

# The Diagnosis and Treatment of Premenstrual Dysphoric Disorder in a Patient Who had been Misdiagnosed as Having Either Rapid Cycling Bipolar I Disorder or Borderline Personality Disorder

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The patient was a 16-year-old high school girl who had been suffering from premenstrual dysphoric disorder (PMDD) expressed as a rapid cycle of manic and depressive episodes. She attempted suicide and spent two months in a psychiatric hospital being treated for depression after which she was tentatively diagnosed as having major depression with borderline personality disorder. Following the first admission, the patient experienced three further manic-depressive episodes before being hospitalized again; all three episodes were related to her menstruation. We directed the patient to keep a daily diary of her psychotic symptoms and to record her basal body temperature. We prescribed the oral contraceptive (Ocps) in a dose of one pill per day for the purpose of interrupting the patient's menstrual cycle. While experiencing high body temperature the patient tended to be depressed, however, while on a treatment of Ocps her mood stabilized and she was able to lead an otherwise ordinary lifestyle. Patients suffering from PMDD are at risk of being wrongly diagnosed as suffering from borderline personality disorder based on their acting out behavior and instability of mood. We consider that ovulation may play a role in the switch process of this patient's manic and depressive phases.

**Keywords:** Premenstrual dysphoric disorder, Keep a daily diary, Oral contraceptive, Switch process

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## 1. Introduction

Premenstrual syndrome (PMS), a common cyclic disorder of young and middle-aged women, is characterized by emotional and physical symptoms that consistently occur during the luteal phase of the menstrual cycle. Women with more severe affective symptoms are classified as having premenstrual dysphoric disorder (PMDD).

In the Diagnostic and Statistical Manual of Mental Disorders, 4th ed. (DSM-IV), PMDD is classified as

a "depressive disorder not otherwise specified" and characterized by emotional and cognitive-behavioral symptoms (American Psychiatric Association, 1994).

PMDD is diagnosed where, for the majority of menstrual cycles in the preceding year, five or more of the following symptoms (see **Table 1**) were present for most of the time during the last week of the luteal phase, began to remit within a few days after the onset of the follicular phase, with at least one of the symptoms present, but disappearing within a week of menstruation ceasing. At least five

**Table 1** Diagnostic criteria for Premenstrual Dysphoric Disorder

A. In most menstrual cycles during the past year, five (or more) of the following symptoms were present for most of the time during the last week of the luteal phase, began to remit within a few days after the onset of the follicular phase, and were absent in the week postmenses, with at least one of the symptoms being either (1), (2), (3), or (4):

- (1) Markedly depressed mood, feelings of hopelessness, or self-deprecating thoughts
- (2) Marked anxiety, tension, or feelings of being “keyed up” or “on edge”
- (3) Marked affective lability  
(e.g., feeling suddenly sad or tearful or increased sensitivity to rejection)
- (4) Persistent and marked anger or irritability, or increased interpersonal conflicts
- (5) Decreased interest in usual activities (e.g., work, school, friends, hobbies)
- (6) Subjective sense of difficulty in concentrating
- (7) Lethargy, easy fatigability, or marked lack of energy
- (8) Marked change in appetite, overeating, or specific food cravings
- (9) Hypersomnia or insomnia
- (10) A subjective sense of being overwhelmed or out of control
- (11) Other physical symptoms, such as breast tenderness or swelling headaches, joint or muscle pain, a sensation of “bloating”, weight gain.

**NOTE:** *In menstruating females, the luteal phase corresponds to the period between ovulation and the onset of menses, and the follicular phase begins with menses. In nonmenstruating females (e.g., those who have had a hysterectomy), the timing of luteal and follicular phases may require measurement of circulating reproductive hormones.*

B. The disturbance markedly interferes with work or school or with usual social activities and relationships with others (e.g., avoidance of social activities, decreased productivity and efficiency at work)

C. The disturbance is not merely an exacerbation of the symptoms of another disorder, such as major depressive disorder, panic disorder, dysthymic disorder, or a personality disorder (although it may be superimposed on any of these disorders).

D. Criteria A, B, and C must be confirmed by prospective daily ratings during at least two consecutive symptomatic cycles. (The diagnosis may be made provisionally prior to this confirmation.)

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of the 11 specified symptoms must be present for a diagnosis of PMDD (see **Table 1**).

