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# Identification of emotion schemes in women with premenstrual dysphoric disorder (PMDD) using an emotion-focused therapy (EFT) approach: A qualitative study

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## Abstract:

**BACKGROUND:** In women with premenstrual dysphoric disorder (PMDD), emotional problems constitute most of their symptoms. This study aimed to identify the emotion schemes of women with PMDD and to determine the core emotional pains at the center of the emotion scheme of PMDD to facilitate the treatment of this disorder using an emotion-focused therapy (EFT) approach.

**MATERIALS AND METHODS:** This study was performed using the directed content analysis method by Hsieh and Shannon. The participants were selected by purposive sampling. The Premenstrual Symptoms Screening Tool (PSST) was used for the primary diagnosis of women, and the Structured Clinical Interview for DSM-5 (SCID-5) was conducted for the final diagnosis. A total of 10 participants were examined via in-depth interviews in this study. The emotion scheme matrix was used as a framework to identify the emotion scheme of PMDD.

**RESULTS:** Based on the emotion scheme matrix, the participants' experiences were classified into two main themes, four categories, and eight subcategories, with 37 extracted codes.

**CONCLUSION:** Based on the present results, the primary and secondary emotions and behaviors in women with PMDD indicated perceptual-situational, bodily-expressive, motivational-behavioral, and symbolic-conceptual elements in line with the core emotional pains of desperation, despair, and feelings of worthlessness based on the primary maladaptive scheme of shame, which is responsible for different psychological symptoms.

## Keywords:

Emotion-focused therapy, emotions, premenstrual dysphoric disorder, women

## Introduction

Premenstrual dysphoric disorder (PMDD) is a severe type of premenstrual syndrome (PMS), which is characterized by predictable physical, psychological, and cognitive symptoms, leading to impaired functioning. PMDD is intensified in the late luteal phase of the menstrual cycle and resolves with the onset of menstruation.<sup>[1]</sup> This disorder affects 3–8%

of women of reproductive age.<sup>[2,3]</sup> Women with PMDD experience higher levels of stress<sup>[3]</sup> and mind rumination,<sup>[4]</sup> while they have lower levels of performance, quality of life, and educational and job satisfaction.<sup>[5]</sup>

Although both pharmacological and non-pharmacological treatments have been proposed for PMDD, most psychological studies have addressed lifestyle

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modifications,<sup>[6,7]</sup> including dietary recommendations, exercise,<sup>[8]</sup> psychological training,<sup>[9]</sup> and health education programs.<sup>[10,11]</sup> Cognitive-behavioral therapies<sup>[12]</sup> and mindfulness<sup>[13]</sup> have also been somewhat effective in the treatment of this disorder.

Since many symptoms of women with PMDD are directly or indirectly related to emotions,<sup>[14,15]</sup> a more specialized treatment, which deeply addresses the processes of emotional experience, may be helpful in transforming maladaptive emotions into adaptive ones.<sup>[16]</sup> Emotion-focused therapy (EFT) is a newly introduced therapeutic option, introduced by Greenberg *et al.*<sup>[17]</sup> in the 1980s. It involves a process of “changing emotions with emotions” by accessing and transforming maladaptive emotion schemes.<sup>[16,18]</sup> In EFT, emotion schemes refer to internal networks, which manifest as nonverbal narratives.<sup>[16]</sup>

Emotion schemes and the associated self-organization consist of component elements that are connected in a network; with the activation of each single element, other elements are activated, as well. These elements of emotion schemes include perceptual-situational elements, bodily-expressive elements, symbolic-conceptual elements, motivational-behavioral elements, and core processes of emotion schemes.<sup>[19,20]</sup> Each element of emotion schemes can be defined as follows.

Perceptual-situational elements represent a person’s past or current external environments and include immediate awareness of the current situation and implicit memories of past situations and events. Bodily-expressive elements represent emotions expressed through the body and include both immediate sensations of the body and bodily expressions of emotions. Symbolic-conceptual elements are verbal or visual representations of emotions that are produced through reflective self-awareness of other elements. Motivational-behavioral elements are activated by the emotion scheme, representing as desires, wishes, needs, intentions, or actions. All these elements are organized around the core of emotional pain<sup>[19,20]</sup>; in other words, emotional pain is the core of maladaptive emotion schemes. Generally, the core emotional pain includes basic emotions that are painful and do not lead to adaptive actions.

Based on EFT, sustainable change in psychotherapy is a result of change in the core emotion scheme, as well as self-organization achieved individually.<sup>[16]</sup> Since it is necessary for therapists to focus on the client’s core emotional pain at the center of the emotion scheme, a primary understanding of the emotion scheme and the core pain based on EFT can help establish a therapeutic focus and facilitate psychotherapy for women with PMDD.<sup>[21]</sup> It is known that PMDD has a significant impact

on women’s lives; however, there is not enough evidence on the application of EFT for this disorder. Therefore, in this research, we aimed to identify the emotion scheme and core pain of PMDD to better understand and treat this disorder according to the EFT approach.

