The Assessment and Treatment of the Premenstrual Syndrome Client

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THE ASSESSMENT AND TREATMENT
OF THE PREMENSTRUAL SYNDROME CLIENT

BY

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RESEARCH REPORT

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ABSTRACT

Over 21 million American women suffer from the chronic, cyclic, psychoneuroendocrinological dysfunction known as premenstrual syndrome (PMS) (Greenfield & Wolf, 1983). At least five million of these women suffer from symptoms so debilitating that their personal and/or professional lives are disrupted (Labrum, 1983). Women who suffer from PMS often seek counseling because of the syndrome's behavioral, affective, and emotional components. Mental health professionals must be prepared to aid both the client and her gynecologist in the diagnosis and treatment of PMS. This research report includes (1) a synopsis of the medical literature including some of the theories of etiology and treatment procedures, (2) a review of the psychiatric ramifications and psychological treatments of PMS, and (3) a PMS Packet designed to aid mental health professionals and their clients in the evaluation of PMS.

It is unknown whether PMS is a disease or a physiologically abnormal menstrual cycle which appears to be quite common (Sanders, Warner, Backstrom, & Bancroft, 1983; Shangold, 1983). Nonetheless, women with premenstrual syndrome need and deserve our attention and best efforts at finding the cause(s) and the appropriate treatments.
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And finally, I want to thank Rick, my husband and best friend. No one has ever believed in me so completely.
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INTRODUCTION

Fifty-five years have passed since Dr. Robert T. Frank first described what is now commonly referred to as premenstrual syndrome (PMS). When Frank presented his thesis, "The Hormonal Causes of Premenstrual Tension," at a meeting of the Section of Neurology and Psychiatry at the New York Academy of Medicine, he believed that PMS was the result of too high levels of estrogen (Backstrom, Bancroft, Bixo, Hammarback, & Sanders, 1982). Despite the lack of sophisticated diagnostic techniques, recent evidence supports Frank's contention that PMS is a medical condition with an endocrinological basis (Dalton, 1984; Harrison, Endicott, Rabkin, & Nee, 1984). Today there are blood serum tests and radioimmunoassay, the technique which allows measurement of very small hormonal levels in the blood. Unfortunately, even with these and other assessment tools, a reliable laboratory test for PMS does not yet exist (Shangold & Shangold, 1984).

Several theories of etiology continue to be espoused and tested by medical professionals. They include, but are not limited to, an imbalance or dysfunction of gonadal steroids, prolactin, and prostaglandins (Chakmakjian, 1983; Janowsky, 1985; Steiner & Carroll, 1977). Historically, psychiatrists have attempted to explain PMS etiology in psychodynamic terms (Bernsted, Luggin, & Petersson, 1984; Budoff, 1983; Wilson, 1984). Now there is overwhelming evidence that premenstrual syndrome is, in fact, an endocrine disorder and not a psychiatric
disease (Abplanalp, 1983a; Dalton, 1984; Lauersen & Stukane, 1983). It seems clear, however, that regardless of etiology, emotional and situational factors play an important role in the subjective experience of PMS (Clare, 1983; Dennerstein, Spencer-Gardner, & Burrows, 1984). Thus, mental health professionals can use their expertise to develop individual, marital, and family therapy models, to employ coping strategies, and to research how stress and personality variables effect premenstrual syndrome. Both the medical and mental health communities have begun a much needed collaboration in an attempt to effectively treat PMS patients and their families.

Because the female cycle is hormonally based, a woman experiences physical and psychological changes prior to the onset of menses. Sometimes these behavioral, somatic, and affective changes may be uncomfortable and unpleasant, but for the most part, they are not so severe as to limit a woman's ability to adequately deal with them. For others, at least 40% of the female population between the ages of 14 and 50, such premenstrual changes are serious enough to warrant medical and/or psychological intervention (Blumenthal, 1983; Hamilton, Parry, Alagna, Blumenthal, & Herz, 1984; Lauersen & Stukane, 1983; Laughlin & Johnson, 1984; Shangold & Shangold, 1984). These are the women to whom researchers refer as having PMS. Of this group, a small percentage, approximately 10%, suffers from a severe form of PMS (Backstrom et al., 1982; Lauersen & Stukane, 1983). For these women, medical and psychological treatment are usually required because their symptoms are disabling enough so as to disrupt both their professional
and personal lives. Their lives are so completely controlled by their condition that intervention is critical. It is for all of these women that both the medical and mental health communities are actively seeking answers. However, PMS is not just a woman's issue. A woman is not an isolated being; her family, career, and friends are all affected by her physical and mental health. It is to the benefit of everyone that the causes and treatments of premenstrual syndrome are better understood.

Finally, please note that this research report will only refer to this disorder as premenstrual syndrome or PMS, unless a researcher is being quoted. In the latter case, the researcher's term for PMS will be used within his/her intended context. The most controversial label found in the literature is premenstrual tension (PMT). Premenstrual mood changes (PMC) has also been mentioned in the literature (Hamilton et al., 1984), as has premenstrual tension syndromes (PMTS) (Abraham, 1983b) and premenstrual tension syndrome (PTS) (Steiner & Carroll, 1977).

The acronym, PMT, appears to address only one aspect of the syndrome, that of nervous tension. Even though it may well be the most commonly reported symptom (Rubinow, Roy-Byrne, Hoban, Gold, & Post, 1984), this particular symptom does not appear to be present in all PMS patients (Norris, 1983). When it does occur, it is typically accompanied by other symptoms simultaneously (Rubinow, Roy-Byrne, Hoban, Gold, & Post, 1984). While it may be true that psychologists recognize that clients with emotional symptomatology are as deserving
of treatment as any patient with physiological symptomology, it is important to realize that historically women have been discredited and demeaned by gender based classifications of mental disorders and research methods (Koeske, 1983). Within this context, it becomes clearer why a label such as PMT has been rejected in much of the current scientific and popular press literature (Abplanalp, 1983b; Greenfield & Wolf, 1983; Lauersen & Stukane, 1983; Laughlin & Johnson, 1984; London, Sundaram, Murphy, & Goldstein, 1983; Long, 1985; Shangold, 1983; Wilhelm-Hass, 1984).
CHARACTERISTICS OF PREMENSTRUAL SYNDROME

When diagnosing PMS, the doctor or clinician should first look at the timing of the symptoms. It is critical to the diagnosis that the client experiences a symptom-free period following the onset of menses. If she does not experience such a relief period, then one of two possibilities exists; either she does not have PMS at all, or she has PMS and another condition which is confounding a clear diagnosis (White, 1985).

According to current opinion, a woman who has PMS experiences her symptoms 2 to 14 days prior to her menstruation and then experiences a symptom-free period (Lauersen & Stukane, 1983). An operational definition requires that (a) the types of symptoms observed be specified, (b) the intensity of the symptoms during both the premenstrual and intermenstrual phases be described, (c) the timing of the symptoms be determined as explained above, and (d) consistency in timing in relation to the onset of menstruation be demonstrated in at least two, and preferably three, menstrual cycles (Rubinow, Roy-Byrne, Hoban, Gold, & Post, 1984). The clinician needs to take into consideration, however, that one woman's symptoms may, in fact, vary from month to month in type, intensity, and/or duration. In general, this operational definition model is extremely useful as a first step to treatment, that is, as a diagnostic tool.
Although PMS appears to involve several overlapping syndromes (Abraham, 1983a; Harrison et al., 1984; Rubinow, Roy-Byrne, Hoban, Gold, & Post, 1984), it is helpful to first examine the three categories of symptoms which are most often experienced and observed. As stated above, a woman can have symptoms from one or more categories at the same time. Each PMS client is unique in her symptomology. Thus, in attempting to understand the etiology of this syndrome, one should not lose sight of the individuality of each case. A list of some of the physical, affective, and behavioral symptoms is presented here (Abraham, 1982; Budoff, 1983; Labrum, 1983):