In general, the symptoms of PMS/PMDD are characterized by depressive moods and marked anger or irritability in the luteal phase, but improvement of the symptoms in the follicular phase. When adolescent women complain of cyclic depressive moods, hidden PMS should be suspected. When adolescent women express severe irritability/anger and present with ‘acting out’ behavior, diagnosis should not be limited to borderline personality disorder – PMDD should also be considered as a possibility.

In this report we describe our experience treating a patient suffering from rapid-cycling depressive and manic phases related to her menstrual cycle.

## 2. Case presentation

Akiko (a pseudonym) is a 16 year-old high school student with severe premenstrual syndrome that is

expressed as a rapid cycle of manic and depressive episodes.

### 2.1. Ethical considerations arising from privacy issues in case reports.

In order to carry out this study we first obtained verbal consent from the patient and her guardians. On completion of the report we provided only guardian with a copy for the purpose of having them make corrections to any errors of fact. Finally we sought and obtained her guardian’s formal written consent to have the report included in this journal. Certain elements not affecting the results (past history, identity of family members) were altered in order to protect the patient’s privacy.

### 2.2. Case History

Akiko is the younger of two sisters. Her father personality was authoritarian and perfectionist. He

**Table 2** Diagnostic criteria for 301.83 Borderline Personality Disorder

A pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:

- (1) frantic efforts to avoid real or imagined abandonment.  
**Note:** Do not include suicidal or self-mutilating behavior covered in Criterion 5.
- (2) a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation
- (3) identity disturbance: markedly and persistently unstable self-image or sense of self
- (4) impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating). **Note:** Do not include suicidal or self-mutilating behavior
- (5) recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior
- (6) affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days)
- (7) chronic feelings of emptiness
- (8) inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights)
- (9) transient, stress-related paranoid ideation or severe dissociative symptoms

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was diagnosed with major depression and following deterioration of his mood he committed suicide when Akiko was 10 years old.

Akiko's mother appears to be a sensitive person. Akiko's mother spoke about Akiko's father's personality and the symptoms and signs of his psychiatric condition. Akiko's father tended to get caught up in whatever he was interested in - for example, work. He would immerse himself to the point where he neglected his family. However, when he experienced a lack of success he became violent and took it out on his family. Because, during her manic phase, Akiko showed behaviors similar to her father's paranoid phases, Akiko's mother expressed concern about the possibility that Akiko had inherited paranoid characteristics from her father.

Akiko displayed superior academic ability at junior high school. In her second year at junior high school Akiko was bullied by her classmates and suffered from coercive peer pressure. Over a period of years Akiko lost interest in her schoolwork and as a result her relationship with her homeroom teacher deteriorated. Akiko has always suffered from a lack of confidence and has difficulty in making friends. She studied hard to get good results in order to balance her feelings of inadequacy. More than simply shy, she could be irritable. She liked to get out of the house and even when she had a lot of homework she would go to the library to study.

Two years ago Akiko attempted suicide and

spent two months in a psychiatric hospital being treated for depression. The results of physical and neurological examinations, including laboratory tests, were all normal. Akiko was tentatively diagnosed as having major depression with borderline personality disorder. (see **Table 2**)

When she was discharged from the psychiatric hospital Akiko appeared tired but had no problems looking after herself at home.

Akiko was twice admitted to a psychiatric hospital. As a result of not being provided with a definite diagnosis at the psychiatric hospital, Akiko and her mother indicated that they wanted to change hospitals and sought treatment at our facility.

When Akiko came to our general hospital, she received psychotherapy as an outpatient. The psychotherapy team consisted of a clinical psychologist and a psychiatrist. The clinical psychologist provided supportive psychotherapy for one 50 minute session per week, and the psychiatrist treated Akiko with a course of medication. She suffered from depressed moods and reported feelings of hopelessness and inadequacy. She did not suffer from delusions or hallucinations. Akiko reported that she was unable to concentrate; however, her cognitive abilities were unimpaired.

Although at the time of each manic phase Akiko responded to risperidone (Risperdal®, Jansen Pharmacy Co. Ltd), once outside the hospital she was reluctant to take the medication and eventually

refused to do so.

At the psychiatric hospital where Akiko was previously admitted she was prescribed heavy doses of risperidone by her psychiatrist, in an effort to prevent these behavioral swings.

When we decreased the dose of risperidone, Akiko began showing manic symptoms and thus we initially diagnosed her as having rapid-cycle manic-depressive disorder (bipolar I).

Akiko's manic symptoms manifested as a decreased need for sleep – the ability to go with very little sleep for days without tiring, increased talking - talking too much, too fast; changing topics quickly, and overly-inflated self-esteem and feelings of grandiosity. On the other hand, in her depressive phase, she was in a persistently sad or irritable mood with a reduced level of interest in activities she once enjoyed.

