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ABSTRACT

Up to 75% of women report some preme symptoms, but less than 10% have symptoms enough to qualify for a diagnosis of PMDD. to diagnosis is establishing a pattern of PMDD symptoms that recur during the late phase of the menstrual cycle and remit after r Underlying psychiatric and medical disorde might mimic PMDD should be ruled out dressed. The aim of this study was to study th alence of PMDD in a random sample of E women, to explore the symptom profile of thi der in that sample and to search for any poss lationship between PMD regarding occurrenc or severity with different personality and demographic factors. 987 females in the chi ing period, their age between 15-45 years; them have regular menses were recruited by a fied random sample; the whole sample was s for premenstrual symptomatology using Moo strual Distress Questionnaire (MDQ). Bo PMDD and the control groups were assessed following tools :

1) Eysenck personality questionnaire (1964) assessment of different personality var

2) Taylor Manifest Anxiety Scale (Janet

1953) : for assessment of anxiety traits.

3) Beck Depression Inventory (BDI) (Beck, 1961) : for detection of depression states.

4) Guilford Scale (Guilford and Zimmerman) for assessment of depressive traits.

5) Fahmy and El Sherbini Socio-economic Sheet of social status (1988). PMDD represented 6.69% of the sample examined in the study, and it was found to be related to work. troublesome home atmosphere, menorrhagia, dysmenorrhoea, neuroticism, criminality, anxiety, and depressive traits and state. Depressive state and neuroticism were the primary determinants of the development of the disease.

Introduction

nenstrual syndrome (PMS) is ition characterized by a cyclic ence of physical, affective havioural symptoms in the 7- s before the menstruation and ng with its onset. This is a on condition affecting up to f females in the child bearing (Facchinetti et al. 1998).

the other hand, Premenstrual oric Disorder (PMDD), which established to have strict di- ic criteria in the DSM-IV (El- 002 and Muzina, 1998), is a ion severe enough to interfere he women's social, occupa- and marital life. It is much ommon, affecting about 2- f females in the child bearing (Steinberg et al, 1999, Geh- al, 1999, Young et al, 1998, and Rubinow et al, 1998).

Despite the marked suffering faced by women who have this disorder, they used to consider this as an accepted part of their life. Many of them, even those who are aware of the size of their problem did not ever think to consult for treatment of such a condition. The cost of this illness is paid on the expense of the patient herself, her family, her work and thereby the community as a whole.

In Egypt. women are used to endure different stressors and don't complain especially if the problem is related to psychiatric symptoms for fear of being stigmatized with having mental illness and so prefer to present with physical symptoms and consult a physician rather than a psychiatrist, and this may give an

example of how culture can affect the presentation of a disease.

The aim of this study was to study the prevalence of PMDD in a random sample of Egyptian women. to explore the symptom profile of this disorder in that sample and to search for any possible relationship between PMD regarding occurrence and/or severity with different personality and socio-demographic factors.

Subjects and methods :

The work was preceded by a pilot study, to determine the size of the sample needed, and to assess the ability of the subjects to understand the used questionnaires.

The sample consisted of 987 females in the childbearing period, their age between 15-45 years; all of them have regular menses.

Any woman with a history of medical and or gynaecological diseases or a history of any hormonal therapy including contraceptive pills or steroid therapy and diuretic therapy were excluded from the study.

The samples were recruited by a stratified random sample from :

1) medical students in the 2nd, 4th, and 6th years of the faculty of medicine.

2) High nursery school students in the 1st and 4th years.

3) Secondary nursery school dents 3rd year.

4) House officers.

5) Employees, both professi and non professional, from Shams University hospitals as as the Faculty of medicine.

6) Illiterate house wife's from atives of children attending paediatric outpatient clinic.

All the women fulfilled above mentioned inclusion cri and were accepting to participat the study after signing the stan consent.

A personal data collection s was filled at first, and includec the demographic, menstrual, ob ric, medical, and family history. sheet covered all the data needed assessment of the socio-econo standard according to Fahmy El-Sherbini (1988).

The whole sample was scree for premenstrual symptomatol using Moos Menstrual Dist Questionnaire (MDQ) which originally created by Moos (19 to assess symptom changes in r tion to menstruation. The Ar version of the MDQ which was veloped by Farahat (1988) thro translation/retranslation process the one used in this study.

ccording to the results, women scored 125 or above were coned to be a case in need for furconfirmation; and those who :d less than 125 were considcontrols.

o confirm this finding, DSM-IV ırch criteria were used. This in:d a prospective daily rating of ptoms for two consecutive cyand was guided by the calendar remenstrual experiences-COPErtola et al, 1990).

or the diagnosis of PMDD there ıld be at least a 30% increase in ptom scores from the follicular ne luteal phase (Ekholm et al. 3). To warrant pharmacological ment, worsening should inse by at least 50% (Steiner et al. 5).

