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**Psychiatry**

# Characteristics of Premenstrual Dysphoric Disorder in Moroccan Women: A Cross-Sectional Study

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| Abstract | Original Research Article |
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Premenstrual dysphoric disorder (PMDD) is not sufficiently studied in Arab populations. The aim of this study was to describe the epidemiological, emotional and physical characteristics of premenstrual dysphoric disorder in the Moroccan women using the Daily Record of Severity of Problems (DRSP) according to the DSM criteria. The DRSP was translated in French and dialectal Arabic and published, from November 2021 to January 2022, on different Facebook female groups. Of the 675 women who responded to our questionnaire, 451 women were retained (exclusion criteria) and of these 451 women, 372 met the DSM-5 TR criteria for the diagnosis of premenstrual dysphoric disorder (55%). 97% had an academic educational level, 61% were single, and only 15% used contraception. The clinical symptomatology was dominated by depressive symptoms, concentration difficulties; decreased interest in usual activities and moodiness. Physical symptoms were present in more than 60% of women, and the most commonly reported symptom was muscle and/or joint pain (82%).
**Keywords:** Premenstrual dysphoric disorder, Physical symptoms, DSM-5, premenstrual syndrome.

## INTRODUCTION

The catamenial molimen qualifies the set of clinical manifestations, physical (mammary tension, abdomino- pelvic pain, headaches ...) or psychological, which occur regularly and which precede the periods and disappear with them. This almost physiological phenomenon would affect nearly 90% of women.

The premenstrual syndrome constitutes the exacerbation of these signs which causes a functional discomfort, during at least two consecutive cycles. It can be severe (its lifetime prevalence would reach 10 to 15%) or even disabling (in 2 to 5%).

However, there is no real consensual definition. The clinical concept of premenstrual dysphoric disorder has been built up progressively throughout the history of psychopathology; Icard in 1890 evokes the case of a girl "who becomes irascible and furious at the slightest objection". After Krafft-Ebing, Chaslin in 1912 describes "menstrual madness". In 1931, Frank invokes the hormonal causes of "premenstrual tension" and Greene and Dalton in 1953 are the first to use the name of "premenstrual syndrome".

It was not until the Third Edition Text Revision of the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (DSM-III-TR) (1987) that late luteal phase dysphoric disorder appeared.

In the Fourth Edition of the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association DSM-IV (1994), the concept of PMDD is mentioned for the first time. The DSM-IV-TR (2000) proposes diagnostic criteria for PMDD, in its appendix B (criteria and axes proposed for additional studies).

PMDD was added to the DSM-5 in 2013 and has been classified since then, among depressive disorders.

It is characterized by severe mood symptoms such as mood lability, irritability, depression, anxiety associated with cognitive and/or physical symptoms. These symptoms must be present in the final week before the onset of menses, start to improve within a few days after the onset of menses, and become minimal or absent in the week post menses.

Symptoms must be severe enough to cause significant suffering or psychosocial impairment and this is what distinguishes it from premenstrual syndrome.

The symptom pattern must have been present during a majority of cycles within the past year and may not merely represent a premenstrual exacerbation of another mental disorder.

The aim of this study is to describe the epidemiological, emotional and physical characteristics of premenstrual dysphoric disorder in the Moroccan women.

## MATERIAL AND METHODS

This is a descriptive cross-sectional study using an online questionnaire that was created on google Forms and published, from November 2021 to January 2022, on different Facebook female groups, in two languages (in dialectal Arabic and French, which are the two most spoken languages in Morocco).

This questionnaire was divided into two parts:
A first part about socio-demographic factors such as: age, educational level, marital status, sexual activity and contraception use.

A second part including the Daily Record Of Severity of Problems (DRSP) which is a prospective daily charting widely used for the diagnosis and evaluation of Premenstrual disorders (PMDs); The DRSP was developed to aid the assessment of PMDD according to the DSM criteria. It includes 21 items that describe both emotional and physical premenstrual symptoms and three occupational productivity questions. These 21 items are grouped into 11 questions that represent the 11 premenstrual dysphoric disorder symptom domains described in the Fifth Edition Text Revision of the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (DSM 5-TR).Items are rated as "not at all," "mild,""moderate," or "severe." The results of the

different questionnaires (in Arabic and French) were gathered and analyzed in a single table on Excel.