In the third and most disruptive episode, Akiko used abusive language towards her sister and other relatives and then, brandishing a knife in front of her mother, suggested she would kill herself or someone else.

Akiko said she was better able to explain how she felt during her manic state. Mania, she explained, was "like an irrepressible impulse had been implanted in me which made me feel I could become an athlete or a doctor and leave my mark on the Olympics or in medical research". She elaborated as follows: "Ordinary mortals will never, never understand the supreme manic state which I am privileged to experience every few month" Akiko expressed her ideas with an intense sense of conviction.

Based on a detailed interview, the clinical psychologist discovered that Akiko was experiencing depressive and manic states connected with her ovulation cycle.

During the last week of the luteal phase Akiko mainly complained of a depressive mood, exhibiting five or more of the symptoms of PMDD. However, once menstruation started her symptoms began to remit and disappeared completely within a week of menstruation ceasing. On the other hand, from the onset of the follicular phase to ovulation Akiko gradually began to feel irritable/angry and sometimes performed destructive acting out behaviors, for example, attempting suicide and violence towards her family.

### 2.3. Psychological and Psychiatric Assessment.

Akiko has, at her core, an anger which she finds hard to keep suppressed. We think Akiko's anger may have hereditary components, and could be linked to her father's paranoia. In particular, when she was put on anti-depressive medication, for example SSRI (Selective Serotonin Reuptake Inhibitors) or diazepam (a minor tranquilizer), she rapidly became manic.

Even during her depressive phase, Akiko was given serotonin and dopamine antagonists, for example risperidone, in order to keep her anger under control. These episodes illustrate that it is possible to understand the thinking behind even some of the most psychotic experiences in Akiko's manic phase. Akiko has rapid cycling bipolar I disorder, and her most recent manic episodes feature severe mood-incongruent psychotic aspects.

We considered that Akiko might have rapid cycling bipolar I disorder, and her most recent manic episodes feature severe mood-incongruent psychotic aspects. Akiko did experience three manic-depressive episodes for which she was hospitalized in our general hospital; all three episodes were related to her menstruation. The depressive phase preceded menstruation and the manic phase followed.

There are two reasons why the clinical psychologist noticed that Akiko's fluctuating symptoms and signs of bipolar I were related to her menstrual cycle: (1) the psychologist is a woman, and (2) the psychologist, in the course of providing supportive psychological treatment, carried out careful and periodic observations of Akiko's mental state. Akiko's chief complaints involved not only psychiatric symptoms such as unstable psychotic episodes but also uncomfortable physical symptoms such as low back pain and constipation.

Coincidentally, the clinical psychologist had been suffering from mild PMS, experiencing similar symptoms to Akiko, such as low back pain, and this lead her to suspect that Akiko's rapid-cycle mood swings were related to her severe PMS.

PMDD results from the insufficient secretion of estrogenic and progesterone hormones, but the symptoms can be aggravated by psychological stress.

The clinical psychologist advised Akiko to avoid mental and physical stress, and to get moderate exercise, and following this advice resulted in the