Those who failed to be classified PMDD and fulfilled the criteria MS were separated as a separate ty.

The Arabic version used in the ient study was developed ıugh a translation-retranslation :ess. The inter-rater reliability ; established during the pilot ly (K= 0.88 - 0.93).

Both the PMDD and the control ups were assessed by the followtools :

1) Eysenck personality questionre (EPQ) (1964) assessment of different personality variables.

2) Taylor Manifest Anxiety Scale (Janet Taylor, 1953) : for assessment of anxiety traits.

3) Beck Depression Inventory (BDI) (Beck, 1961) : for detection of depression states.

4) Guilford Scale (Guilford and Zimmerman) for assessment of depressive traits.

5) Fahmy and El Sherbini Socioeconomic Sheet of social status (1988). The findings were analysed using the statistical package for the social sciences (SPSS).

RESULTS

The total sample included in this work involved 987 women, out of them, 514 women (52.08%) did not have any significant premenstrual symptoms and were considered to be the control group.

65 women (6.59%) fulfilled the criteria of PMDD and were considered as the patient group.

296 women (29.98%) fulfilled the criteria of PMS.

36 women (3.65%) had severe premenstrual symptoms which turned out to be a premenstrual exacerbation of a present psychiatric disorder, and were excluded from the study.

76 women (7.7%) dropped out, and also were excluded from the study.

Descriptive and demographic data :

There was no significant difference (P = 0.882, U = 16520 Mann-Whitney test) age with the mean age (26.6 ± 7.1 years) for the patient group and the mean age (26.8 ± 7.7 years) for the control group.

The mean age of onset of PMDD was 19.4 ± 5.2 years.

Also, there was no significant difference between both patient and control groups regarding the weight, height, degree of education, marital status.

According to Fahmy and El Sherbini scale (1988), women were classified into four social classe although the prevalence of tl ease PMDD was higher in t social class, yet, there diff was not statistically significa tween both groups.

On the other hand, statis significant difference was fou tween both groups, regarding with a higher incidence of I among the working group. 0.0001. U = 68.04 Mann W test).

Family back ground :

18 women with PMDD (27 were suffering from troubl home atmosphere, in comp with 53 women (10.31 %) control group. The differen tween both groups was found highly significant (P<0.0001) (1) :

Home atmosphere	PMDD	Control	Chi-square	P
Calm	47 (72.31%)	461 (89.69%)		
troublesome	18 (27.69%)	53 (10.31%)	16.2	*<0.0001*

Mann Whitney Test.

7.69% of the patient group had a positive past history of psychiatric illness in the patient group in comparison to 4.67% in the control group, and the difference was not statistically significant (P = 0.2924).

Menstrual History :

Both menorrhagia and dysr rhoea were significantly hig the PMDD group. While, 19 v (29.23%) with PMDD suffere

rhagia only 69 (13.42%) ı in the control group suffered hat complaint, and the differ- ‘as statistically significant (P= ·).

women (55.38%) with PMDD positive history of dysmenor- compared to 212 (41.25%) ı in the control group (P =

tric history :

ere was no statistically signifi- difference between both the e and the control groups re- g the parity, mode of deliv-

the other hand, both infertility ibortions were found to be · in the patient group, howev- difference was not statistical- ly significant (P = 0.1099. and P = 0.1846 respectively).

Symptom profile :

Out of the eight symptom clusters created by Moos, we found that negative affect was the most commonly represented (29.63%) followed by pain score (25.93%) and then the behavioural changes (14.81%), table (2).

Within the negative affect cluster, irritability and mood swings (77.78% for each) were the commonest symptoms, and within the pain cluster, fatigue was the commonest symptom (72.22) followed by generalised aches (70.37%) while, within the behavioural changes cluster, preference of stay at home was the commonest symptom (46.3%).