**Physical Symptoms**

- fatigue
- lethargy
- increased appetite
- thirst
- acne, cold sores
- diarrhea
- constipation
- pain in the breast
- breast tenderness
- increased libido
- palpitations
- paresthesia
- dizziness
- pruritis
- headache
- frequent urination
- irritated eyes
- sensation of weight gain
- bloated feeling in abdomen
- pain in joints
- swelling in joints
- subcutaneous hemorrhaging
- a sense of internal shaking
- breathlessness
- craving for sweets (especially chocolate), salty foods, alcohol, and/or refined carbohydrates
Affective Symptoms

depression
excitement
tension
agitation
dysphoria
egodystonia
irritability
anger

feelings or fear of losing control

Behavioral/Cognitive Symptoms

insomnia
apathy
forgetfulness
food binging
alcohol binging
isolation/withdrawal

burst of energy
heightened creativity
crying spells
difficulty with motor coordination
difficulty thinking rationally
difficulty with verbalization

hypersensitivity to sound, sight, and touch

Other Characteristics of PMS

an adverse reaction to oral contraceptives
a family history of women with similar symptomology
a history of postpartum depression
development of toxemia during pregnancy
relief of symptoms during last six months of pregnancy
symptoms worsening with age
feelings that menopause must be occurring
alcohol intolerance in premenstrual phase
increase in fibrocystic breast disease (FD) symptoms during the premenstrual phase

These are just some of the symptoms mentioned in the literature. As many as 150 symptoms have been observed in patients with PMS (Abraham, 1982; Hamilton, 1984; Rubinow & Roy-Byrne, 1984). Some patients experience a worsening of their allergies, glaucoma, and asthma (Lauersen & Stukane, 1983). For some women who suffer from epilepsy, seizures occur more frequently during the premenstruum (Budoff, 1983; Steiner & Carroll, 1977; White, 1985).

The biological causes of these symptoms will be discussed later. The times when these symptoms can occur in a woman's life will be examined first.

Premenstrual syndrome usually begins after any major hormonal change or stress. The most common examples are following pregnancy, after using an oral contraceptive, and in some rare cases, following puberty. PMS is rare in adolescence, and most common in the third decade of life (Hamilton, 1984; Wilson, 1984). Any significant interruption of the hormonal cycle can trigger premenstrual syndrome. Sometimes a tubal ligation or a hysterectomy in which the ovaries are left can bring on the symptoms described above (Backstrom et al., 1982).

One popular classification system for PMS was designed by Guy E. Abraham and published in 1981. Abraham used the term "premenstrual
tension" to classify four subgroups of this condition; PMT-A, PMT-H, PMT-C, and PMT-D (Abraham, 1982). Each initial following the acronym, PMT, is representative of the cluster of symptoms in that subgroup.

PMT-A stands for a cluster featuring anxiety as its most commonly reported symptom. Other symptoms of PMT-A sufferers are hostility, tension, and sometimes a mild to moderate depression. This is the most common subgroup of PMS and occurs in 80% of PMS sufferers, according to Abraham. These symptoms tend to increase in severity as menses approaches (Abraham, 1982).

PMT-H stands for a group of symptoms featuring the feeling of heaviness or swelling as its most common problem. Although women do not actually gain more than three pounds usually, they do report that they experience the sensation of weight gain, tenderness in the breasts, mastalgia, breast congestion, and abdominal bloating. PMT-H occurs in 60% to 66% of all PMS sufferers (Abraham, 1982).

Approximately 40% of PMS patients report having PMT-C symptoms. These women have cravings for sweets (especially chocolate), salty foods, alcohol, and/or refined carbohydrates (Abraham, 1982). After binging, they usually experience a hypoglycemic type of reaction including syncope, dizziness, fatigue, palpitations, and headaches. Research has shown that the premenstrual craving of refined sugar and feelings of tension related to stress positively correlate (Lauersen & Stukane, 1983). The management of stress and proper nutrition play a major role in the treatment of PMT-C (Abraham, 1982).
Finally, it is estimated that between 3% and 5% suffer from PMT-D. For them, depression is the major symptom and it is often incapacitating. These women require medical and psychological intervention on their behalf. Other symptoms of PMT-D are lethargy, suicidal ideation, paranoid ideation, and difficulty with verbalization, motor coordination, and rational thinking. If PMT-D is severe, the patient may be too depressed to seek help. If PMT-D coexists with PMT-A, as is the case with 20% of the PMS population, according to Abraham, then the situation is usually not as life-threatening (Abraham, 1982). However, in cases where severe depression and agitation are concurrent symptoms, a psychological evaluation is necessary to properly assess whether or not she is a danger to herself or others.

Abraham's invaluable classification system marked a turning point in how patients with PMS were viewed. Although patients may have symptoms from one or more categories, this system provided a place to start in the difficult task of assessment.
HORMONAL CHANGES IN MENSES AND MENOPAUSE

Before reviewing several of the proposed hypotheses of the etiology of PMS, an understanding of the neuroendocrinology of the normal menstrual cycle must be reached. Menstruation and menopause are normal developmental stages in a woman's life, and both have different but profound effects on her.

**Menstruation**

The purpose of menses is reproduction. At some time between the ages of 10 and 16, puberty occurs. Development of ovaries and secondary sex characteristics occur because the anterior pituitary gland begins to increase the production of follicle-stimulating hormones (FSH) called gonadotropins. This pituitary gland production is in response to a hypothalamic releasing factor, or gonadotropin releasing hormone (GnRH). After puberty and until menopause, FSH is released once a month except during the time a woman is pregnant. For most women, the menstrual cycle lasts from 20 to 35 days.

The menstrual cycle is divided into two phases, the follicular phase or postmenstruum, and the luteal phase or premenstruum (see Appendix I). Each of these two phases can be further divided into three parts: early follicular, mid-follicular, late follicular; and early luteal, mid-luteal, and late luteal (Sanders, Warner, Backstrom, & Bancroft, 1983).
Follicular Phase

Although the number of days varies, the follicular phase is usually regarded as the first 13 days of the menstrual cycle, beginning on the first day of menstrual flow. This two-week period of time is important for the PMS client, because it is during the follicular phase that she is free of symptoms.

Menstrual flow occurs because the egg is not fertilized or because the zygote fails to embed itself in the endometrium. As menstruation ends, a new cycle begins. The hypothalamus sends the GnRH to the pituitary gland. This gland then releases the FSH to the ovaries so that estrogen can be produced. So much FSH is produced that the growth of follicles in the ovaries is stimulated each month. But only one follicle, the graafian follicle, produces the ovum that will travel through the fallopian tube to the uterus. During the follicular phase, estrogen is being produced, stimulating the growth of the uterine lining so that it forms a suitable environment in which the zygote can implant itself. Estrogen is produced by the graafian follicle contained in the ovary which will ovulate that particular menstrual cycle. By the last day of the late follicular phase, estrogen production peaks. The pituitary gland responds to this estrogen peak by releasing luteinizing hormone (LH) and stopping FSH (Lahmeyer, 1984; Sanders et al., 1983; Steiner & Carroll, 1977; White, 1985).
Luteal Phase

The LH surge makes the graafian follicle rupture, thereby releasing a mature egg. A mature egg is produced in approximately one week and when it is released, ovulation has occurred, thereby marking the beginning of the second stage, the luteal phase. This phase is usually regarded as being the 14 days prior to menstruation. This is because it takes 14 days for the ovum to travel from the ovary to the interior of the uterus. During the luteal phase, the emptied graafian follicle becomes the corpus luteum, a temporary body which secretes the hormone, progesterone. Progesterone is secreted in increasing amounts for approximately seven days following ovulation. A woman's body temperature rises slightly and stays elevated for the duration of the mid-luteal phase if progesterone is produced in sufficient quantities.

As mentioned above, estrogen peaks in the late follicular phase. After ovulation, the concentration of estrogen falls, then rises until it peaks again in the mid-luteal phase. This post-ovulatory increase in both estrogen and progesterone is necessary to further develop the endometrium for its possible reception of a zygote.

If the ovum is not fertilized, then the corpus luteum secretes less and less amounts of progesterone until it finally stops altogether. The estrogen and progesterone levels fall around day 23 or 24 of the cycle. Menstruation will then follow within a few days.

If a woman conceives, her progesterone will not drop in the late luteal phase as it normally does before menstruation. The corpus luteum will continue to grow and secrete progesterone and estrogen
for the first trimester of pregnancy. The placenta will gradually assume this important role of hormonal production (Lahmeyer, 1984; Sanders et al., 1983; Steiner & Carroll, 1977; White, 1985).