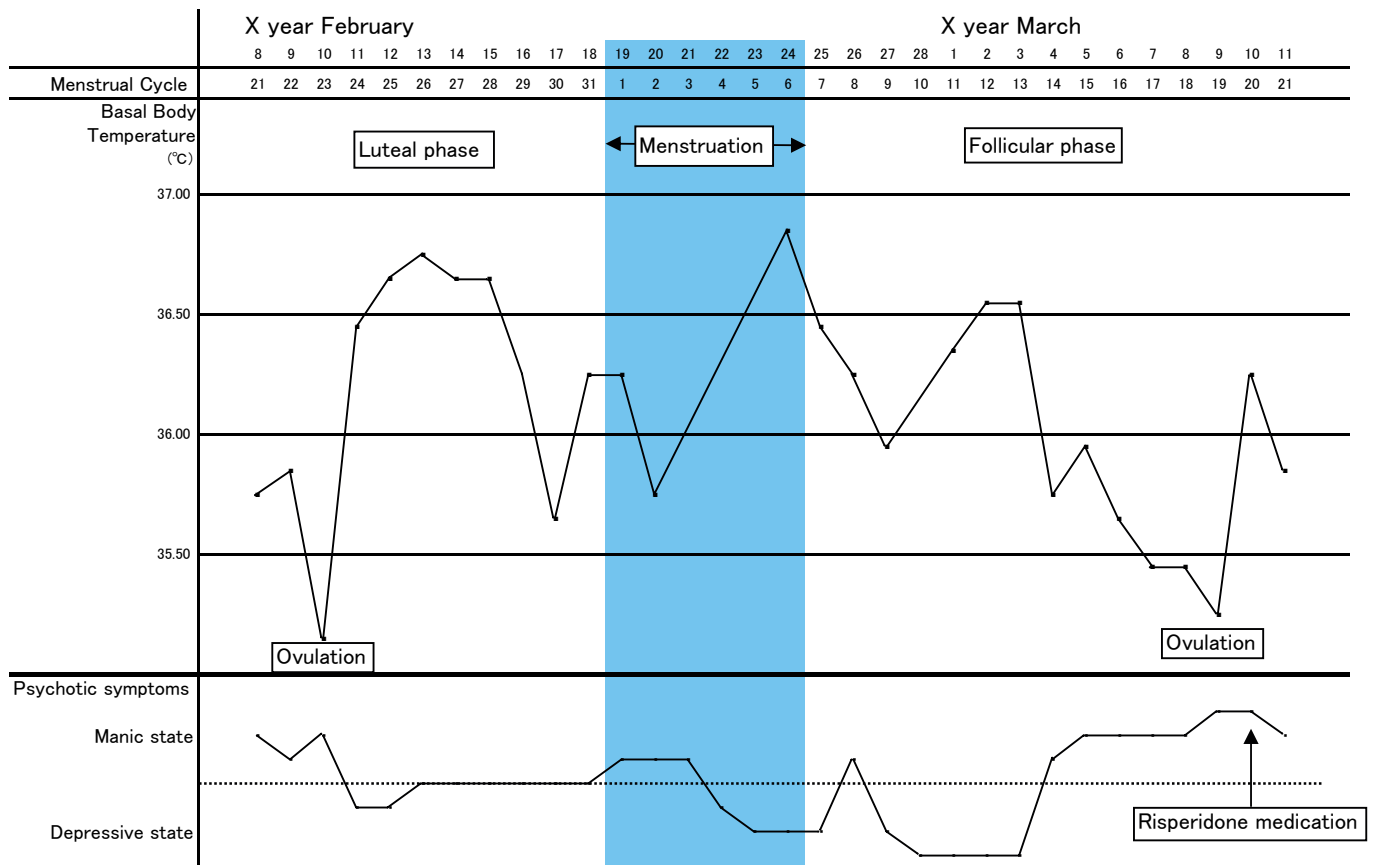


Figure 1 Record of her Basal body temperature and Psychotic symptoms

alleviation of the symptoms of Akiko’s rapid-cycle mood disorder. The psychologist also explained to Akiko the necessity of self-managing her physical condition and recommended that Akiko keep a diary of her basal body temperature and moods so as to better understand her own condition. (see **Figure1**)

Under the supervision of her mother, a licensed maternity nurse, Akiko recorded her basal body temperature daily. Based on the fact that Akiko's mother regularly checked her daughter's diary, we consider the records of Akiko's basal body temperature and mood condition to be reliable.

**2.4. Course of treatment**

Akiko was prescribed one oral contraceptive pill (OCPs) per day. Akiko maintained a high body temperature throughout the whole month. While experiencing high body temperature, Akiko was usually in a depressed state; however, while on a treatment of OCPs she was able to lead an otherwise ordinary lifestyle. Akiko sometimes became manic; however, a low dose of risperidone was easily able to ameliorate her manic symptoms.

Treatment using OCPs resulted in Akiko no longer suffering rapid-cycle manic-depression, and further, she no longer exhibited the following characteristics (diagnostic symptoms of BPD based on DSM-IV, see **Table 2**): (2) a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation, (3) identity disturbance: markedly and persistently unstable self-image or sense of self, (5) recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior and (6) affective instability due to a marked reactivity of mood. Therefore, we finally considered it unlikely that Akiko has been suffering from BPD, which she was diagnosed of by her previous doctor of the psychiatric hospital.

**3. Discussion**

Borderline personality disorders can usually be differentiated from symptoms and signs of other psychiatric disorders, substance abuse and physical disorders on the basis of world-prevailing operational diagnostic criteria: DSM-IV. However, because DSM-IV does not contain criteria for psychiatric

syndromes caused by endocrine disorders, the status of psychiatric syndromes associated with menstruation, such as PMS, is not yet clearly defined in DSM-IV. In this case-report, the fact that Akiko was diagnosed with a borderline personality disorder has relevance in demonstrating the limitations of DSM-IV.