ıtoms in Moos Questionnaire	Percentage of severity
tive affect	29.63%
score	25.93%
vioural changes	14.81
nomic reactions	7.41%
r retention	3.7%
entration score	1.85
sal	0%
rol	0%

e commonest symptoms in the clusters were as following :

east tenderness (48.15 %) the ıonest symptom in the water retention cluster, Suffocation and palpitation (33.33%) were the commonest symptoms in the control cluster, nausea and vomiting (33.33%) were the commonest

symptoms in the autonomic cluster, difficulty in concentration (38.89%) was the commonest symptom in the concentration cluster, and being affectionate (77.78%) was the commonest symptom in the arousal cluster.

Psychometric assessment :

A) Personality traits as assessed by the EPQ. out of the five subscales assessed by the EPQ only neuroticism and criminality showed a highly significant difference between the patient and control groups, being higher in the PMDD group (P = 0.0001 and 0.0342 respectively).

B) Anxiety symptoms as measured by Taylor Manifest Anxiety Scale : the level of anxiet found to be higher in the I group with a highly significa ference from the control grou 0.0001).

C) Depressive traits as me hy Guilford Scale : there highly significant differenc tween both groups with mo pressive traits in the PMDD gi

D) Depressive state as as by the Beck inventory : there highly significant differenc tween both groups with mo pressive symptoms in the F group.

ssion	PMDD	Control	Chi square	P
al	9 (13.84%)	193 (37.55%)		
e normal	55 (84.62%)	302 (58.75%)		
v normal	1 (1.54%)	19 (3.7%)	16.33	*0.0003*

ssion	PMDD	Control	Chi square	P
nal	7 (10.77%)	201 (39.11%)		
	18 (27.69%)	182 (35.41%)		
erate	27 (41.54%)	114 (22.18%)		
re	13 (20%)	17 (3.3%)	53.8	*<0.0001*

ety	PMDD	Controls	Chi square	P
nal	7 (10.77%)	127 (24.76%)		
	16 (24.62%)	189 (36.84%)		
erate	27 (41.45%)	175 (34.11%)		
re	15 (23.07)	22 (4.29%)	40.02	*<0.0001*

oticism	PMDD	Controls	Chi square	P
nal	27 (41.54%)	379 (74.16%)		
ve normal	38 (58.46%)	103 (20.16%)	41.19	*<0.0001*

inality	PMDD	Controls	Chi square	P
nal	21 (32.31%)	251 (49.12%)		
ve normal	44 (67.69%)	259 (50.68%)	6.749	*0.0342*

sing the Logistic regression for r analysis, it was found that the Beck Score (depressive s), and the EPQ-N (neuroticism) score were the primary determinants of the disease process as shown in the following table :

	Parameter estimate	Standard error	Pr > chi square
Beck score	0.0542	0.0165	*0.001*
EPQ - N	0.2006	0.0467	*0.0001*

Meaning that the Beck Score and the EPQ-N together are the main indicators for the development of PMDD and the probability to have the disease depends on these two variables.

Using multiple regression analysis, there was no correlation between the home atmosphere, work, or marital status and the severity of PMDD.

Also, there was no significant correlation between Beck (depressive states), Guilford (depressive traits) and Taylor (anxiety symptoms) and the severity of PMDD.

Regarding multiple correlation analysis for all the EPQ (personality traits) subscales, in relation to the severity of the disease (Moos Q). there was a statistically significant negative correlation between EPQ-L (Lie score) and the severity of PMDD (r = -0.31663 P = 0.0102).

DISCUSSION

Terms like PMS and PMDD have been used interchangeably, while they do not refer to the same finding (Vanselow 1998). Also Rapkin (1992) noticed that the term PMS and LLPDD (late luteal phase Dysphoric disorder) have been used interchangeably in the litera The importance of this point is most of the talks in the literatu about PMS, and this inspite o fact that most of the reviewed cles were originally han PMDD.

In Egypt. females in the c bearing period (15 - 45) cons about 13.456.404 women accor to the final results of the 1996 sus and according to the statis year book (central agency for p mobilization and statistics, 1 and since the prevalence estin of PMDD reaches up to 10% c females in the child bearing pe so by approaching PMDD we dealing with a condition that af about 1.345.640 women in thei of maximal productivity and to ficiency. Those women are expe to suffer about 1400 - 2800 through out their life (Yon 1997) providing that the estim age of onset is around 26 years offset at the age of menopause years). This constitutes a gross den on both social and econ levels, both directly and indir which represents an enormous nomic suffering in a develo country like Egypt.