**Menopause**

Every woman eventually experiences menopause, the cessation of menses, either surgically or naturally. The perimenopausal period is the 10- to 15-year period prior to natural menopause when a woman may notice somatic changes, such as irregular menstrual cycles. As the body decreases its production of estrogen, a common somatic change experience, known as the hot flash, may occur. This symptom can occur 4 to 8 years prior to the last menstrual period (LMP), and 89% of women who experience natural menopause will experience this uncomfortable symptom. Menopause has not officially occurred until 12 consecutive, menses-free months have passed since the LMP. If a woman has her uterus and ovaries removed, she is immediately menopausal. Her gynecologist will more than likely prescribe estrogen replacement therapy (ERT) if she is experiencing menopause sooner than she would have naturally, or if her symptoms interfere with her personal and professional life. Women who experience menopause used to be seen in an illness model, as patients who were estrogen deficient. But now this is viewed as a normal stage in a woman's life, and postponing the symptoms that normally accompany menopause by the use of ERT is not necessarily the treatment of choice for all women (Voda & Eliasson, 1983).
Some researchers have suggested that perimenopausal symptoms are, in fact, a continuation of premenstrual syndrome symptoms. A gynecologist may treat this woman as a PMS patient, rather than a perimenopausal patient, to see if her symptomology can be relieved by methods more natural than ERT (Hargrove & Abraham, 1983).
PROPOSED BIOLOGICAL ETIOLOGIES AND TREATMENT

Many theories have been proposed to explain the etiology of PMS. As stated earlier, researchers continue to investigate numerous hypotheses including, but not limited to, how estrogen, progesterone, endogenous opiate peptides, nutrition, prolactin, and prostaglandins may each play a role in why PMS occurs. Several researchers have provided thorough overviews of PMS literature during the past decade (Abplanalp, 1983a; Abraham, 1983b; Dennerstein et al., 1984; Rubinow & Roy-Byrne, 1984; Steiner & Carroll, 1977). Although PMS can occur in the presence of an apparently normal luteal phase (Backstrom et al., 1983), biological theories of the causes of PMS center around this stage of the menstrual cycle since the follicular stage is symptom-free for PMS patients.

All authorities agree that prior to any treatment, a woman should have a complete physical examination by a qualified gynecologist. This is an essential step in the diagnosis of PMS. The gynecologist should perform a pelvic examination to look for any evidence of ovarian cysts, uterine fibroids, pelvic inflammatory disease, and endometriosis. Any one of these can cause symptoms similar to those associated with PMS (Laughlin & Johnson, 1984). He/she should also perform a breast examination to check for any suspicious mass, fibrocystic breast disease, tenderness, and galactorrhea, a continued and excessive flow of breast milk.
Although their value is controversial, serum laboratory tests can be useful. They include, but are not limited to, FSH, LH, estradiol, prolactin, and progesterone levels. If blood serum levels are taken, they should be obtained in the mid-luteal or late luteal phase. The doctor may also order a complete blood count (CBC), a Papincalaou (pap smear), testosterone level, dehydroepiandrosterone sulfate levels, and dexamethasone suppression test (Lauglin & Johnson, 1984). Because of the importance of ruling out other endocrinological disorders, a thyroid check is critical (Leibmann-Smith, 1985; Wilhelm-Hass, 1984). Some women with PMS symptomology may, in fact, be suffering from a thyroid problem (Labrum, 1983). It has been estimated that as many as 67% of all PMS cases may implicate the thyroid (Leibmann-Smith, 1985).

**Estrogen and Progesterone**

Perhaps the most familiar name associated with PMS is that of Dr. Katharina Dalton. She continues to be the foremost proponent of natural progesterone therapy, and has administered it in her native England for many years. Dalton reports that she has successfully treated PMS patients who suffer from irritability, anger, and hostility. She believes that the women who experience these symptoms have insufficient amounts of progesterone and excessive amounts of estrogen during the luteal phase of the menstrual cycle. It has also been theorized that the symptom of hostility may be the result of unopposed testosterone during the late luteal phase, when progesterone and estrogen production abruptly diminishes (Kaplan, 1984). Although Dalton's successes have not been duplicated in double-blind studies,
it is well-known that literally thousands of women have been reportedly helped by her treatment (Budoff, 1983; Chakmakjian, 1983; Lauersen & Stukane, 1983; Wilson, 1984). Natural progesterone therapy has not helped women whose primary symptom is depression. This is probably because these patients do not have significantly deficient plasma progesterone levels during the late luteal phase (Steiner & Carroll, 1977).

Because it has to bypass the digestive tract, progesterone must be administered in a starter dose of 400 mg. by vaginal or rectal suppository or 50 mg. by intramuscular injection, on a daily basis during the entire luteal phase (Budoff, 1983). The dosage is increased after the first cycle until a therapeutic level is found. The therapeutic dose is continued for three months before any attempt at a reduction is made. Some patients may need this treatment for only a few months, while others may require its continuance until menopause.

Although there is almost no chance of overdose with progesterone (Norris, 1983), it can produce some mild side effects such as a diuretic effect, yeast infection, vaginal swelling, mild depression, headache, exhaustion, uterine bleeding, and lightheadedness (Hamilton et al., 1984; Wilson, 1984). Progesterone is expensive and not routinely available in the United States, and has yet to be approved for the treatment of PMS by the Food and Drug Administration (Norris, 1983). Because it cannot be patented (Lauersen & Stukane, 1983), it is unprofitable for the pharmaceutical industry to market progesterone suppositories (White, 1985). Progesterone is available in powder form
and a pharmacist can legally use it with other chemicals to make suppositories, although this is usually expensive. Nevertheless, it is an option for women, and some have taken advantage of it to relieve their PMS symptoms.

Because estrogen binds salt and salt binds water, it has been theorized that women who suffer cranial dilation resulting in premenstrual migraine headaches may have an excessive amount of estrogen. Estrogen appears to induce salt and fluid retention by increasing mineralocorticoid levels (Shangold, 1983). Although controversial because of their adverse side effects, diuretics have relieved symptoms of fluid retention. The administration of 25 mg. of spironolactone, four times a day during the luteal phase, is an effective treatment which, in some studies, has proved to be superior to placebo (Shangold & Shangold, 1984).

Progesterone is a depressant of the central nervous system and the balance of estrogen and progesterone has a profound effect on mood (Abraham, 1982). If progesterone is too high in relation to estrogen during the luteal phase, the patient may exhibit clinical depression. Therapy must be individualized according to the results of a serum evaluation as detailed above, but in general, small doses of estrogen help to relieve this patient's symptoms (Chakmakjian, 1983). It is critical to assess whether or not depression is occurring alone or in conjunction with premenstrual anxiety and tension if the client is to receive adequate treatment. As stated earlier, the percentage of the female population which is effected by severe premenstrual symptoms,
such as depression, is perhaps 3% to 5%, or five to six million women (Labrum, 1983). It is this specific group of women for whom medical intervention is probably most critical, due to the severity of their symptomology and possible harmful consequences to themselves and/or others (Norris, 1983).

If a woman's presenting problems include fatigue, constipation, abdominal pain, and a history of vaginal infections, the doctor may want to refer her to an allergist for a candida albicans evaluation. The growth of candida is promoted by the increased production of progesterone in the luteal phase, and such a disorder is often exacerbated by oral contraception which contains synthetic progesterone (Crook, 1983).

**Endogenous Opiate Peptides**

Endogenous opiate peptides, more commonly known as endorphins, are most active during the mid-luteal phase. The stimulus for that activity is theorized to be the luteal phase increase in estrogen and/or progesterone production. It is believed that endorphins control levels of prolactin, vasopressin, and prostaglandins. The increased endorphin activity of the mid-luteal phase may cause mood change, thirst, increase in appetite, mastydonia, and edema. Other PMS symptoms of anxiety, tension, and hostility may be the result of the abrupt decrease in endorphin production during the late luteal phase (Laughlin & Johnson, 1984). This occurs at the same time the production of estrogen and progesterone has dropped dramatically.
Pyridoxine Deficiency and Nutrition

Excess of estrogen may also be caused by the liver's inability to deactivate the estrogen because of a B vitamin or pyridoxine deficiency (Abraham, 1982; Chakmakjian, 1983; Laughlin & Johnson, 1984). Abraham believes that almost all PMS patients experience significant symptom improvement when vitamin B6 and magnesium supplements are added to the diet (Chakmakjian, 1983). In general, PMS patients are known to consume more refined sugar, refined carbohydrates, dairy products, and have lowered red-cell magnesium levels, while women who do not have PMS consume more B vitamins, iron, zinc, and manganese (Goei & Abraham, 1983).