## Materials and Methods

### Study Design and Setting

This research used Hsieh and Shannon’s<sup>[22]</sup> qualitative content analysis (The directed content analysis method). Participants were selected through purposive sampling. A 19-item questionnaire of Premenstrual Symptom Screening Tool (PSST) was published in Google Docs in the form of a research notice with contact information through differing forms of social media, including Instagram, WhatsApp, and LinkedIn. Based on the questionnaire designed in 2003 by McMaster University, Canada, those who mark at least one item as severe in the first four items, or at least four items as severe or moderate among the first 14 items, or at least one item as severe in the last five items are considered PMDD cases.<sup>[23]</sup> To ensure the diagnosis using Structured Clinical Interview for DSM-5 (SCID-5), which was designed, validated, and checked for reliability based on DSM-5, the selected women were interviewed. The interviewer was a trained clinical psychologist.

### Study Participants and Sampling

In this study, the researcher conducted interviews with 10 people. The inclusion criteria for the participants based on the PSST questionnaire and SCID-5 were 18–44 years of age, having a regular menstrual cycle (25–32 days), holding a high school diploma, and not being pregnant or nursing a child for the past 6 months, not experiencing menopausal symptoms, not having a specific medical condition (cardiovascular, respiratory or neurological diseases, hypertension, migraine, hormonal imbalance) as reported by the participants, not having any psychiatric problem for which the participant needed to be on medication, not using hormonal contraception and not using drugs. The exclusion criterion was not being willing to go through with the interview. Interviewing the participants, they were first asked a general open question. For example, “How does it make you feel when Premenstrual Dysphoric Disorder symptoms happen to you?” Then, if follow-up was needed for further clarification, questions like “Would you elaborate on that?” or “Did you mean ...?” were asked. The average time spent for each interview was 60 min, and every interview was performed in one sitting.

### Data Collection Tool and Technique

In this study, the PSST questionnaire and SCID-5 interviews were used to include participants in the research, and in the administration phase, semi-structured,

in-depth interviews were implemented to collect data. The present study implemented simultaneous data collection and data analysis. To analyze the data, Hsieh and Shannon's method was used through the directed content analysis method.<sup>[22]</sup> The emotion scheme matrix was used as a framework to identify the emotion scheme of PMDD. The interview audio files were heard several times before they were transcribed word by word. The interviews were revised several times so as to have a true and deep understanding of them. When the meaning units were specified based on the research question, notes were taken on the interviews' primary understandings, thoughts, and analyses, and code labels emerged that reflected the key idea or ideas. Based on their similarities and differences, the obtained codes were classified into specified categories of emotion-focused approach. Sampling continued until reaching data saturation. The last three interviews did not add any new data to the existing data, and the categories did not change.

### Ethical Consideration

The present research was under advisement by the ethics committee of Iran Medical University with ID 1400.964. IR.IUMS.REC. First, the participants were briefed on the aim of the study, and those signing the consent form could participate. Participants were ensured that their information would be kept confidential, and the results would be published as a whole and with no names. The interviews were recorded with their permission, and the audio files were destroyed after transcription.

## Results

In this study, the researcher conducted interviews with 10 people. The demographic characteristics of the participants are presented in Table 1. Two themes, four categories, and eight subcategories, with 37 final codes, were extracted, as shown in Figure 1. The categories represent the main elements of the emotion scheme, the subcategories represent the components of each element, and the themes represent the core process of the emotion scheme, which organizes all various components around

**Table 1: Demographic characteristics of women participating in the research**

Number	Age	Marital status	Occupation	Education
1	30	Married	Employed	Graduate Degree
2	28	Single	Employed	Graduate Degree
3	42	Divorced	Employed	Graduate Degree
4	19	Single	Student	Undergraduate Student
5	28	Single	Psychologist	PhD Candidate
6	25	Single	Interior Designer	Undergraduate Degree
7	18	Single	Unemployed	Diploma
8	35	Single	Interior Designer	Diploma
9	32	Married	Employed	Undergraduate Degree
10	21	Single	Student	Associate Degree

a specific emotion and is usually identified only after self-reflection on the other described four elements.

### Themes

Desperation and despair arising from maladaptive shame and feelings of worthlessness stemming from maladaptive shame constituted the core pain of the emotion scheme in PMDD, which was extracted based on the emotion scheme elements.

#### 1. Perceptual-situational category

This category was divided into two subcategories: implicit memories and the current situation.

##### *Subcategory of implicit memories*

This subcategory represents anything related to past events that currently activate basic emotions. The extracted codes were "facing challenges in life" and "childhood traumas."

