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Patient information: Premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD) (Beyond the Basics)

PMS AND PMDD OVERVIEW

Premenstrual syndrome (PMS) refers to a group of physical and behavioral symptoms that occur in a cyclic pattern during the second half of the menstrual cycle. Premenstrual dysphoric disorder (PMDD) is the severe form of PMS. Common symptoms include anger, irritability, and internal tension that are severe enough to interfere with daily activities.

Mild PMS is common, affecting up to 75 percent of women with regular menstrual cycles; PMDD affects only 3 to 8 percent of women. This condition can affect women of any socioeconomic, cultural, or ethnic background.

PMDD is usually a chronic condition and can have a serious impact on a woman's quality of life. Fortunately, a variety of treatments and self-care measures can effectively control the symptoms in most women.

PMS AND PMDD CAUSES

Tissues throughout the body are sensitive to hormone levels that change throughout a woman's menstrual cycle (figure 1). Studies suggest that rising and falling levels of hormones (eg, estrogen and progesterone) may also influence chemicals in the brain, including a substance called serotonin, which affects mood.

However, it is not clear why some women develop PMS or PMDD and others do not. Levels of estrogen and progesterone are similar in women with and without these conditions. The most likely explanation, based upon several studies, is that women who develop PMDD are highly sensitive to changes in hormone levels.

PMS AND PMDD SYMPTOMS

Common symptoms — The most common symptoms of PMS and PMDD are fatigue, bloating, irritability, and anxiety. Other symptoms include the following (see "Clinical manifestations and diagnosis of premenstrual syndrome and premenstrual dysphoric disorder"):

- Sadness, hopelessness, or feelings of worthlessness
- Tension, anxiety, or "edginess"
- Variable moods with frequent tearfulness
- Persistent irritability, anger, and conflict with family, coworkers, or friends
- Decreased interest in usual activities
- Difficulty concentrating
- Fatigue, lethargy, or lack of energy
- Changes in appetite, which may include binge eating or craving certain foods
- Excessive sleeping or difficulty sleeping
- Feelings of being overwhelmed or out of control
- Breast tenderness or swelling, headaches, joint or muscle pain, weight gain

Disorders that mimic PMS and PMDD — Other conditions have symptoms that are similar to those of PMS and PMDD, including depression, anxiety disorders, and perimenopause (the four- to five-year period before menopause). It is important to distinguish between underlying depression (which often worsens before menses) and true PMS or PMDD because the treatments are quite different.

Women with underlying depression often feel better during or after menses, but their symptoms do NOT resolve completely. On the other hand, women with PMS or PMDD have a complete resolution of symptoms when their menses begin. Some women who think they have PMS or PMDD actually have depression or an anxiety disorder. (See "Patient information: Depression in adults (Beyond the Basics)".)

There are other medical disorders that worsen before or during menstruation, such as migraines, chronic fatigue syndrome, pelvic and bladder pain, or irritable bowel syndrome. A careful medical history should be able to distinguish among these disorders. It is also possible for a woman to have PMDD in addition to another medical condition. (See "Patient information: Headache causes and diagnosis in adults (Beyond the Basics)" and "Patient information: Irritable bowel syndrome (Beyond the Basics)" and "Patient information: Diagnosis of interstitial cystitis/bladder pain syndrome (Beyond the Basics)".)

PMS AND PMDD DIAGNOSIS

There is no single test that can diagnose PMS or PMDD. The symptoms must occur only during the second half (luteal phase) of the menstrual cycle, most often during the five to seven days before the menstrual period, and there must be physical as well as behavioral symptoms. In women with PMS or PMDD, these symptoms should not be present between days 4 through 12 of a 28-day menstrual cycle.

Blood tests — Blood tests are not necessary to diagnose PMS or PMDD. A blood count may be recommended to screen for other medical conditions that cause fatigue, such as anemia. Thyroid function tests can detect hypothyroidism (an underactive thyroid gland) or hyperthyroidism (an

overactive thyroid gland), both of which have similar signs and symptoms to PMS and PMDD. (See "Patient information: Hypothyroidism (underactive thyroid) (Beyond the Basics)" and "Patient information: Hyperthyroidism (overactive thyroid) (Beyond the Basics)".)

Recording symptoms — Although a woman's symptoms may suggest PMDD, a clinician may request that she carefully record her symptoms on a daily basis for two full menstrual cycles (table 1). Using this calendar, a woman can rate the severity of 10 physical symptoms and 12 behavioral symptoms on a four-point scale.

PMS AND PMDD TREATMENT

Conservative treatments — Conservative treatments for PMS may be recommended first, including regular exercise, relaxation techniques, and vitamin and mineral supplementation. These therapies relieve symptoms in some women and have few or no side effects. If these therapies do not bring sufficient relief, prescription medication can be considered as a second option.

Conservative treatments are also recommended for women with PMDD, along with a prescription medication.

- Exercise — Exercise can help to reduce stress, tension, anxiety, and depression. (See "Patient information: Exercise (Beyond the Basics)".)
- Relaxation therapy — PMS and PMDD can be worsened by stress, anxiety, depression, and other psychological conditions. Furthermore, living with PMS or PMDD can cause difficulties in interpersonal relationships, at work or school, and with general day-to-day living. Relaxation therapy can help to ease the stress and anxiety of daily life and may include techniques such as meditation, progressive muscle relaxation, self-hypnosis, or biofeedback.
- Vitamin and mineral supplements — Vitamin B6 (up to 100 mg/day) might have a small benefit for women with mild PMS. No more than 100 mg of vitamin B6 should be taken per day. The most effective medications are described in the next section.