Pyridoxine acts as a coenzyme in the biosynthesis of dopamine and serotonin from tryptophan. This theory of etiology, involving hepatic enzymes, metabolism, and pyridoxine, may play a part in premenstrual depression and irritability. PMS patients with edema, headaches, food cravings, depression, mood swings, and irritability are usually given 50-300 mg. of vitamin B6 per day in three doses during the luteal phase (Ahlgrimm, 1985). However, this treatment is not recommended without a daily dosage of 100 mg. of B complex vitamins all cycle long.

Pyridoxine is inexpensive and readily available over the counter. Adverse side effects are possible with excessive ingestion (Ahlgrimm, 1985; Shangold, 1983), but such an overdose is easily avoided. Magnesium supplements must be added simultaneously at half the dosage of calcium supplements (Abraham, 1982; Lauersen & Stukane, 1983).
The magnesium-pyridoxine deficiency theory of PMS has met with the greatest success of all PMS treatments for the vast majority of patients who suffer with mild to moderate symptoms. In every symptom complex of PMS, symptoms have been relieved by this treatment plan to some extent, and proven superior to placebo (Chakmakjian, 1983). Other dietetic recommendations common in the literature are (1) limiting the intake of dairy products to two servings per day, (2) limiting alcohol intake to one ounce per day, (3) eliminating all methylxanthine-containing substances, (4) following a low-sodium/low-refined sugar/high-complex carbohydrate diet, and (5) eating small, frequent meals rather than three large meals per day (Abraham, 1983b; Budoff, 1983; Lauersen & Stukane, 1983).

Deficiency of prostaglandin E (PGE), zinc, and vitamins B and C probably plays a major role in the experience of premenstrual food cravings, headaches, binging, palpitations, and fatigue (Wilson, 1984). Normally, PGE suppresses the body's insulin response to sugar and minimizes nervous responses to the lowered blood sugar. But if PGE is deficient, a woman will experience tension and anxiety. During the late luteal phase, a woman's body is more responsive to insulin. Eating an excess of refined carbohydrates can trigger an insulin release. Insulin prevents the kidneys from excreting salt, thereby aggravating the premenstrual fluid retention problem. Highly refined sugar forces tryptophan into the brain where it is converted into serotonin. Too much serotonin causes palpitation and drowsiness.
Refined sugar triggers insulin release, but in excess of what is actually needed by the body (Abraham, 1983b; Lauersen & Stukane, 1983).

If a woman waits too long between eating meals, her blood sugar may drop, possibly involving a deficiency of PGE. She may binge as a result of her premenstrual tension and as a solution to her resultant fatigue; hence, the vicious cycle. Some patients specifically crave chocolate during the luteal phase. Not only does chocolate contain methylxanthine, but it is rich in magnesium, leading some theorists to believe that this is the body's way of compensating for the deficiency in magnesium (Labrum, 1983). It is also rich in phenylethylamine, a substance similar to dopamine (Abraham, 1982). When PMS patients are educated as to this pattern and its biological causes, they are more likely to be able to limit their intake of refined sugar and refined carbohydrates and to make the other necessary changes in their diet.

Women who experience breast symptomology have been helped by 600 units per day of vitamin E and the elimination of all methylxanthines (Abraham, 1983b). These two treatments are commonly used for patients with fibrocystic breast disease, another condition which worsens in the luteal phase (London et al., 1983).

Another contributor to vitamin B6 and magnesium deficiencies is the oral contraceptive pill (Wilhelm-Hass, 1984). A synthetic progesterone, or progestin, is used instead of the natural hormone when manufacturing the Pill. Progestins are either useless in the treatment of PMS (Chakmakjian, 1983), or they make the the patient's
symptoms worse (Clare, 1979; Dennerstein et al., 1984). Therefore, the Pill is seldom used as a treatment for PMS.

Some women who fail to respond to progesterone or pyridoxine therapy have experienced relief of their PMS symptoms when placed on a dietary supplement containing a rare, essential fatty acid, gamma-linoleic acid (GLA), found in evening primrose oil (Chakmakjian, 1983; Labrum, 1983). So many factors interfere with the conversion of this essential fatty acid, such as stress and a high-sugar/high-carbohydrate diet, that very high doses may be required (Horrobin & Phil, 1983). It is especially effective for depression, irritability, breast symptoms, and fluid retention, and has been validated by three double-blind, placebo controlled studies (Horrobin & Phil, 1983).

Prolactin

PMS may be caused in part by the body's inability to regulate the hormone, prolactin (Chakmakjian, 1983). This hormone is produced throughout the menstrual cycle. But it is during the luteal phase, rather than the follicular phase, where much more variability exists in plasma prolactin levels (Steiner & Carroll, 1977). Bromocriptine, a potent prolactin antagonist manufactured by Sandoz, Inc., suppresses the secretion of prolactin from the anterior pituitary (Steiner & Carroll, 1977). In patients where 2.5 mg. of bromocriptine was given two times daily during the luteal phase, symptoms such as mastydonia, edema, weight gain, and mood disturbance were relieved (Budoff, 1983; Chakmakjian, 1983). Although there are possible adverse side effects,
bromocriptine has been shown to be superior to placebo and is therefore a valuable option for women (Shangold & Shangold, 1984).

Gynecologists should consider PMS treatment for patients who have fertility problems associated with hyperprolactinemia (Labrum, 1983). A patient who has hyperprolactinemia has increased levels of prolactin in her blood, which may lead to galactorrhea. In men, it has been associated with impotence. It is often, but not always, associated with microadenoma of the anterior pituitary. In one exciting study, the nutritional treatment approach to PMS was given to infertile women with PMS symptomology. These patients experienced relief of their symptoms and the conception rate for the group became 86% (Hargrove & Abraham, 1983).

Prostaglandins

Prolactin is the precursor to prostaglandins, chemicals which are produced throughout the brain, breasts, gastrointestinal tract, kidneys, and reproductive tract. These substances are produced when unsaturated fats in the diet are altered by enzymatic reactions. Many PMS clients experience fluid retention, breast tenderness, joint pain, and migraine. Women with dysmenorrhea have proven to have elevated prostaglandins. For the past ten years, anti-prostaglandins such as motrin, ponstel, naprosyn, and anaprox, have been used to inhibit the synthesis of prostaglandins in order to control dysmenorrhea. Researchers have found that in most cases, the symptoms of prostaglandin excess resemble those of PMS and several studies indicate that the PMS symptoms mentioned above decrease with these medications (Budoff, 1983).
In the past, women often chose not to report their premenstrual symptoms, and those who did seek assistance from their doctors were often thought to be emotionally unstable or irrational (Laughlin & Johnson, 1984). Early psychological theorizing regarding PMS focused on psychodynamic constructs. For example, some psychodynamic theorists have postulated that psycho-social factors precipitate PMS (Budoff, 1983). Such factors include anxiety regarding motherhood (Bernsted et al., 1984; Wilson, 1984), negative attitudes toward female genitalia and menses (Bernsted et al., 1984; Budoff, 1983), unacceptable feelings due to the lack of control over menstruation (Bernsted et al., 1984; Wilson, 1984), guilt feelings about sex (Wilson, 1984), neuroticism (Dennerstein et al., 1984; Wilson, 1984), poor marital and sexual adjustment (Budoff, 1983; Wilson, 1984), and self-esteem problems related to the acceptance of the "feminine role" (Dennerstein et al., 1984). One researcher believes that these theorists have exaggerated the determinative effect that socialization has on experience (Koeske, 1983).

PMS symptomology has been interpreted as evidence for a distinct psychologic cycle, in addition to a physiologic cycle. Psychodynamic explanations for such a cycle include (1) an impoverished ego due to either (a) a "yearning for love" and a "state of helpless defenselessness" or (b) an angry defense to the "anticipation of attack and
feelings of vulnerability", or (2) conflicting psychodynamic tendencies involving problems from early infancy, especially as they relate to identification with the mother (Bernsted et al., 1984).