##### *Facing challenges in life*

According to the participants, stressful and difficult life situations in early adulthood made them prone to more PMDD symptoms. In this regard, Participant No. 5 said:

*"My problems got worse after I was accepted to university and came to Tehran. It was like I had no choice but to face difficult challenges in my life and deal with them on my own."*

##### *Childhood traumas*

The participants described past childhood traumas, which were mainly related to feelings of worthlessness and internalized shame, as well as constant efforts to prove oneself:

*"I remember when my dad used to compare us with our cousins and undermine us. It was like we had to constantly try to prove ourselves, yet he admired my cousins."* (Participant No. 2)

##### *Subcategory of the current situation*

This subcategory refers to a person's immediate awareness of the current situation. About 5–7 days before the onset of the menstrual period, the physical and emotional symptoms of PMDD commonly emerge. However, the presence of stressors, according to the interviews, exacerbates the symptoms. The code extracted from this subcategory is the "presence of stressors."

##### *Presence of stressors*

When people with PMDD are exposed to environmental stressors, they experience aggravated symptoms and feel as if they cannot cope with such stressors:

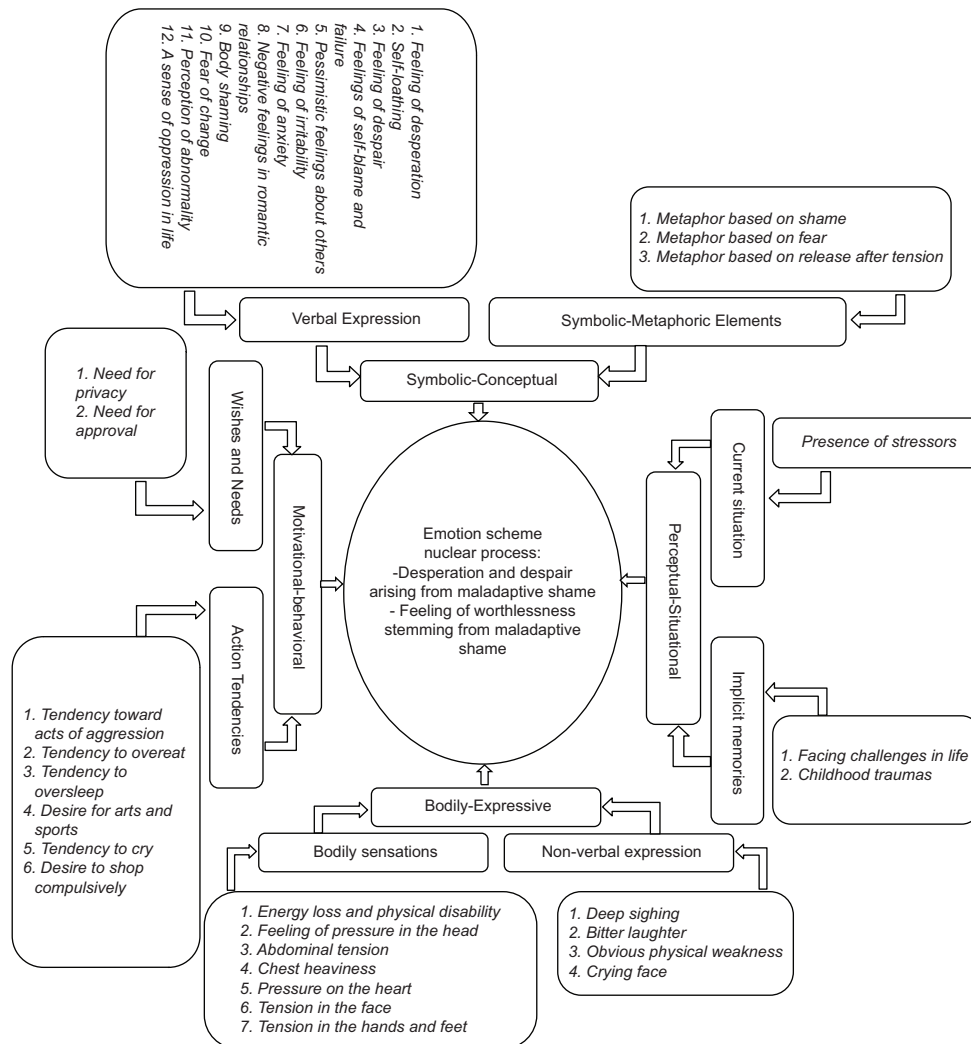


Figure 1: Emotion scheme in PMDD (premenstrual dysphoric disorder)

"During months when I'm under pressure due to work or relationships, I mean when I have a communication problem or when I have to study for the comprehensive final exam or my proposal, for example, my symptoms are directly affected." (Participant No. 5)

## 2. Bodily-expressive category

This category represents the processes of emotion scheme through the body and is classified into two subcategories: bodily sensations and nonverbal expression. Bodily emotions are sensations felt in the body, and nonverbal expressions refer to the expression of emotions through the body that can be observed.