Those women experiencing at least five symptoms from diagnostic criteria of DSM-5 TR in the majority of menstrual cycles were considered as having PMDD. It was must for these symptoms to be present in the final week before the onset of menses, start to improve within a few days after the onset of menses, and become minimal or absent in the week of post menses, symptoms are present for at least 2 symptomatic cycles and are associated with clinically significant distress or interfere with work, school, usual social activities or relationships with others.

### Exclusion Criteria

Postmenopausal women were excluded from the study, as well as women who had been followed for a psychiatric disorder during the past year, such as a depressive disorder, panic disorder, persistent depressive disorder (dysthymia) or personality disorder, and who were on antidepressant treatment.

## RESULTS

Of the 675 women who responded to our questionnaire, 451 women were retained (exclusion criteria) and of these 451 women, 372 met the DSM-5 TR criteria for the diagnosis of premenstrual dysphoric disorder (55%) : the symptoms were present for at least 2 symptomatic cycles and were associated with clinically significant distress or have interfered with work, school, usual social activities, or relationships with others; for the other 79 women, the symptoms were not severe enough to have a clinically significant impact.

### *Socio-Demographic and Gynecological Factors:*

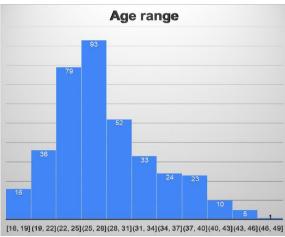46% of women were between 22 and 28 years old (figure 1) and only 15% used contraception (table 1).



**Figure 1: age range of women diagnosed with PMDD**

**Table 1: Socio-demographic and gynecological factors**

| Factors | | Frequency (N) | Percentage (%) |
|---|---|---|---|
| Educational level | Academic | 361 | 97% |
| | Secondary | 11 | 3% |
| Marital status | Single | 228 | 61% |
| | Engaged | 135 | 36% |
| | Divorced | 9 | 3% |
| Sexual activity | Sexually inactive | 236 | 63% |
| | Sexually active | 136 | 37% |
| Use of contraception | No | 317 | 85% |
| | Yes | 54 | 15% |
| Bleeding's abundance | Light | 25 | 7% |
| | Medium | 306 | 82% |
| | Heavy | 40 | 11% |
| Symptoms' onset | A week before the bleeding | 288 | 77% |
| | During the first days | 84 | 23% |
| Symptoms' improvement | The first day of menstruation | 57 | 17% |
| | In the middle of menstruation | 208 | 55% |
| | Few days after menstruation | 107 | 28% |

### Proportions of Premenstrual Dysphoric Symptoms

The most commonly reported premenstrual dysphoric disorder symptoms were: moderate "Feeling depressed, blue, down" (60%); moderate "Subjective difficulty concentrating" (55%); "moderate Decreased interest in usual activities (e.g., work, school, friends, hobbies)" (52%); severe "Moodiness (e.g., sudden feelings of sadness, desire to cry)" (51%).

Physical symptoms were present more than 60% of women, and the most commonly reported symptom was muscle and/or joint pain (82%).

Insomnia was not one of the most common symptoms, nor was "the feeling of losing control."

**Table 2: summary of findings table**

| Symptoms | Severity | Frequency (N) | Percentage (%) |
|---|---|---|---|
| Feeling depressed, sad, blue, down | Absent | 44 | 12% |
| | Moderate | 222 | 60% |
| | Severe | 106 | 28% |
| Feeling hopeless | Absent | 127 | 34% |
| | Moderate | 174 | 47% |
| | Severe | 71 | 19% |
| Feeling self-deprecating (ideas of worthlessness) or guilty | Absent | 143 | 38% |
| | Moderate | 164 | 44% |
| | Severe | 65 | 17% |
| Marked anxiety, tension and/or feelings of being tied up, nervous | Absent | 40 | 11% |
| | Moderate | 164 | 44% |
| | Severe | 168 | 45% |
| Moodiness (e.g., sudden feelings of sadness, desire to cry) | Absent | 27 | 7% |
| | Moderate | 157 | 42% |
| | Severe | 188 | 51% |
| Hypersensitivity to rejection, easily broken feelings | Absent | 76 | 20% |
| | Moderate | 147 | 40% |
| | Severe | 149 | 40% |
| Marked irritability or anger | Absent | 63 | 17% |
| | Moderate | 176 | 47% |
| | Severe | 135 | 36% |
| Increased interpersonal conflict | Absent | 105 | 28% |
| | Moderate | 167 | 45% |
| | Severe | 100 | 27% |
| Decreased interest in usual activities (e.g. work, school, friends, hobbies) | Absent | 74 | 20% |
| | Moderate | 192 | 52% |
| | Severe | 106 | 28% |