An attribution theory has also been proposed connecting negative mood swings to the approach of menses. For example, one researcher studied two groups which were at the same phase of their menstrual cycles. The researcher found that subjects who were led to believe that menstruation would begin in one or two days reported a higher degree of distressing symptoms than those women who thought they were intermenstrual (Dennerstein et al., 1984).

Some personality theorists have studied PMS in relation to personality type. They concluded that the PMS client is often unstable, suspicious, prone to guilt, apprehensive, tense, and unable to effectively cope (Dennerstein et al., 1984). It is important to remember that whether such factors are the cause or the result of PMS was not discernable (Dennerstein et al., 1984), and that formal psychotherapy has not proven to be useful in the treatment of PMS (Laughlin & Johnson, 1984).

Current research supports the theory that the physiological symptoms in women who suffer from PMS are, in all probability, the primary symptoms, and that the emotional and behavioral symptoms are secondary, as a consequence of the biochemical changes that occur during the hormonal fluctuations of the menstrual cycle (Chakmakjian, 1983). The psychological components may occur with or without the somatic changes which take place during the premenstruum, or luteal
phase (Abplanalp, 1983b). As we have seen, the literature contains a wide variety of reports of luteal phase changes in mood states, behaviors, and sexual feelings. In their practices, clinicians have found severe depression, uncontrollable irritability, and extreme hostility, symptoms which can be so severe that these patients are more likely to attempt and succeed at suicide, abuse their spouses and children, have alcoholic bouts, and worsen or decompensate if they are already suffering from an affective disorder or schizophrenia (Budoff, 1983; Dennerstein et al., 1984; Greenfield & Wolf, 1983; Lahmeyer, 1984; Steiner & Carroll, 1977).

It has been well documented that both psychiatric emergencies and psychiatric hospitalizations occur more frequently during the premenstruum (Clare, 1983; Dennerstein et al., 1984). Although these are the very women who are most in need, the current knowledge about etiology and treatment is inadequate to completely help them (Abplanalp, 1983b). Oftentimes, the PMS client will first approach the psychotherapist for help, concerned that her symptoms are "all in her head" or because her doctor has failed to properly evaluate her PMS disorder (Greenfield & Wolf, 1983; Norris, 1983). In one study, 50% had first received traditional psychotherapy prior to learning they were actually suffering from PMS (Norris, 1983).

**Affective Disorders**

Premenstrual symptoms usually exist without the presence of an affective disorder. But if a woman clearly evidences psychopathology, she is at risk for more frequent, more severe, and more diverse
episodes of PMS symptomology (Lahmeyer, 1984; Steiner & Carroll, 1977). She also probably has a somewhat greater risk for premenstrual affective symptoms (Hamilton, 1984). It has been reported that patients with a history of affective disorders were much more likely to experience not only premenstrual depression, but also more somatic symptoms than nonpatients (Lahmeyer, 1984).

Depression

Depressed patients undergo psychiatric admissions more often during the paramenstrual period of late luteal phase and menses. One study found that 69% of the depressed patients were admitted during this phase (Dennerstein et al., 1984). The actual depressive episode may be brief, lasting only a few days and then relieved by the onset of menstruation, but the episode may be so deep as to reach a suicidal level or temporary psychosis (Steiner & Carroll, 1977).

If a client already suffers from chronic depression, her depression might worsen premenstrually (Rubinow & Roy-Byrne, 1984). Symptoms during the menstrual cycle can include anhedonia, loss of libido, change in appetite, sleep problems, and suicidal ideation. Anti-depressant medication is often helpful (Labrum, 1983).

An increase in libido is often a symptom of premenstrual syndrome. If a woman experiences depression, whether or not PMS is involved, she may also experience a decrease in libido. Special notice should be given to this symptom of change in libido, since an increased libido in the luteal phase might help to differentiate PMS from a depressive disorder (Norris, 1983).
Postpartum Depression

Because of the female preponderance for depression, the correlation between PMS and depression is of special significance (Hamilton et al., 1984). PMS is usually triggered by a major hormonal change, such as pregnancy, and it has been estimated that as many as 90% of all women who experience postpartum depression eventually become sufferers of premenstrual syndrome (Lauersen & Stukane, 1983).

Manic-Depressive Illness

Before diagnosing a client as having manic-depressive illness, it is critical to check for a possible cyclic pattern in symptomology that may relate to her menstrual cycle. The change from depression to mania may occur between the last day of the luteal phase and the first day of menstruation, giving the clinician the impression that the client has "returned to normal" when, in fact, her PMS symptoms have actually been relieved by the onset of menses. Therefore, it is necessary to ascertain a detailed history to see if previous highs and lows have been related to the menstrual cycle (Labrum, 1983).

On one occasion, lithium carbonate was successfully used as the treatment for PMS (DeLeon-Jones, Val, & Herts, 1982). However, it is not usually recommended for the treatment of PMS since most studies show no significant statistical difference between lithium and placebo, and because of the adverse side effects (Chakmakjian, 1983).
Schizophrenic Disorders

Several studies have shown that patients with schizophrenic disorders experience a psychiatric admission rate increase during the luteal phase, again demonstrating their increased risk for the exacerbation of PMS symptoms if psychopathology exists (Dennerstein et al., 1984; Lahmeyer, 1984). Women with schizophrenia often decompensate premenstrually (Labrum, 1983). A woman who has PMS without a schizophrenic disorder may experience feelings of paranoia, but will not typically experience visual or auditory hallucinations or the feeling that someone or something is controlling her (Labrum, 1983). In order to make this important differential diagnosis, the clinician might employ either all or part of the Minnesota Multiphasic Personality Inventory (MMPI) in conjunction with his/her psychiatric evaluation (Laughlin & Johnson, 1984; Sampson & Prescott, 1981).

The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, commonly known as DSM-III, has no current classification of psychiatric disorders for psychosis, affective disorder, or personality disorder occurring in relationship to menses (Dennerstein et al., 1984). If the clinician is unaware of the cyclic nature of the client's symptomology, he/she may mistakenly diagnose Generalized Anxiety Disorder (300.02), Cyclothymic Disorder (301.13), Dysthymic Disorder (300.40), or Brief Reactive Psychosis (298.80) (Backstrom et al., 1982; Greenfield & Wolf, 1983). It is of critical importance that we study PMS through research which focuses on the role of neurotransmitters and neuromodulators believed to regulate affective
disorders. Affective disorders and PMS both have unknown biochemical etiologies, but the technology for understanding the biochemical parameters of mood states is fairly advanced in comparison to the current state of knowledge regarding the etiology of PMS (Janowsky, 1985).
COUNSELING STRATEGIES

The importance of supportive counseling for the PMS client should not be underestimated. The psychological, not the physical, symptoms usually create the greater difficulty for the PMS sufferer and her family (Wilhelm-Hass, 1984). The mental health professional needs to set up two screening appointments in order to evaluate a woman who may have premenstrual syndrome.

The initial visit should occur during the follicular phase and the second should be during the luteal phase (Wilhelm-Hass, 1984). Presumably, the client will be asymptomatic during her initial visit. At this visit, the client should be allowed to ventilate her feelings and frustrations regarding her symptoms and their ramifications. The trusting relationship desired between the psychotherapist and client must begin with the therapist's acknowledgment of PMS as a real disorder that is biochemical in origin and not psychosomatic (Clare, 1983; Wilson, 1984). Education about the hormonal changes in the menstrual cycle and the characteristics of PMS are extremely important, and ample time should be allowed to answer questions and to provide the client with the PMS Reading List (see Appendix II). At the end of the session, the PMS Assessment Questionnaire (PAQ) should be filled out by the clinician in the ongoing interview (see Appendix II). This affords the client an opportunity to describe in detail her unique symptomology.
During this initial visit, the client should be instructed as to how and why she needs to complete the Basal Body Temperature Report (BBT) and the Menstrual Symptoms Calendar (MSC) (see Appendix II). These measures help the client to understand the cyclic nature of PMS and provide an opportunity for her to be involved in her own treatment (Wilson, 1984). She should be instructed to bring them with her on her next scheduled visit.