### Subcategory of bodily sensations

The extracted codes pertaining to bodily sensations included "energy loss and physical disability", "feeling of pressure in the head", "abdominal tension", "chest heaviness", "pressure on the heart", "tension in the face," and "tension in the hands and feet," all of which are explained here separately.

### Energy loss and physical disability

According to the participants, one of the common emotions during the premenstrual period is the feeling of weakness and lack of energy, which makes them feel very helpless:

"All of a sudden, I feel like I can't do anything at all... I get tired easily, and I can't concentrate anymore. The risk of error also increases." (Participant No. 5)

### Feeling of pressure in the head

Headaches, dizziness, and pressure in the head were among the common experiences of the participants in the premenstrual period:

"I feel a kind of pressure in my head. My thoughts are disturbed, and I can't think about anything else." (Participant No. 9)

### Abdominal tension



The participants also felt tension in the abdominal area, which was usually accompanied by various emotions, especially negative emotions about oneself:

*"I get cramps in my belly during this period, because I blame myself so much! I think I do everything wrong!"* (Participant No. 10)

#### *Chest heaviness*

During the premenstrual period, women with PMDD feel heaviness and pressure in the chest, especially when they are being judged:

*"In situations where I'm with my friends... My chest feels heavy. It's that same feeling of shame, but I act as if it's not there."* (Participant No. 4)

#### *Pressure on the heart*

The participants reported common cardiac sensations in the form of palpitations, increased heart rate, fast or slow breathing, and heaviness in the heart:

*"I feel like my heart stops, as if something heavy drops on my chest. It is a continuous feeling that happens once every five minutes; especially when I think about it, it's like everything stops for a moment."* (Participant No. 4)

#### *Tension in the face*

In this study, women with PMDD reported flushing, pressure, and spasms in the facial muscles during the premenstrual period, which is directly related to a feeling of shame at the moment:

*"My cheeks go red here and there. Generally, I blush when people put a finger on fears that I don't want anyone to know."* (Participant No. 4)

#### *Tension in the hands and feet*

Several sensations of the hands and feet, such as pain, spasms, heaviness, stiffness, and sweating, were reported by the participants, which were reactions to either shame or anger, triggering the person to react:

*"My hands feel stiff! I want to do something. Throw something! Do something physical."* (Participant No. 3)

*"My feet hurt so much. One of my feet especially hurts a lot; I walk slowly and heavily during this period."* (Participant No. 6)

#### **Subcategory of nonverbal expression**

This subcategory consisted of the following codes: "deep sighing," "bitter laughter," "obvious physical

weakness," and "crying face," which were extracted from the participants' facial and bodily expressions during the interviews and represented their primary and secondary emotions.

#### *Deep sighing*

In this code, visible sensory-physical symptoms were documented based on field notes, and the participants' statements indicated this feeling. For example, one of the participants constantly sighed when discussing feelings of blame or failure:

*"I just feel like I'm guilty (sighs). I think I have wasted my time; I could have worked on myself to be a better person (sighs)."* (Participant No. 6)

#### *Bitter laughter*

Bitter laughter was one of the common bodily sensations of the participants during the interviews, which mainly revolved around the themes of self-hatred and negative emotions during the premenstrual period:

*"I'm not very kind to myself (bitter laughter). I feel like a stranger to myself. I hate myself (bitter laughter)."* (Participant No. 9)

#### *Obvious physical weakness*

During the interviews, when the participants approached their primary maladaptive emotion, they usually showed visible physical symptoms. For example, one of the participants described her feelings when she approached her maladaptive emotion of shame:

*"Right now, my legs are shaking, and I feel very cold; at the same time, I'm sweating (obvious shaking and sweating)."* (Participant No. 2)

#### *Crying face*

A crying face was one of the many facial expressions observed during the interviews with the participants; it was frequent during the expression of different feelings, including feelings of desperation, despair, and anxiety:

*"I am very upset about this problem; it's the one thing that bothers me the most (crying)."* (Participant No. 5)

### **Symbolic-Conceptual Category**

It refers to verbal or visual representations of emotions, produced through reflective self-awareness of situational-conceptual elements and verbal expression.

#### **Subcategory of verbal expression**

It consisted of 12 codes. The participants expressed their emotions verbally based on their belief or knowledge of the emotion.