| Symptoms | Severity | Frequency (N) | Percentage (%) |
|---|---|---|---|
| Subjective difficulty concentrating | Absent | 96 | 26% |
| | Moderate | 203 | 55% |
| | Severe | 73 | 20% |
| Lethargy, excessive tiredness or marked loss of energy | Absent | 45 | 12% |
| | Moderate | 173 | 47% |
| | Severe | 154 | 41% |
| Marked changes in appetite, hyperphagia | Absent | 75 | 20% |
| | Moderate | 164 | 44% |
| | Severe | 133 | 36% |
| Cravings for some foods | Absent | 82 | 22% |
| | Moderate | 139 | 37% |
| | Severe | 151 | 41% |
| Hypersomnia | Absent | 141 | 38% |
| | Moderate | 145 | 39% |
| | Severe | 86 | 23% |
| Insomnia | Absent | 219 | 59% |
| | Moderate | 102 | 27% |
| | Severe | 51 | 14% |
| Feeling overwhelmed | Absent | 91 | 24% |
| | Moderate | 160 | 43% |
| | Severe | 121 | 33% |
| Feeling of losing control | Absent | 174 | 47% |
| | Moderate | 137 | 37% |
| | Severe | 61 | 16% |
| Breast pain | Absent | 126 | 34% |
| | Moderate | 160 | 43% |
| | Severe | 86 | 23% |
| Breasts swelling, impression of swelling, weight gain | Absent | 125 | 34% |
| | Moderate | 141 | 38% |
| | Severe | 106 | 28% |
| Headaches | Absent | 117 | 31% |
| | Moderate | 168 | 45% |
| | Severe | 87 | 23% |
| Muscle and/or Joint pain | Absent | 70 | 19% |
| | Moderate | 173 | 47% |
| | Severe | 129 | 35% |

## DISCUSSION

The aim of this study was to describe the epidemiological, emotional and physical characteristics of premenstrual dysphoric disorder in the Moroccan women.

In the literature, the prevalence of premenstrual dysphoric disorder is estimated at 2 to 8% of women of fertile age. Nevertheless, according to the results of different recent studies, we've noticed that the prevalence has varied from one population to another.

The results are influenced by many factors, like the instruments used for screening and the criteria used for diagnosis, and also ethnicity and some cultural aspects like the level of education of women in different countries, the tendency of certain cultures to focus on the somatic symptoms vs. the emotional disturbances, the effects of religion- related factors on seeking treatment, the variability in the impact of symptoms on work and functioning and different interpretations of the meaning of these symptoms in different cultures.

The prevalence of PMDD in our sample, was 55% which is in line with the results of other published studies; the following are examples:

In a total of 12 studies that were published between 2003 and 2019 about the prevalence of PMDD among female students in Ethiopia, the pooled estimated prevalence was 54.5% (the numbers ranged from 27% to 84.8%); other studies from India (Mishra, Banwari, and Yadav 2015) and Brazil (Camara *et al.,* 2016) also reported a higher prevalence of PMDD, similar to our results.

Two studies that assessed the prevalence of PMDD in the Arab countries, from Jordan and Qatar, reported the prevalence of PMDD to be 10.2 percent and 40 percent, in their sample of 254 and 194 women respectively.