At the second interview, the psychotherapist and client should review the MSC and BBT together. Since a minimum of two menstrual cycles will not have elapsed between the first and second appointments, the clinician should use this visit, and perhaps the next, to listen to and reflect for the client, rather than diagnose. She should be instructed to continue charting her temperature and symptoms for at least two, and preferably three, menstrual cycles.

When two cycles have passed, the psychotherapist and the client need to review the charts together to determine whether or not her symptoms actually coincide with her luteal phase (Wilhelm-Hass, 1984). If it does not appear that she has PMS, the psychotherapist needs to confront his/her client. Hopefully, she will understand and accept the alternative diagnosis and reasons why she does not have PMS. If so, she may be ready and willing to work on the psychological issues that are creating problems for her.

If she does appear to have PMS, she needs an immediate referral to a gynecologist for a complete examination. It is important to prospectively, rather than retrospectively, confirm the existence of a
a client's PMS prior to her beginning a treatment program (Rubinow, Roy-Byrne, Hoban, Gold, & Post, 1984). As a supportive measure, the therapist should send a written report with her BBT and MSC to the doctor prior to her appointment. From here on, it is advantageous for all concerned if the physician and mental health professional work together.

While the client is being seen by her gynecologist, a psychotherapeutic treatment plan should be decided upon. If her symptoms are mild to moderate, she can be educated as to the dietetic and lifestyle changes which hopefully her gynecologist has already recommended for the relief of her symptoms. Exercise reduces stress which is known to exacerbate PMS symptoms (Lauersen & Stukane, 1983; Shangold, 1983). Outdoor exercise is preferable to indoor exercise for the relief of PMS (Abraham, 1982).

If, however, the client presents an emergency situation in which she (1) is a danger to herself or others, (2) is having or is about to have an alcoholic bout, or (3) is experiencing a psychotic episode, then clearly the situation demands more immediate treatment than what has been outlined above. The mental health professional should contact a gynecologist knowledgeable about PMS and/or a psychiatrist before dismissing the client if appropriate.

The best treatment for the majority of PMS sufferers appears to be supportive counseling with the nutritional/exercise approach outlined earlier (Norris, 1983; Wilhelm-Hass, 1984). PMS clinics have begun to spring up around the country, with the first clinic opening in Boston.
in 1979. The number of clinics currently functioning is inadequate to meet the demand (Greenfield & Wolf, 1983; Rubinow, Roy-Byrne, Hoban, Gold, & Post, 1984). But the alternative is for mental health professionals to educate themselves and work directly with the medical profession.

Because PMS varies so much from woman to woman, an individualized treatment approach is necessary (Abplanalp, 1983b). A woman may need relaxation techniques, crisis-counseling, individual short-term psychotherapy, marital or couple counseling, family therapy, a PMS support group, or a combination of these therapeutic options.

**Individual Psychotherapy**

A woman suffering from premenstrual syndrome may feel guilt and depression for past behaviors during her premenstruum. She may be suffering from shame and self-esteem problems after months or even years of self-deprecation and degradation as a result of not having received treatment for her PMS symptoms. She may feel inadequate and/or helpless in her personal and professional roles, and may be concerned that her behavior has hurt her children (Greenfield & Wolf, 1983).

Control is an issue if the woman feels that her PMS governs her whole life. She needs to be made aware that actually her symptoms only occur two weeks or less each month, and that she will feel more in control again with the appropriate treatment (Hamilton et al., 1984).

Typically, women have been viewed as manipulative if, in fact, they are able to contain their anger three weeks out of four every month,
then seeming to let go of this control (Hamilton et al., 1984; Lahmeyer, 1984). Women have been socialized to withhold expressions of anger, and when they find themselves unable to continue doing so, they then have to deal with feelings of guilt, denial, egodystonia, and perhaps even more anger.

If she has been abusing alcohol or drugs to alleviate her symptoms, she may suffer decreased coordination, poor judgment, disorganization, and poor attention span (Greenfield & Wolf, 1983). It has been estimated that there are two million alcoholic women in the reproductive age group in America. Sixty-seven per cent of alcoholic women related their drinking to the menstrual cycle, drinking to relieve their premenstrual tension and anxiety, in one study (Labrum, 1983). One of the primary therapeutic goals for these women has to be sobriety, and Alcoholics Anonymous or a PMS support group may help to bring about this change.

Other goals in therapy should include coping strategies, improved job satisfaction, assertiveness training, ways to reduce stress, and strategies for avoiding potential problems at home and on the job during the premenstruum. The mental health professional should provide support in all aspects of the client's treatment plan.

**Marital and Family Therapy**

Support from family members is crucial in helping the client to maintain her place in the family structure. Her self-worth may have been diminished if her behavior caused her shame or remorse. During the premenstruum, she may be explosive, critical, and unreasonable.
It may no longer be easy for her to trust others or share confidences (Long, 1985).

Education for the family members is important for her and them, so that they can understand what she is going through (Ahlgrimm, 1985). The family can be active in treatment by cooperating to devise a coping strategy which can be put into effect premenstrually. This safety net strategy should be tailored to the needs and strengths of the client and her family. The family should be able to depend on the ingenuity and skills of the psychotherapist to devise such a plan.

Control is an issue here also because her husband may feel that her symptoms control the marital relationship and/or the family dynamics, or because he may want his wife "controlled" by medication (Clare, 1983; Hamilton et al., 1984). Infertility problems exacerbated by PMS may be an issue in marital or couple therapy. The psychotherapist needs to assess the different familial relationships, the relationships with friends and neighbors, and professional relationships.

**Support Groups**

The group therapy forum provides a unique, therapeutic experience for the PMS client. These women can validate their feelings and the feelings of others by sharing their experiences. Information about the etiologies and treatments of PMS can also be shared during these group meetings. Feelings such as grief, guilt, remorse, anger, and inadequacy can all be dealt with in the confines of an understanding group setting. Women can support each other in their nutritional and exercise treatment plans, and deal collectively with the issue of control (Koeske, 1983).
IMPLICATIONS FOR FURTHER RESEARCH

Further studies dealing with the causes and treatments of PMS need to address previous methodological problems. Some of these methodologic flaws are reviewed here.

**Definition**

Problems include the lack of a consensus among researchers and clinicians concerning the combination and variety of symptoms, criteria for subject selection, and relationship of psychiatric disorders. The number, variety, severity, and duration of symptoms vary widely among studies, subjects, and cycles (Abplanalp, 1983a). They can also differ within the same woman (Abplanalp, 1983a; Backstrom et al., 1983). The time of onset and course of symptomology is variable in the literature, even to the degree that different researchers define "premenstrual" and "syndrome" differently (Abplanalp, 1983a). It is interesting to note that one estimate indicates that only 20% of women menstruate "regularly" (Lahmeyer, 1984).

Because of the absence of an agreed-upon definition for PMS, experimental designs are often the result of the researchers' philosophies. This constancy criteria for subject selection and method needs to be employed across studies (Abplanalp, 1983a).
Retrospective Versus Prospective Symptom Rating

Several studies discuss the problems encountered when research subjects report their premenstrual symptoms retrospectively rather than prospectively. The retrospective method has been found to compromise the PMS literature because such ratings are inaccurate by tending to overestimate the symptoms experienced (Golub, 1984; Harrison et al., 1984; Janowsky, 1985; Lahmeyer, 1984; Rubinow, Roy-Byrne, Hoban, Gold, & Post, 1984; Sampson & Prescott, 1981; Sanders et al., 1983; Wilhelm-Hass, 1984). The recent development of a daily, longitudinal rating scale has addressed this problem with some success (Rubinow, Roy-Byrne, Hoban, Gold, & Post, 1984). The graphing of daily, prospective ratings with visual analogue scale scores has proven useful for several reasons, such as simplicity and the allowance of the evaluation of severity as it relates to menses, but most importantly because it meets the proposed National Institute of Mental Health (NIMH) criteria for the diagnosis of PMS (Hamilton et al., 1984). The 1983 NIMH conference specifically recommended that researchers demonstrate their subjects as having (1) a marked change of about 30% in the intensity of symptoms measured intermenstrually, from cycle days 5 - 10, as compared to that premenstrually, during the six-day interval prior to menses, and (2) the recording of these changes for at least two consecutive menstrual cycles (Hamilton et al., 1984).