Initially Akiko was diagnosed as having a borderline personality disorder. If we had not noticed that the psychiatric symptoms of Akiko's manic and depressive phases were related to her menstrual cycle, we would have overlooked the fact that she was suffering from PMS.

PMS is considered to be the key factor in changes to the body's endocrine system relating to the menstrual cycle. Because serotonin has been implicated in the pathogenesis of PMS and PMDD, various selective serotonin reuptake inhibitors (SSRIs) have been trialed in treating these disorders.

Some recent reports indicate that SSRIs therapy during the luteal phase has been shown to be effective in alleviating physical and behavioral symptoms (Nurnberg, et al., 1996, Takahisa, et al., 2005 ).

However, we considered the possibility that Akiko's depressive phase became manic during the follicular phase as a side-effect of SSRIs treatment. Fergusson, et al., (2005) also suggest that SSRIs, when prescribed to patients with depression, may increase the risk of suicide. A daily symptom diary may help patients identify optimal times for implementing behavioral changes so as to cope with remission or exacerbation of PMS/PMDD symptoms. Although the etiology of these disorders remains uncertain, Steiner(2000) suggest that altered regulation of neurohormones and neurotransmitters may be involved. We consider that OCPs were responsible for alleviating Akiko's symptoms of depression and mania through the mechanism of stabilizing the hormonal balance in her body.

We have to describe the fact that a prescribing OCPs creates several ethical problems. We withheld from Akiko the fact we were prescribing OCPs for two reasons.

Firstly, OCPs were designed to prevent pregnancy, not to alleviate changes in mood. Secondly, there was a concern that if Akiko were aware that she was taking the oral contraceptive pills, this might increase the possibility of her engaging in sex with her friends during her manic phase. One further reason for not informing Akiko was to prevent her

from selling OCPs to her friends. Under Japanese law a prescription for oral contraceptives can only be obtained following a medical examination.

The purpose behind prescribing OCPs was to prevent ovulation. Although prescribing Akiko with OCPs was, to a certain level, effective in treating her manic phase, the clinical psychologist expressed concern that based on the information gained during the course of her interviews, there was a danger of Akiko engaging in sex or even selling OCPs.

Although she was at risk from the side effects of OCPs, for example thrombosis, Akiko was not aware of this risk because she did not know she was taking the medication.

Hiding from the patient the fact that a certain drug is being prescribed has serious implications for the relationship between patient and doctor. For this reason, Akiko's mother, her doctor and the clinical psychologist discussed whether or not to inform Akiko about the nature of the medication, eventually deciding not to tell Akiko, and instead simply telling her that the medication would ameliorate her manic phase.

Because Ocp's can potentially cause thrombosis, Akiko was instructed to inform her doctor in the event she felt any of the following symptoms; (1) sudden difficulty in breathing, (2) acute chest pain, (3) severe headache, (4) leg pain or edema, (5) paralysis or abnormal sensation in the hands or legs.

PMS and PMDD are diagnoses of exclusion, therefore, alternative explanations for symptoms must be considered before either diagnosis is made. The disorders can manifest with a wide variety of symptoms, including depression, mood lability, abdominal pain, headache, and fatigue.

We consider that Akiko's diagnosis may correspond to DSM-IV criteria such as (1) unstable and intense interpersonal relationships, (2) affective instability due to a marked reactivity of mood recurrent suicidal behavior, (3) inappropriate, intense anger or difficulty controlling anger, and (4) stress-related paranoid ideation or severe dissociative symptoms.

The characteristic symptom of Akiko's PMS is that she enters a manic phase following the conclusion of menstruation. Patients suffering from PMS are at risk of being wrongly diagnosed with a borderline personality disorder based on acting out behavior and instability of mood. Ovulation may play a role in the switch process of Akiko's manic and depressive

phases.

When psychiatrists examine female patients who present rapid cycling symptoms of manic and depressive phases, the psychiatrist should keep PMS in mind, and have the patient keep a record of their basal body temperature, which can help lead to a diagnosis of PMS.

Bleuler(1958) defined the term "endocrine psychiatry" as the description for concomitant psychiatric symptoms in endocrine disorders. Bleuler(1958) suggests that the symptoms and signs of "endocrine psychiatry" are only responsible for deviations in the level of mood, desire and instinctual drives and do not lead to the development of psychiatric disorders.