#### *Feeling of desperation*

This code clearly refers to feelings of psychological weakness, besides physical weakness in different aspects of life in women with PMDD, causing them to feel negatively about themselves during this period. They commonly show physical reactions, such as “a shrinking body,” which represents one’s feeling of shame as a core emotion:

*“Although depression may be physical, because I am in actual pain, my emotional state is much worse. Even if I feel good physically, I feel terrible inside... I feel like I have to pull myself together; my shoulders drop, and I feel weak.” (Participant No. 2)*

#### *Self-loathing*

This code refers to the verbal expression of a negative feeling that a person experiences toward oneself. These verbal expressions consisted of words conveying self-hatred, self-disgust, and anger with oneself in the interviews:

*“I am not very kind to myself. I feel like a stranger to myself. I hate myself.” (Participant No. 2)*

#### *Feeling of despair*

The feeling of despair was one of the most recurrent feelings in the interviews, which mostly followed feelings, such as weakness, powerlessness, and failure:

*“I feel like nothing can save me. I am disappointed in everything. There is nothing I can do to make me feel better.” (Participant No. 1)*

#### *Feelings of self-blame and failure*

The participants expressed their feelings of self-blame and failure in different ways during the premenstrual period. They reported feelings of humiliation, worthlessness, incompetence, inadequacy, and inability:

*“I keep blaming myself for the life I have built or the relationship I have established. I keep telling myself that I haven’t done anything right in my life, or that there’s a problem with everything I do.” (Participant No. 9)*

#### *Pessimistic feelings about others*

This code focuses on PMDD women’s attention to what others think of them. It is also concerned with the fear of being judged as a secondary emotion:

*“I become very pessimistic about people’s feelings toward me. I feel like people talk sarcastically about me... Maybe they are trying to tell me something negative about my personality, or maybe they want to show me my incompetence.” (Participant No. 1)*

#### *Feeling of irritability*

This code refers to high sensitivity to various environmental stimuli, nervousness, and irritability during the premenstrual periods, which were very common among the participants:

*“I pick on everything, every motion, every sound... I don’t know... My husband’s way of eating, or my husband’s way of walking... Why does he even walk like this? I mean every little thing. Unfortunately, it bothers me, too. I become too self-involved. It’s constantly in my head. it bothers me all the time.” (Participant No. 9)*

#### *Feeling of anxiety*

Feelings of anxiety and stress were also reported by the participants in different ways. Anxiety was more of an anticipatory state, which covered other emotions. In other words, women’s worries and concerns mainly emerged as anticipatory anxiety covering other emotions. The stress and fear experienced by the participants were related to the fear of being observed and judged:

*“I am afraid of not being good enough, of not being able to present myself well... Maybe, it is that familiar feeling of being judged... More than anything, it’s facing people that scares me the most.” (Participant No. 8)*

*“I feel very anxious... That’s how I feel. I am very scared, as if I have been thrown into a dark world where anything can happen at any moment... I become extremely fearful, and I can’t control it.” (Participant No. 2)*

#### *Negative feelings in romantic relationships*

During this period, the participants felt and expressed the most negative feelings toward their spouse or partner, which subsided after the start of their menstrual period:

*“I become harsh and unkind toward my partner. It happens so frequently that I can say all my separations in the past happened during this period.” (Participant No. 8)*

#### *Body shaming*

The participants experienced many negative emotions about their bodies during the premenstrual period. This feeling is partly attributed to physical symptoms during the premenstrual period, such as abdominal swelling. However, most women experienced negative

feelings about their body without having any specific physical symptoms and felt embarrassed about their body:

*"It always comes down to not having a pretty face, a good appearance, or a classy style. I never look at myself in the mirror during this period, because I don't feel good about myself. I keep asking myself why my skin is not healthy enough, why my face is not pretty enough, or why my stomach is bloated...I struggle with my physical appearance a lot. For instance, I wonder why my body looks like this, why my muscles are loose, or why my legs look like this or that."* (Participant No. 9)

#### *Fear of change*

Another experience of the participants was the fear of facing change in life:

*"Changes in life are very difficult for me. It's like I always want my life to be free of ups and downs. I make no changes in my life. I am afraid of everything."* (Participant No. 9)

#### *Perception of abnormality*

One of the experiences of women during the premenstrual period was the observation of various differences between the premenstrual period and the other 3 weeks of the month:

*"Generally, on these days, I need to get to the bottom of things! For example, I go all the way to end a relationship, but as soon as I get my period, all those thoughts and feelings sound strange to me...All the words I said and the decisions I made feel abnormal. It's like I'm two completely different people at the same time; the difference between this period and the other three weeks of the month is obvious to me, let alone others!"* (Participant No. 5)

#### *A sense of oppression in life*

In this period, women often feel like their rights have been denied or they have been oppressed; this feeling is not as strong on other days of the month:

*"I feel that the ruling class and the government are cruel and that they are responsible for many of my failures in life... I wish we were not living in this part of history. These thoughts and feelings actually cross my mind."* (Participant No. 1)

#### **Subcategory of symbolic-metaphoric elements**

This subcategory represents the symbols or metaphors that people use to express their core feelings during the premenstrual period. Based on the interviews, three codes of "metaphor based on shame," "metaphor based on fear," and "metaphor based on release after tension" were extracted.