Placebo Effect

Oftentimes, placebo-controlled trials have been lacking, or if utilized, have either failed to show a significant statistical
difference or evidenced placebo to be just as effective or even more effective than the treatment on trial (Abplanalp, 1983a; Abplanalp, 1983b; Harrison et al., 1984; Janowsky, 1985). The wide range of placebo response, estimated to be between 30% and 80% depending upon (1) the treatment being tested and (2) variable results among studies, has been blamed for the pessimistic attitude about the ability to demonstrate the efficacy of drug therapy, thereby creating a decline of interest in PMS research (Harrison et al., 1984).

**Treatment**

It has been recommended that future studies be well controlled and double-blind because the majority of PMS treatment studies have involved open, uncontrolled trials which exclude the accurate evaluation of the therapy being considered (Abplanalp, 1983a; Chakmakjian, 1983). The high placebo response is another reason for better controlled studies (Chakmakjian, 1983). The absence of replication in studies is also frequently found (Sommer, 1983).

**Subject Selection**

There needs to be an adequate number of participants and the duration of the study needs to be long enough to validate the efficacy of the treatment on trial (Chakmakjian, 1983; Sampson & Prescott, 1981). The populations sometimes employed for empirical studies have been too young (Slade, 1984). This error not only invalidates the study, but also has implications in the determination of an operational definition of PMS (Golub, 1984).
Phase Designation

It has been suggested that the Society for Menstrual Cycle Research, endorsed by Division 35 (Psychology of Women) of the American Psychological Association (APA) (Koeske, 1983), establish guidelines for the designation of menstrual phases (Sommer, 1983). Such a determination would decrease the large selection of phase specification currently found in the research, and provide for more homogenous results in accordance with generally accepted guidelines (Chakmakjian, 1983; Sanders et al., 1983; Sommer, 1983).

Nonsexist Research

Gender-based biases have effected the way some menstrual cycle research has been designed, evaluated, labeled, and utilized. One researcher strongly emphasizes the need for a feminist perspective when studying the menstrual cycle (Koeske, 1983). She notes that Guidelines for Nonsexist Research was endorsed by the APA in December of 1981, and that the document was the result of two years of work done by a national task force of psychologists (Koeske, 1983).

Cycle Research

One study suggests that future research include (1) the study of mood changes in the presence of abnormal hormonal cycles, such as an anovular cycle, and during times of change in cyclicity, such as adolescence and the postpartum period following lactation, and (2) the comparison in the same woman of hormonal cycles with and without cyclic mood change (Backstrom et al., 1983). It has been proposed that
biochemical tests with serial hormonal measurements in the control and experimental trials might contribute to the understanding of the pathogenesis of PMS (Chakmakjian, 1983). Further research into the cyclicity of mood in both men and women might also lead to this goal (Golub, 1984; Hamilton, 1984; Shangold & Shangold, 1984).

Finally, recent research indicates the importance of focusing on positive mood which coincides with the estradiol peak during the follicular stage, in contrast to the current practice of focusing on the negative mood during the premenstruum. Such a change of focus might provide a better understanding of the entire scope of mood and the menstrual cycle (Abplanalp, 1983b; Backstrom et al., 1983; Dennerstein et al., 1984; Sanders et al., 1983).
APPENDIX I

TYPICAL MENSTRUAL CYCLE OF A EUMENORRHEIC WOMAN
Typical menstrual cycle of a eumenorrheic woman.

LUTEAL PHASE

(progesterone peak)

mid-luteal

late luteal

menstruation

estradiol rise

progesterone rises

LH peak

FOLLICULAR PHASE

mid-follicular

late follicular

early follicular

(Adapted from Sanders et al., 1983; Steiner & Carroll, 1977)
PMS Reading List

Facts About Dysmenorrhea and Premenstrual Syndrome, a pamphlet from the National Institute of Health. Write to: Office of Research Reporting, NICHD/NIH, Building 31, Room 2A32, 9000 Rockville Pike, Bethesda, MD 20205.


PMS ACCESS Newsletter, available by subscription from PMS Access, P. O. Box 9326, Madison, WI 53715. (Six publications per year cost $15.00)


PMS Resources in Central Florida

The Center for Women's Medicine at Florida Hospital
Florida Medical Plaza/Outpatient Center
Billie Jean Pace, M. D. (Obstetrics/Gynecology)
2501 North Orange Avenue, Suite 340
Orlando, FL 32804
(305) 897-1617

Anne Diebel, Psy. D.
377 Maitland Avenue, Suite 207
Altamonte Springs, FL 32701
(305) 831-5211

Emmy K. Freeman, Ph. D. (Clinical Psychology)
1910 East Hillcrest Street
Orlando, FL 32803
(305) 896-0136

Jeffrey R. Koren, M. D. (Obstetrics/Gynecology)
685 Palm Springs Drive, Suite E
Altamonte Springs, FL 32701
(305) 831-0645

Don Diebel, M. D. (Obstetrics/Gynecology)
Susan Epley, M. D. (Obstetrics/Gynecology)
1551 Clay Street
Winter Park, FL 32789
(305) 644-5371

Robert Oullette, M. D. (Obstetrics/Gynecology)
800 West Plymouth Avenue
DeLand, FL 32720
(904) 736-1404

Samuel S. McClure, M. D. (Psychiatry)
Palm Bay Counseling Center
1520 Bottlebrush Drive, Northeast, Unit #2
Palm Bay, FL 32905
(305) 724-1614
James Harrell, M. D. (Obstetrics/Gynecology)
Larry Holder, M. D. (Obstetrics/Gynecology)
707 Osceola
Stuart, FL 33494
(305) 283-1177

Neil Boland, M. D. (Obstetrics/Gynecology)
314 Hospital Avenue
Stuart, FL 33494
(305) 287-5590

Stephen Coleman, D. O. (Obstetrics/Gynecology)
S. H. E. Center
600 Bypass Drive, Suite 111
Clearwater, FL 33546
(813) 799-3509

Steven Walden, M. D. (Obstetrics/Gynecology)
2817 West Virginia Avenue
Tampa, FL 33607
(813) 870-0286

Albert Cohen, M. D. (Obstetrics/Gynecology)
2708 Azeele
Tampa, FL 33609
(813) 872-8376

Beth Benson, M. D. (Obstetrics/Gynecology)
St. Petersburg Woman's Clinic
700 6th Avenue South
St. Petersburg, FL 33701
(813) 896-0051

PMS ACCESS provides a toll free number which can be used to ascertain knowledgeable physicians in your area: 1-800-222-4PMS, Monday - Friday, 9:00 AM - 5:30 PM, Central time.
Instructions for Basal Body Temperature Record (BBT)

1) Insert the date (month/day) at the top of the column.

2) Each morning when you awake, but before you get out of bed, place a basal thermometer under your tongue for two minutes. Lay quietly and do not speak. Do not skip a morning, even during menstruation. (If you forget one morning, do not guess. Simply leave that entry blank). Do not eat, drink, or smoke prior to taking your temperature.

3) Record your temperature on the graph.

4) The first day of menstruation is the beginning of your cycle. Note each day of flow by blackening the square on the graph in the column marked "menstruation". Blackened squares should always appear to the far left of your graph.

5) Any medication taken should be noted on the corresponding day.

6) Any reasons for temperature variation (flu, insomnia, head cold, etc.) should be noted on your graph.

7) Using only one graph per cycle, complete three consecutive cycles.
Basal Body Temperature Record

Name: Alice Jones  Age: 35

| Day of cycle | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
|--------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Month / Day  | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| Menstruation |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Medication   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Special note*|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

*Note: I had the flu on November 28 and 29.
F: I forgot to take my temperature on December 5
### Basal Body Temperature Record

| Day of cycle | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
|--------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Month / Day  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Menstruation |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Medication   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Special note*|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

<table>
<thead>
<tr>
<th>Basal Temperature</th>
<th>99.0°F</th>
<th>98.0°F</th>
<th>97.0°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>99.0°F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>98.0°F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>97.0°F</td>
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</tbody>
</table>

*Note:

Name: ____________________________________________

Age: ____________________________________________
Instructions for Menstrual Symptoms Calendar (MSC)

1) At the end of each day, fill in as many symptoms as are applicable that you experienced that day. Please use the MSC Key to note your symptoms.