We did not find any correl

'een age and severity of PMDD 0.0931 and P > 0.1). Our findcoincide with Farahat (1988); hail, (1986) and Halbreich et al, 2) who found no correlation be-n age and severity of the symp-s. On the other hand, Freeman et 995, 1990), Romacharam et al 2) reported that symptom sever-is inversely related to age. A ible explanation to our finding iat the young age groups of ien may suffer from late age of iage and its social consequenchich might render them more li- to PMDD to a level comparable iat of the old age groups. Other ibility might be due to the lower n age in our study, (26.6 ± 7.1 s) as compared to (33.1 ± 5.3) reeman study.

lthough no statistically signifidifference was found between the PMDD and the Control ip regarding their socioeconomatus, yet, it can be noticed that e is more representation of soclass I in the PMDD (35.4%), more representation of social s IV in the control group 5%), indicating a tendency tods more occurrence of the dis- in the higher social class. Reid 35), explained this finding by the of greater accessibility of medicare among those individuals, furthermore, in the lower social ses, women are preoccupied nly with their essential basic ds for life more than their psylogical welfare.

Higher incidence of PMDD was reported in the working group of women, this finding was observed by other researchers like: Lee and Rittenhouse (1991), Schnurr (1988) who found that there is increased likelihood of PMS in women working outside the home, which could be explained by the presence of multiple stressors at work including multiple interpersonal relations. Andersch (1986), found that about 10% of women are absent from work on at least two occasions each year because of PMS.

The relationship and family dimensions of PMS have received inadequate attention in the literature both in terms of aetiology and management (Condon, 1996). Most of the women presented with premenstrual complaints do so because a social problem has reached a point of crises, and in many instances premenstrual complaints disguise unhappy family relationships (Vanselow, 1998). This was matched with our findings of the more occurrence of PMDD in females with troublesome home atmosphere.

More women with PMDD were found to suffer from menorrhagia (Chi square = 11.4, P = 0.0034). The same finding was reported previously by Bancroft et al (1995), who reported that premenstrual depressive mood changes were noticeably worse and more prolonged in women with menorrhagia.

In a country like Egypt, this may be explained by the fact that women are brought up to believe that menstruation is something that should be hidden and not even to be talked about especially in the presence of men due to shyness, so, it would be a critical situation for a female if she could not secure her appearance and privacy in case of excessive menstrual flow as occurs in menorrhagia. This is especially important for working women and students, who are exposed to outdoor interactions. This may lead women to avoid such situations by absence from work or school, and this may represent an unwanted stressor that females may react toward it by anxiety and depression.

Although PMS and dysmenorrhoea may coexist, the variable nature of this association suggests that different pathophysiologic mechanisms are involved (Moos, 1969). In our study we have found a statistically significant difference between both patients and controls regarding the presence of dysmenorrhoea, being more in the PMDD group. Bancroft et al (1993) noticed that premenstrual depressive changes were noticeably worse and more prolonged in women with severe dysmenorrhoea. A possible explanation of such association is that the expectation of severe pain interfering with normal life might increase the negative attitude towards menstruation, i.e. act like a stressor, and women may react to it by the Dysphoric

symptoms. Women with PMS parently achieve pregnancy rea hence, there is no association infertility (Reid, 1985), in our st we found higher percentage of ir tile women in the PMDD group, the difference was not statistic significant (Chi square = 2.555, P = 0.1099). This may be due tc small number of infertile wome the both groups : 4 in the pa group and 14 in the control grou

Rohde et al (1992) compared frequency and type of premens symptoms between a sample o fertile women and normal cont and found that 52% of the infe women and 42% of the co group fulfilled the criteria LLPDD. Infertile women repc more often mood liability, ar irritability, anxiety/tension and of interest.

One of the aims of this study to define the symptom profil PMDD in the Egyptian women t compared with the results of different studies. This may en us to understand how the cu may affect the presentation of a syndrome.

Out of the 8 clusters of M questionnaire, the negative a was the most commonly represe one in our patients, followed by pain score and the behavi changes. The findings of pr nence of the negative premens affect includes: anxiety, irritab

d swings, depression, and ten-

arahat, 1988, Parlee, 1974, and s, 1968 shared our study the of the same questionnaire Q). Of the three studies the otian one had the highest score, h seems to be due to different ee of stressful stimuli affecting les in our society. These stress-timuli play a definite role in the women experience the period eding menstruation (Kinch and berg, 1984). Also, the scores ded in our study was much er than other studies (mean score of the negative affect scale was 35.65 ± 7.46 in comparison to 22.1 ± 6.9 in Farahat study; 17 ± 8.1 in Moos study and 18.3 ± 7.4 in Parlee study) this can be explained by the fact that these three studies were dealing with PMS, which is different in nature from PMDD as it is presenting primarily by mood symptoms. so eliciting high scores in the negative cluster of symptoms.