#### *Metaphor based on shame*

Most of the information obtained primarily or secondarily indicated feelings of shame in the premenstrual period in PMDD women, and most of the metaphors described this feeling:

*"There is a question in my head that I keep asking myself whenever I feel ashamed. Like a TV commercial, I ask myself, 'Have you ever hated yourself as much as I do'?"* (Participant No. 4)

*"A report card of all my deeds in life comes to my mind... I feel that I could have become a much better person, but I am not. I constantly evaluate my life in the last month or the last year."*

#### *Metaphor based on fear*

In this code, the participants described the premenstrual period with metaphors, such as "darkness," "a dark forest," and "a whirlpool," as if they entered a scary and ambiguous environment from which they could not escape:

*"It's a black page, or maybe it's a black forest where there is a lot of fear, and you can't find your way out. It's fearful and emotionally tense."* (Participant No. 9)

*"I go into a whirlpool that I can't get out of... It is like a deep well, with no one in there. No one can hear you."* (Participant No. 7)

#### *Metaphor based on release after tension*

This code refers to an experience of liberation from severe premenstrual pressure in women with PMDD, which ends with the onset of the menstrual period:

*"When you open a syringe, you draw liquid in. When it accumulates, a kind of pain and pressure is building up; something is leaving the body. When the syringe is full, we can empty it; now, all that is collected is gone. It's similar to what happens to me on PMS; there is a release. Pressure accumulates during these days and reaches its peak; then, it is released on the day of its peak before menstruation."* (Participant No. 5)

#### **4. Motivational-behavioral category**

This category also included two subcategories: wishes and needs and action tendencies. These subcategories were activated by the emotion scheme process.

#### *Subcategory of wishes and needs*

It refers to desires, needs, wishes, and intentions related to a maladaptive emotional core. The extracted codes in this subcategory included the "need for privacy" and the "need for approval."

*Need for privacy*

This code is related to the individual's need to be alone and have privacy during the premenstrual period. Women prefer to be away from others to have a safer environment without facing judgment. Meanwhile, this code refers to the negative feelings of a person toward oneself and lack of interest in seeing others:

*"It's hard for me to approach people; it's like I'm the only one in the world... If it was up to me, I would go away."* (Participant No. 8)

*Need for approval*

The need to be approved was one of the needs of people during the premenstrual period. Commonly, during this period, people experience negative feelings about themselves; therefore, being validated makes them feel better about themselves, although it is not enough. The participants experienced the need for approval as a need to be understood, approved, and loved by others:

*"What I need the most is to be approved. For example, once I posted a story of my friend playing the guitar and singing on Instagram. After that, I felt stressed about what others would say about my post. I felt better when one of my friends told me how beautiful her voice was."* (Participant No. 4)

*Subcategory of action tendencies*

Willingness to act is one of the important components of emotion schemes, which shows people's desire to do something according to their emotionally incompatible core. During the premenstrual period, people reported different inclinations, including a tendency to act aggressively, a tendency to overeat, a tendency to oversleep, an inclination toward arts and sports, a tendency to cry, and a desire to shop compulsively, each referring to the emotional cores of people in different ways along with other elements.

*Tendency toward acts of aggression*

This tendency, which was related to emotional expression due to irritability and sensitivity, was repeatedly observed among the participants; this anger can be seen in both oneself and others:

*"I have to move my legs or punch my arms and stomach. Sometimes, I hit myself so hard that my stomach gets bruised... I get angry. I can't tolerate anyone, and no one can stand me... I keep cursing the world and everything I can think of."* (Participant No. 7)

*Tendency to overeat*

The tendency to overeat during the premenstrual period is tangible and also one of the diagnostic symptoms of PMDD. Although this need can have hormonal and physical causes, it may be in line with the emotional core. In other words, the need to overeat and lack of control over it represent a vicious cycle, in which the person feels powerless to control oneself and, therefore, experiences negative physical feelings, intensifying the feeling of shame:

*"I eat a lot. I always tell myself that I will get fat if I eat so much, but I can't control myself, as if someone else is controlling me."* (Participant No. 10)

*Tendency to oversleep*

One of the most important tendencies in the premenstrual period was the desire to oversleep. Women usually experience a lack of sleep or excessive sleep during menstruation. Nonetheless, the desire to sleep separates them from daily stress, and as a result, they can evade tension:

*"Many times when I'm in the premenstrual period, I want to sleep...I sleep a lot. I may sleep for 12-13 hours continuously. I don't know what happens in my sleep, but I feel that it helps me shut down completely; my anger is reduced, and I feel really calm."* (Participant No. 2)

*Desire for arts and sports*

This code refers to an adaptive action in people. Women reported that they had better control over their premenstrual symptoms when they were busy with an individual activity, either in the form of arts or sports and as a result, they felt more peaceful:

*"Walking and breathing in fresh air can help me a lot. Swimming also makes me feel good. As soon as I get in the water and kick my hands and feet in water for a while, I feel better."* (Participant No. 2)