The prevailing criteria of borderline personality disorder (BPD) from DSM-IV are strongly influenced by the "borderline personality organization" (BPO) proposed by Kernberg(1967). Akiko sometimes displayed symptoms and signs consistent with the nine criteria of BPD. However, Akiko did not satisfy the three structured criteria of BPO.

Patients suffering from 'mood-swing' psychiatric disorders coincident with menstruation are at risk of being misdiagnosed with borderline personality disorder based on the operating DSM-IV criteria, because the deviation of mood, desire and instinctual drives which meet the concepts of Bleuler's "endocrine psychiatry" are also found in the DSM-IV criteria for borderline personality disorder. However, the vision and goal setting for treatment is more important than deciding whether the patient meets the operating criteria of DSM-IV.

It was important to determine whether Akiko was suffering from bipolar disorder (manic depressive disorder) or borderline personality disorder. Some aspects of Akiko's symptoms and signs are consistent with bipolar disorder.

Kim-Cohen, et al., (2003) indicate that bipolar disorder is difficult to recognize and diagnose in youth. It does not fit precisely the symptom criteria established for adults, and its symptoms can resemble or co-occur with those of other common childhood-onset mental disorders or may be a different (possibly more severe) variant of such disorders.

Kato, et al., (2006) also suggest that unlike adult bipolar disorder, where mania manifests as elevated moods or euphoria, children are more prone to heightened irritability, destructive outbursts,

or highly disruptive and/or aggressive behaviors during the manic state. In early adolescents the appearance of bipolar disorder is often characterized by a continuous, rapid-cycling, irritable, and mixed symptom state.

By discovering the fact that Akiko's manic and depressive cycle was strongly related to her menstrual period we found out that she was suffering from PMS. The early onset of PMS in childhood/adolescence leads to a high possibility of misdiagnosis of bipolar disorder or borderline personality disorder.

The purpose of this case report is (1) to raise awareness about the existence of PMS to clinical psychologists and psychiatrists, and (2) to describe the risk of misdiagnosing adolescents with PMS as having early onset bipolar disorder with borderline personality disorder.

In Japan, clinical psychologists and psychiatrists do not generally have in-depth familiarity with PMS because of the lack of detailed case reports. In the near future there is a need to clarify the incidence and prevalence of PMS through an epidemiological survey.

## References

- American Psychiatric Association. (1994) Diagnostic and Statistical manual of Mental Disorders, fourth Edition
- Bleuler M. (1958) Das endocrine Psychosyndrom, In Nowakowski H (Ed): Hormone und Psyche. Springer, Berlin: pp.4
- Fergusson D, Doucette S, Cranley Glass K., et al., (2005) Association between suicide attempts and selective serotonin reuptake inhibitors: systematic review of randomised controlled trials. *BMJ* 330(7488): pp.396-99.
- Kato, T. and Kano, Y. (2006) Prepubertal and early adolescent bipolar disorder; What is the cause of its recent increase? *Japanese Journal of Clinical Psychiatry*, 35(10): pp.1399-1405( in Japanese)
- Kernberg, OF. (1967) Borderline personality organization. *J Am Psycholoanal Assoc* 15: pp.647
- Kim-Cohen J, Caspi A, Moffitt TE, et al., (2003) Prior juvenile diagnoses in adults with mental disorder: developmental follow-back of a prospective-longitudinal cohort. *Arch Gen Psychiatry*60: pp.709-717
- Nurnberg, HG., Hensley, JF., Solles, A., et al., (1996) Efficacy and tolerability of milnacipran. an overview. *Int Clin Psychopharmacol* 11(suppl 4): pp.47-51
- Steiner, M. (2000) Premenstrual syndrome and premenstrual dysphoric disorder, guidelines for management. *J Psychiat Neurosci* 25: pp. 459-468
- Takahisa, U., Chisato, K., Hiroko, K., et al., (2005) Clinical efficacy of SSRI (fluvoxamine) on improvement of quality of life in premenstrual dysphoric disorder, *Advances In Obstetrics And Gynecology* 57(1): pp.74-78



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- “Role-play therapy as Treatment for Anorexia Nervosa using the Script from the Hayao Miyazaki Animated Movie Kiki’s Delivery Service (Majo no Takkyuubinn).”
- “The effect of play therapy on a Japanese child suffering from expressive language disorder brought on by early English education.” Yamauchi, K., Tanaka, M., Kato, T. and Ohnishi, M., Journal of Kagawa Nursing School. (in press) (2008)

**Membership in Learned Societies:**

- The Japanese Association of School Health
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