Although, several studies from elsewhere in the world reported lower prevalence of PMDD (1-8 percent) (Angst *et al.*, 2001; Dennerstein, Lehert, and Heinemann 2011; Duenas *et al.,* 2011; Tschudin, Bertea, and Zemp 2010; Yang *et al.,* 2014). Some of studies were conducted among women in the United States of America, China and Switzerland (Cunningham *et al.,* 2009; Halbreich, 2003; Tschudin *et al.,* 2010; Yonkers & Simoni, 2018).

Using the Persian version of the PSST (The premenstrual symptoms screening tool) in over 950 female college students, Hariri *et al.,* (2013) reported the prevalence of PMDD to be 12.9 percent. Also, in a study in South Africa, that included 1329 women, the prevalence of PMDD was 10.2%.

For many women, the cumulative impact of premenstrual and menstrual symptoms (heavy menstrual bleeding, dysmenorrhea) makes monthly menstruation disruptive. In theory, treatments that influence or override the cyclic swings in estrogen and progesterone from the ovary could benefit women with PMDD. Combined hormonal contraceptives were found to outperform placebo in randomized clinical trials in women reporting PMDD. These hormones also alleviate menstrual symptoms of dysmenorrhea and heavy menstrual bleeding.

However, in our study, contraception was not a protective factor, since of the 63 women who used contraception, only 9 did not have premenstrual dysphoric disorder; About menstrual bleeding (MB), 45 of women with PMDD had medium MB, 5 had heavy MB and 4 had light MB.

The most frequent symptoms were marked affective lability, marked depressed mood, marked anxiety and physical symptoms (especially joint and/or muscular pain). Which is most consistent with the findings of other population studies around the world?

In our study, 80% of women experienced marked changes in appetite / hyperphagia (36% rated it as "severe") and 78% had cravings for some food (41% rated it as "severe"); consistent with several previous studies about association of premenstrual dysphoric disorder and eating behaviors that showed that the desire to eat sweet-food (specially) and craving during the late-luteal phase of the menstrual cycle were increased in women with PMDD ( Ko *et al.,* 2015; Yen *et al.,* 2018; Yen *et al.,* 2020; Collins Reed *et al.,* 2008).

Studies suggest that emotional eating could be a trait characteristic of PMDD that was not subject to the menstrual phase effect. Emotional eating refers to eating in response to various negative emotions (Karlsson *et al.,* 2000). Furthermore, individuals with higher impulsivity were more strongly negatively influenced with regard to eating behavior (Bekker *et al.,* 2004).

**Strength and Limitation of this Study**

In our study, we used an appropriate sampling technique and data collection procedure, rigorous translation and cultural adaptation procedures, and usage of DSM-5 TR criteria as a reference. Also, few studies on this subject have been conducted in the Arab population. Yet the study is not without limitations; Not all women answered some questions on socio-demographic factors, and the responses obtained were not sufficient to draw conclusions. In addition, participants were self-selected, and the high prevalence of premenstrual dysphoric disorder in the current sample may in part be due to a lack of interest in the study by women who did not have symptoms of this disorder. It is important to note that PMDD was assessed using the Daily Record Of Severity of Problems, which is a screening tool and not a diagnostic tool, which may explain the differences in prevalence and other characteristics of PMDD among women in different studies, each using a different screening tool.

## CONCLUSION

Most of reproductive age women with regular menstrual cycles experience some symptoms in the luteal phase of their cycle. In some women, these manifestations may be exaggerated and become a cause of misery, family disharmony, absenteeism, criminal acts like murder and suicide.

Recent studies indicate increasing risk of suicidal behavior and worsening distance of menstrual symptoms in the general population, which affect 1 in 3 women. The underlying mechanisms of PMDD are unclear but genetic factors, negative cognitive styles, traumatic events, and preexisting anxiety disorders are thought to be PMDD risk factors. Mounting evidence suggests that brain abnormalities, including abnormal brain structure and function and inflammation, may contribute to PMDD etiology. Little is known about inheritance of a susceptibility to PMDD, although twin and family linkage studies suggest a hereditary tendency. The belief that PMDD may be merely major depressive disorder that is entrained to the menstrual cycle has been largely refuted by the differences in neuroendocrine findings and in the response times to antidepressants.

Premenstrual dysphoric disorder (PMDD) is not well-studied in Arab populations, only few studies have been reported on this subject and more research is needed.

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