*"My desire to write and draw increases. I like to be alone somewhere, listen to music, draw pictures, or write a poem."* (Participant No. 1)

*Tendency to cry*

Most women reported a great tendency to cry during the premenstrual period:

*"I tend to cry more. I prefer to listen to sad music. Even if you play some happy music for me, I can still be sad and cry with it."* (Participant No. 1)

*Desire to shop compulsively*



During the premenstrual period, some participants reported their desire to shop, which is an extreme action in response to a feeling of inadequacy:

*"One of my needs is to shop excessively during this period. I buy compulsively."* (Participant No. 4)

## Discussion

The present study aimed to investigate the emotion scheme and the core emotional pain in women with PMDD. The results showed that the core pain in this disorder is the feeling of desperation and despair associated with maladaptive shame and the feeling of worthlessness associated with maladaptive shame. The elements of the emotion scheme are largely shared with the experience of depressive disorder. Greenberg and Watson,<sup>[24]</sup> in their model of depression, showed that maladaptive emotion schemes stem from previous experiences of rejection, abandonment, humiliation, degradation, or insecurity and develop as maladaptive grief-based, maladaptive fear-based, and maladaptive shame-based schemes. In this study, we found that the scheme based on maladaptive shame, which is also an important scheme in depression, bears the most resemblance to PMDD, which is associated with the core pain of despair and worthlessness. Since PMDD is placed in the category of disorders related to depression in DSM-5<sup>[2]</sup>, it can be confirmed that it has a similar core emotion scheme to these disorders. In other words, each of the categories or elements somehow represents part of the maladaptive emotion scheme in this disorder.

In the perceptual-situational category, which represented the past and present situations of the individual,<sup>[18]</sup> it was revealed that facing life challenges, childhood traumas, and the presence of stressors exposed the individual to the experience of shame. According to the information obtained during the interviews, the past experiences of most participants involved situations where people were constantly judged, evaluated, humiliated, and devalued. These situations were similar to those of studies on social anxiety disorders and depression, where the emotion scheme of shame is clear.<sup>[25-28]</sup>

In the bodily-expressive category, our findings indicated an emotion scheme based on shame. Studies have shown that the feeling of shame arises from an experience of inadequacy, disapproval, and even degradation due to other people's critical, humiliating, or punishing looks. An ashamed person feels as if s/he is exposed to attention in a negative way, which leads to "averted eyes" (lowering the gaze to escape other people's looks) and "shrinking bodies," like a person who wants to disappear. Also, the person experiences blushing, trembling, or lack of physical coordination. According

to the present study, people experience facial tension when feeling ashamed, which in fact represents their "burning shame."<sup>[29]</sup>

Moreover, women described chest tightness as a primary or secondary maladaptive emotion. Abdominal tension also indicated the maladaptive emotions of shame and fear. Studies have shown that fear, which is experienced in the whole body, increases the pressure, speed, and temperature of the body.<sup>[30]</sup> Studies have shown that the processing of fear stimuli is selectively enhanced by signals, such as increased heart rate.<sup>[31]</sup> In this regard, De Gelder *et al.*<sup>[32]</sup> found that the experience of fear is accompanied by increased body movements and sweating, which alarm the person in the face of threats.<sup>[33]</sup> Therefore, studies on the tension and tightness of the hands, feet, head, and heart are performed in the context of fear and anxiety, although these emotions mostly manifest as expected anxiety, which is not the core pain by itself.<sup>[21]</sup>

In the subcategory of nonverbal expression, the code of visible physical weakness, on the one hand, showed that people are in a state of weakness when experiencing the painful feeling of shame, and on the other hand, they show their general confusion by trembling and sweating. In addition, a bitter laughter was seen when women considered themselves inadequate, deserving of ridicule and blame from themselves or others; it is as if the person looks at herself through the eyes of others with mockery. Also, crying was the ultimate outlet for expressing feelings of weakness and desperation at their peaks; it represented the painful core of shame when the person experienced the peak of general disturbances. Moreover, in the category of nonverbal expression, sighing was one of the codes with a high frequency. Sighing reflects an unbearable situation where the person stops trying after a period of tension, which is associated with feelings of helplessness and despair.<sup>[34]</sup> Miceli<sup>[35]</sup> reported that different types of crying have a common core. All of them start with a feeling of frustration and despair and continue with a desire to resist, perceived helplessness, and surrender to despair. There also seems to be a strong element of desperation and surrender in sighing; it can be assumed that this behavior belongs to the same family of expressive emotions as crying. In the present study, deep sighing and crying were reported by the participants when they felt the basic emotions of shame and the secondary emotions of failure, despair, and desperation.