The frequency of each one of the symptoms within the cluster is variable in the different studies as follows :

thors	Commonest symptoms recorded
present work	Irritability and mood swings followed by restlessness, depression, anxiety.
nkers (1997a)	Anxiety, tension and nervousness (among women with PMS as well as PMDD).
ndon (1996)	Irritability (the single most common symptom in PMS sufferers)
rikages et al, (1993)	Irritability followed by depressed mood (sample of women with PMS and PMDD)
t et al.(1992) A IV mood disorder work group)	Depressed mood, mood swings, anxiety / tension.
e (1983)	Depressed mood, anxiety and sleep disturbances.
ods et al. (1982)	Severe tension, irritability, and anxiety.

rsonality variables :

ven with the use of the same for assessment of personality bles, there is an evident dis-ncy in the results of different es dealing with the effect of personality on PMS (Mortola, 1992). In the present work, out if the 5 subscales assessed by the EPQ, only two items showed a statistically significant difference between the cases and controls. First is neuroticism, which was found to be

significantly higher in the cases (Chi-square = 41.19; P < 0.0001) than in the controls. This is in agreement with most of the studies which used EPQ for assessment of personality variables such as Ekholm et al, 1998, Ussher et al, 1992, Hallman et al, 1987, and Mira et al, 1985.

Also, these results agree with other studies that used other tools for personality assessment like Freeman et al, 1995 who used tridimensional personality questionnaire (TPQ), and found a modest but significant elevation in the TPQ factors primarily harm avoidance which is broadly similar but not identical to other measures of neuroticism (Wetzel et al, 1992). Also, Parry et al, 1996, used Millon Clinical Multiaxial Inventory (MCMI) and found higher levels of certain variables that lie under the heading of neuroticism in the EPQ, like, irritability with erratic moodiness, recurring mood shifts and anxiety.

Significant difference between cases and controls regarding criminality was found in this work (P = 0.3420). This is in agreement with Parry et al, 1996, who used MC and found higher impulsivity destructibility under the heading hypomania on the one hand self-derogatory and suic thoughts under borderline-cyc category on the other.

Freeman et al, 1995 conclu that PMS and personality are ir pendent of each other but the sonality influence the symptom expression of PMS; that the p ence of PMS in a person with l harm avoidance is likely to mani itself more in terms of depres mood and somatic complai whereas in a person with high r elty seeking, PMS is more likel manifest itself in terms of m swings and food cravings.

Co-morbidity of PMDD v mood disorders :

Yonkers (1997) summarised studies that reported the life t co-morbidity rate in their pati with PMDD and a history of m disorders with rates ranging f 30% to 70% was found as show the following table :

Study	No. of patients	% Mood disorders
Freeman et al, 1995	26	58
Fava et al, 1992	32	34
Harrison et al, 1989	56	70
Pearlstein and Stone, 1994	78	46
Yonkers et al, 1996	243	33

is important to put into consid-on that Rubino et al (1984) d that the life time prevalence epressive illness in the general ıle population is about 25% a peak incidence in the mid ies.

ur study in agreement with e studies showed a highly sig-ant difference between patient control groups regarding the ence of depressive symptoms neasured by Beck Scale for de-sive state), being much more in patient group, also, a similar re- was found regarding the pres- of depressive traits (as meas- by the Guilford scale for essive traits).

lo significant difference be-n the patient and control groups rding past history of psychiatric rders was found in this study, a ing that can be explained by the that, the mean age in the patient ıp was 26 ± 7.1 years, which is below the peak age for the risk ffective disorders.

Co-morbidity of PMDD with anxiety :

In the present work, a highly significant difference between patients and control groups regarding the level of anxiety symptoms as measured by the Taylor anxiety scale for anxiety state, being higher in the patients group. This is consistent with most of the studies that searched the relation between PMDD and anxiety (Fava et al, 1992, Mikhail, 1986, Stout et al, 1986 and Le Melledo et al, 1995).

Conclusion :

PMDD represented 6.69% of the sample examined in the study, and it was found to be related to work, troublesome home atmosphere, menorrhagia, dysmenorrhoea, neuroticism, criminality, anxiety, and depressive traits and state. Depressive state and neuroticism were the primary determinants of the development of the disease.

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