Selective serotonin reuptake inhibitors (SSRIs) — Selective serotonin reuptake inhibitors (SSRIs) are a highly effective treatment for the symptoms of PMS and PMDD. The SSRIs include fluoxetine (Prozac® and Sarafem®), sertraline (Zoloft®), citalopram (Celexa®), and paroxetine (Paxil®). Studies showed that SSRIs reduced the symptoms of PMDD significantly compared with placebo; between 60 and 75 percent of women with PMDD improve with an SSRI. It may not be necessary to take the medication every day. Taking the SSRI only during the second half of the menstrual cycle may be sufficient. (See "Treatment of premenstrual syndrome and premenstrual dysphoric disorder".)

Some women have sexual side effects with SSRIs. The most common sexual side effect is difficulty having an orgasm. If this occurs, using a lower dose or trying an alternative drug in the same drug class is recommended.

SSRIs should be taken for at least two menstrual cycles to measure their benefit. About 15 percent of women do not experience relief with these drugs after two cycles, in which case an alternative treatment is recommended.

Other antidepressants that are effective are venlafaxine (Effexor®) and escitalopram (Lexapro®).

Birth control pills — Some women with PMS or PMDD get relief from their symptoms when they take a birth control pill.

The pill can be taken continuously to avoid having a menstrual period. To do this, the woman takes all of the active pills in a pack and then opens a new pack; the placebo pills are discarded. In theory, taking the pill continuously prevents the usual cyclical hormone changes that could affect mood.

In the United States, one birth control pill (Yaz®) is approved for the treatment of PMDD. Yaz® contains 24 tablets of 20 mcg ethinyl estradiol and 3 mg drospirenone. It is thought that mood symptoms are improved with a shorter pill-free interval (number of placebo days). Yaz has only four days, instead of the typical seven days. However, there are some concerns that women who start Yaz might be at higher risk for blood clots in the legs and lungs (but the absolute risk of having a blood clot is very, very low).

Gonadotropin-releasing hormone agonists — Gonadotropin-releasing hormone (GnRH) agonists (eg, leuprolide acetate or Lupron®) are a type of medication that causes the ovaries to temporarily stop making estrogen and progesterone. This causes a temporary menopause and improves the physical symptoms (eg, bloating) and irritability caused by PMS and PMDD. However, the medication results in extremely low estrogen levels, which causes severe hot flashes and bone loss over time. Therefore, in addition to the GnRH medicine, women are treated with low doses of estrogen and progesterone to treat the hot flashes, and to prevent bone loss. Although this treatment is very effective, it is complicated and expensive, and is only used if other treatments do not work.

Ineffective treatments — Several treatments are of no proven benefit in relieving the symptoms of PMS. These treatments include progesterone, other antidepressant drugs (tricyclic antidepressants and monoamine oxidase inhibitors), and lithium. There is also no proven benefit of several popular dietary supplements, including evening primrose oil, essential free fatty acids, and ginkgo biloba.

SUMMARY

- Premenstrual syndrome (PMS) causes symptoms one to two weeks before a woman's menstrual period. Common symptoms include fatigue, bloating, irritability, and anxiety.
- Premenstrual dysphoric disorder (PMDD) is the severe form of PMS. PMDD can cause a woman to feel very sad or nervous, to have trouble with friends or family (eg, disagreements with husband or children), and can cause difficulty paying attention to work or school (see 'PMS and PMDD symptoms' above).
- The cause of PMS and PMDD is not known. Some women may be very sensitive to changes in hormone levels. Hormone levels normally change before and during the menstrual period (see 'PMS and PMDD causes' above).
- Other problems, such as depression and anxiety disorder, are similar to PMS and PMDD. The main difference is that the symptoms of PMS and PMDD occur only in the days preceding a

woman's period. Depression and anxiety are usually noticeable all the time. The treatments of PMDD and depression are quite different.

- There is no test for PMS or PMDD. To be diagnosed with PMS or PMDD, a woman must have physical symptoms (eg, breast tenderness, muscle pain) and mood changes (eg, sadness, crying). These symptoms must occur before her menstrual period (not during or after). (See 'PMS and PMDD diagnosis' above.)
- Some women are asked to keep a record of their feelings every day for two full menstrual cycles before PMS or PMDD is diagnosed (table 1).
- A medication is usually the best treatment for women with PMDD (see 'PMS and PMDD treatment' above).
- The best medications for PMS or PMDD are the SSRIs (see 'Selective serotonin reuptake inhibitors (SSRIs)' above).

WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

Patient information: Premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD) (The Basics)
Patient information: Depression (The Basics)
Patient information: Swelling (The Basics)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

Patient information: Depression in adults (Beyond the Basics)
Patient information: Depression treatment options for adults (Beyond the Basics)
Patient information: Headache causes and diagnosis in adults (Beyond the Basics)
Patient information: Irritable bowel syndrome (Beyond the Basics)
Patient information: Diagnosis of interstitial cystitis/bladder pain syndrome (Beyond the Basics)
Patient information: Hypothyroidism (underactive thyroid) (Beyond the Basics)
Patient information: Hyperthyroidism (overactive thyroid) (Beyond the Basics)
Patient information: Exercise (Beyond the Basics)
Patient information: Osteoporosis prevention and treatment (Beyond the Basics)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

Clinical manifestations and diagnosis of premenstrual syndrome and premenstrual dysphoric disorder
Epidemiology and pathogenesis of premenstrual syndrome and premenstrual dysphoric disorder
Treatment of premenstrual syndrome and premenstrual dysphoric disorder

The following organizations also provide reliable health information:

- Hormone Health Network

(www.hormone.org)

- National Institutes of Health

(www.nlm.nih.gov/medlineplus/healthtopics.html)

- The Mayo Clinic

(www.mayoclinic.com)

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Literature review current through: Oct 2013. | This topic last updated: Apr 4, 2013.

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