In the conceptual-symbolic category, most of the codes in the subcategory of verbal expression represented the emotion of shame in different ways. The feeling of desperation and despair was one of the codes reported by most of the participants. Relevant research shows that it

is often accompanied by feelings of despair, desperation, or helplessness and a lack of self-confidence in dealing with situations. The participants' statements, which reflected their desperation and powerlessness, revealed their feelings of not having adequate coping resources or not having a sense of worth to control the situation or change it, which could lead to feelings of incompetence or worthlessness.<sup>[36]</sup> These feelings might finally turn into desperation, hopelessness, and worthlessness, which represent shame as the primary maladaptive emotion. In the experimental model of depression, the person sees herself as powerless, trapped, defeated, and humiliated; therefore, she feels ashamed and reacts desperately.<sup>[24]</sup>

Body shaming, that is, criticizing oneself in terms of physical appearance, was one of the codes that clearly indicated the feeling of shame. Some research on the relationship between shame and body shape suggests that shame and self-blame have a strong relationship with body shaming and eating disorders.<sup>[37]</sup> The feeling of shame about one's physical appearance is one of the strongest predictors of the severity of eating disorder symptoms.<sup>[38-41]</sup> In our study, in addition to body shaming, women also showed a great tendency to overeat during the premenstrual period.

Some codes, such as feelings of irritability, challenges in a relationship, feelings of oppression in life, and pessimistic feelings toward others, implied a relationship between shame and anger. It seems that shame and anger are dynamically related. Overall, shame arises from a person's anger or vulnerability.<sup>[24]</sup> Sometimes, because of extreme shame, a person attacks oneself or others by expressing hatred and criticism. Even sometimes, it creates a feeling of pessimism toward others, which is somehow an attempt to evade bad feelings about oneself. In other words, maladaptive anger sometimes appears in response to a feeling of low self-esteem and the experience of shame, causing many interpersonal problems. In PMDD, when women are in a very fragile state, they consider their anger to be mostly valid, while after bleeding starts, they realize that it is not valid and start to feel negatively toward themselves again.<sup>[42]</sup> In this study, metaphorical concepts, along with other elements of the emotion scheme, reflected the core pains of shame. In the metaphor based on shame, a person symbolically exposes oneself to judgment, evaluation, and feelings of being a bad or weak person. Also, regarding fear-based metaphors, women expressed their fear and anxiety using words such as "fear," "forest," "darkness," "whirlpool," and "being thrown," which are metaphorical expressions related to shame.

The final category, that is, behavioral-motivational elements, consisted of two subcategories of desires and needs and action tendencies, which referred to the core

emotion of shame; this core painful emotion suggests that one's needs are not met. Every emotional experience results from the interaction of an individual's needs and the individual's environment.<sup>[17,21]</sup> In this study, the basic needs of women were the need to be approved and the need to protect one's privacy. Studies have shown that in the emotion scheme of shame, the main unsatisfied needs are feelings of being valued, appreciated, accepted, and approved.<sup>[43]</sup> The current research also showed that during the premenstrual period, this need increases visibly in women with PMDD. Concerning the action tendencies, the code of desire to be aggressive reflected an avoidance behavior to protect oneself against maladaptive and difficult emotions. This tendency toward anger is sometimes activated toward oneself (in the form of self-criticism or self-blame) and sometimes toward others (in the form of anger), both of which are evident in women with PMDD. Other tendencies were the desire to evade evaluations and perceived threats, through which the individual tends to distance oneself from the core pain.

Based on research on people with compulsive buying disorder (CBB), this behavior is caused by accumulating tension arising from anxiety and low self-esteem.<sup>[44]</sup> These people commonly use passive-avoidant coping styles, while they use confrontational styles of problem-solving and cognitive reconstruction less frequently; accordingly, they experience many problems in emotion regulation.<sup>[45,46]</sup> In other words, the desire to buy, eat, and sleep is seen as an avoidance behavior through which the person tries to evade the core pain; however, it unconsciously increases one's confusion and negative emotions. The tendency to cry reflects the experience of secondary emotions, which suggest feelings of being trapped, confused, and distressed; the core pain can be identified in these emotions.<sup>[21]</sup> On the other hand, the inclination toward arts and sports is a healthy coping style in the face of symptoms and disturbances.

### Limitation and Recommendation

One of the limitations the research faced was choosing the right time to interview the afflicted women, as the intensity of symptoms may be different on differing premenstrual days. It is also possible for the intensity of premenstrual symptoms to vary from month to month. Moreover, the individual, social, and cultural conditions of the society may influence the content of the answers. In future studies, it is better to repeat several in-depth interviews on different premenstrual days and in several premenstrual periods. It would also be beneficial to implement more samples.

### Conclusion

In this study on women with PMDD, different elements of the emotion scheme represented the maladaptive

scheme of shame in different ways, which emerged in the form of despair and worthlessness associated with shame. Therefore, knowledge of this emotion scheme is essential to the therapist's selection of proper treatment for PMDD.

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## Conflicts of interest

There are no conflicts of interest.

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