with degree of freedom 3 and P value as .000.

Out of 180 students diagnosed with NO PMDD 162 students (90%) had no depressive symptoms, 13 students had mild (7.22%), 5 students (2.77%) had moderate depressive symptoms and no students(0%) had severe depressive symptoms . when compared with PMDD group chi square test was 39.35 with degree of freedom 2 and P value as .000.

Discussion

We found prevalence of PMDD in 25% of ours sample, it is quite high, but comparable to many studies [14-17] reporting 17.2%, 18.2% and 25.2% prevalence of PMDD with their studies. Even a few studies reporting much higher prevalence like 36.1% and 37.2 % in their studies [9,16]. This variation and difference in found prevalence of PMDD may indicate influence of culture on the subjective perception of pre- menstrual complaints in different regions of the world in populations belonging to similar age group. The variations of prevalence of PMDD may also reflect the impact of socio-occupational factors that impose varying degree of stress on subjects. The course of medical graduation is considered as difficult and demanding for medical students as compared to other professional / degree courses which could have been the reason for a bit higher found prevalence of PMDD in ours study.

Our study shows comparative higher levels of depression in the group of students suffering from PMDD with findings of 36% versus 7.2% for mild depression and for moderate depression it was 10% versus 2.77 %. no students of either group found to be suffering from severe depression.

Anxiety levels were similarly found to be higher in students with PMDD (Table-1) with findings of 36.6% reporting mild anxiety and 35% moderate anxiety and 3.33% severe anxiety in those with PMDD. The measured anxiety and depression across the groups of PMDD and No PMDD were significantly different (Chi square =83.45, df=3, p=.000; and Chi square =39.35, df=2, p=.000 respectively for anxiety and depression. The current design of prospective assessment of PMDD is an advantage as retrospective studies have confounding factor of recall bias. Limitations of our study includes self reporting subjective assessments and not by personal interviews and limited to a particular age group of females belonging to one profession only. The extent to which the

findings can be applied to general population cannot be commented upon. However we settled with a sample size of 240, but further larger sample may be planned for future studies. Also for future plans of longitudinal study may be considered to know the future and outcome of PMDD in long term.

Conclusion

The prevalence of PMDD is found to be 25% in this study among medical graduate students and co- morbid depression and anxiety are significantly associated with PMDD as seen in the present study.

Table 1:

Age	Minimum	Maximum	Mean			
	18.00	25.00	20.52 (2.31)			
PMDD	Absence	180 (n)	75%			
	Present	60 (n)	25%			
		No PMDD	PMD	chi	df	p value
Anxiety	nil	132	15	83.45	3	.000
	mild	46	22			
	moderate	0	21			
	severe	2	2			
Depression	nil	162	32	39.35	2	.000
	mild	13	22			
	moderate	5	6			
	severe	0	0			

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