2) Next to each symptom, please note the intensity of that symptom with an appropriate rating: 1 = mild  
   2 = moderate  
   3 = severe

3) It is very important that you do this each night, and not try to recall your symptoms at a later date.

4) On the days you menstruate, mark an X in the corner of that day. If you experience cramps, backaches, or any other symptom associated with menses, please note.

5) If you take any medication to relieve your symptom(s), please be sure to note the name of the medication and the amount on the appropriate day.

6) If you are taking an oral contraceptive, mark one corner of the day you do so with a ☀

7) It is not necessary for you to wait until the first day of menses to begin the MSC.

8) Keep a MSC for three consecutive months.

NOTE: If you experience symptoms not mentioned in the Key, please write them down and rate them (i.e., worsening of asthma, allergy symptoms, epileptic seizures, heightened sexuality, excitement, fear or feeling of losing control, etc.).
MENSTRUAL SYMPTOMS CALENDAR (KEY)

<table>
<thead>
<tr>
<th>PMS-A</th>
<th>PMS-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 = anxiety</td>
<td>H1 = heavy/bloated feeling</td>
</tr>
<tr>
<td>A2 = irritability</td>
<td>H2 = breast tenderness</td>
</tr>
<tr>
<td>A3 = nervous tension</td>
<td>H3 = backache</td>
</tr>
<tr>
<td>A4 = crying spell</td>
<td>H4 = joint swelling</td>
</tr>
<tr>
<td>A5 = mood swing</td>
<td>H5 = breast congestion</td>
</tr>
<tr>
<td>A6 = acne, cold sores</td>
<td>H6 = sensation of weight gain</td>
</tr>
<tr>
<td></td>
<td>1 = mild</td>
</tr>
<tr>
<td></td>
<td>2 = moderate</td>
</tr>
<tr>
<td></td>
<td>3 = severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PMS-C</th>
<th>PMS-D</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 = craving</td>
<td>D1 = depression</td>
</tr>
<tr>
<td>(food or alcohol)</td>
<td></td>
</tr>
<tr>
<td>C2 = increased appetite</td>
<td>D2 = hostility</td>
</tr>
<tr>
<td>C3 = binging</td>
<td>D3 = lethargy</td>
</tr>
<tr>
<td>C4 = fatigue</td>
<td>D4 = confusion</td>
</tr>
<tr>
<td>C5 = headache</td>
<td>D5 = paranoid ideation</td>
</tr>
<tr>
<td>C6 = palpitations</td>
<td>D6 = suicidal ideation</td>
</tr>
<tr>
<td>C7 = dizziness</td>
<td>D7 = insomnia</td>
</tr>
<tr>
<td>C8 = faintness</td>
<td>D8 = difficulty with verbalization</td>
</tr>
</tbody>
</table>

Adapted from Abraham, 1983b.
<table>
<thead>
<tr>
<th>Week #</th>
<th>Symptoms</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>2</td>
<td>OK</td>
<td>A3=1</td>
</tr>
<tr>
<td>3</td>
<td>C3=2</td>
<td>C1=2</td>
</tr>
<tr>
<td>4</td>
<td>OK</td>
<td>OK</td>
</tr>
</tbody>
</table>

Beginning Date: 3/10/85
Name: Alice Jones
Ending Date: 4/16/85
MENSTRUAL SYMPTOMS CALENDAR  
(MSC)

<table>
<thead>
<tr>
<th>Week #</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#4</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Beginning Date: ___________  
Ending Date: _______________  
Name: ______________________
PMS ASSESSMENT QUESTIONNAIRE*

Date: ______________________

Name: ____________________________________________________________

Address: __________________________________________________________________________

Phone: (day) __________ (evening) __________

age ______ date of birth _______

marital status __________________________

occupation ________________________________

**************************************************************************

Menstrual History

1. When was your first menstrual period?

2. How many days usually pass from the beginning of one period to the beginning of the next?

3. How many days does menstruation usually last?

4. (a) Do you experience cramps with your period? (please check one)

   (1) every period _____ only sometimes _____ never _______

   (2) cramps are mild ______ moderate _____ severe ______

   (b) If you take any medication for cramps, please note the type and the amount here.

   (c) Have you ever been diagnosed as having dysmenorrhea?

*Adapted from the PMS Action, Inc. Assessment Tool (PAAT).
(See Cassara, Virginia).
Pregnancy History

5. Have you ever been pregnant? Yes ____ No ____
   (If your answer is "no", please go on to #9)

6. How many times have you been pregnant? _________

7. What is the number of times you have given birth? _________

8. During your pregnancy (or pregnancies), did you ever experience any of the following: toxemia, postpartum depression, complications? Please elaborate and be as specific as possible as to the first, second, or third trimesters.

9. Have you ever had an abortion? (If so, please give dates).

Oral Contraceptive History

10. Do you take the birth control pill now? Yes ____ No ____

11. Have you ever taken the Pill in the past? Yes ____ No ____
    If yes, please give dates.

12. If you are currently taking the Pill, how long have you been taking it? Please note any times you have gone off the Pill for short periods as per your doctor's recommendation.

13. Was the Pill prescribed for birth control or for PMS symptoms?

14. How did (does) it effect you?

15. If you have stopped taking it, please explain why you decided to stop doing so.

***************************************************************************************
16. Have you ever had any fertility problems? Please explain.

17. Are you now or have you ever been on any time of hormone therapy (other than the Pill)? Please explain.

18. Have you ever undergone gynecological surgery (such as tubal ligation, ovarian cyst, hysterectomy, fallopian tubes, etc.)? Please include dates of surgery and a brief explanation.

If you had a hysterectomy, were both of your ovaries removed?

19. Do you now or have you ever had fibrocystic breast disease?

If so, what treatment was provided? Was it helpful?

20. Have you ever had anorexia nervosa?

21. What has been your highest adult weight (excluding pregnancy)?

    Lowest adult weight?

22. Do you have any allergies? If so, please explain.

23. How often do you have problems, if ever, with vaginitis?
24. Please put a check mark next to any of the following symptoms which is a problem for you during your menstrual cycle. If you know exactly what time of your cycle the symptom most bothers you, please note the information.

- anxiety
- irritability
- nervous tension
- crying spells
- mood swings
- acne, cold sores

- heavy/bloated feeling
- breast tenderness
- backache
- joint swelling
- breast congestion
- sensation of weight gain

- craving of food or alcohol
- increased appetite
- binging
- fatigue
- headache
- palpitations
- dizziness
- faintness

- depression
- hostility
- lethargy
- confusion
- feeling paranoid
- feeling suicidal
- insomnia
- difficulty with verbalization

25. Have you ever done any actual charting of the symptoms to see on which days of your cycle they occur?

If so, how long have you been charting them?
26. Do you think that your premenstrual symptoms effect your personal (family) life? If so, please explain.

27. Do you think that your premenstrual symptoms effect your professional life? If so, please explain.

28. Have your symptoms changed over the years? If so, please explain.

29. When do you think the symptoms first began?

30. Do you feel better when you begin to menstruate? Yes ____ No ____

   If you answered "yes":

   Do your symptoms end gradually ______
   dramatically ______
   with onset of flow ______

31. Is it clear that there is a time during your menstrual cycle when you do not experience PMS symptoms?

   If so, approximately how many days do you experience relief?

33. How have the symptoms effected your sexuality, if at all?

34. Do you experience an increase in libido, a decrease, or no change?

35. Do any other members of your family (mother, sisters, daughters) experience PMS symptomology?

36. Do you abuse alcohol or other drugs? Have you noticed an inability to tolerate alcohol prior to your period?

37. What self-help treatments have you tried and with what success?

38. How successful has your search for professional help been? What specialists have you sought help from and with what results? What, if any, medications were prescribed?

39. Please use this space to explain your daily eating patterns, including caffeine and vitamin intake.
40. Have you ever been treated for a psychiatric illness? If so, please state dates of treatment and types of treatment.

41. Have you ever undergone a psychological or psychiatric evaluation? If so, please state the circumstances under which this was given.

42. Have you ever been hospitalized for a psychiatric illness? If so, please give dates and diagnoses.

43. Have you ever taken medication that was prescribed by a psychiatrist? If so, please state type, amount, and dates of use.

44. Please use this space to explain any other ongoing or previous illnesses or injuries which you believe may be helpful in our understanding of your complete medical history.
REFERENCES


