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Premenstrual Tension Syndrome: Diagnostic Criteria and Selection of Research Subjects

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Abstract. The investigation of premenstrual tension syndrome (PMTS) has been hampered by several methodological problems, particularly an inadequate definition of study subjects. Diagnostic criteria for PMTS that use both interview and self-report information were tested in 24 symptomatic female volunteers. Each woman subsequently completed daily reports of emotional and somatic symptoms for 1½ menstrual cycles. Symptom profiles from subjects meeting the diagnostic criteria for PMTS were compared with profiles from subjects who failed to meet the criteria. This study demonstrated that the diagnostic instruments used could identify a group of women with a severe and time-limited premenstrual psychological disturbance and distinguish them from women with milder and more temporally diffuse changes. The need for such instruments and their importance for further research into this disorder are discussed.

Key Words. Premenstrual tension syndrome (PMTS), diagnostic criteria, psychoneuroendocrinology, self-rating scale for PMTS, menstrual cycle.

Despite increased attention, the premenstrual syndrome (PMS) remains poorly understood. This lack of progress may be partly due to the methodological limitations noted in many studies of PMS (Ruble, 1977; Dennerstein and Burrows, 1979; Abplanalp et al., 1980). In particular, subject selection criteria are commonly vague or too general. A range of physical and emotional disturbances may be noted as present, but the frequency or severity are not specified. Identification of diagnostic features appears to be affected by the method (interview vs. self-report scale) (Haskett et al., 1980) and timing (concurrent vs. retrospective) (May, 1976; Ruble, 1977; Ruble and Brooks-Gunn, 1979) of the clinical evaluation. The temporal limits of the syndrome are often ill-defined, and additional sources of psychopathology may be evident. Subjects with a premenstrual worsening of ongoing difficulties are not distinguished from those with a disorder that is confined to the premenstruum. The consequent heterogeneity of study populations hinders the interpretation of results and limits the generalizability of each investigator's findings.

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The following modifications might improve the selection procedure in PMS research: (1) Exclude women with ongoing physical or psychiatric disorders and obtain prospective and concurrent descriptions of the clinical disturbance. (2) Supplement clinical interviews with concurrent self-report symptom rating scales. (3) Confirm the temporal specificity of the disorder by rating similar symptoms and signs during at least one other phase of the menstrual cycle. (4) Include a global severity factor in the selection criteria as well as specific clinical features.

An earlier report (Steiner et al., 1980) listed operationally defined criteria and a self-rating scale for use in studies of the emotional and behavioral form of PMS called primary recurrent premenstrual tension syndrome (PMTS). This study aimed to test whether these two instruments, the Diagnostic Criteria for PMTS (DC) and the Self-Rating Scale for PMTS (PMRS), could select a subgroup of women with similar, severe psychological and behavioral symptoms in the premenstruum, but with minimal evidence of other psychopathology. A critical question was whether data obtained on only two occasions, from a clinical interview and self-report scale, could distinguish women with relatively "pure" PMTS from those with less severe and more temporally diffuse disturbances. The definition of more homogeneous study populations should then permit the systematic investigation of clinical and psychoendocrine aspects of PMTS in replicable groups of subjects.

Methods

Subject Selection. Newspaper and bulletin board advertisements were used to recruit women complaining of severe emotional and/or physical problems before menses. After an initial telephone screening, suitable volunteers were scheduled for clinical interviews. The visits were scheduled to occur during the follicular and late luteal phases of the menstrual cycle. At the first of these visits, volunteers were familiarized with the data collection procedure. Potential subjects then participated in a semistructured interview in which they were asked about the nature and duration of any menstrual cycle-related symptoms and the amount of associated distress or functional impairment. Each subject also completed the PMRS at each visit. Scores on this form were not revealed to the investigators until data collection for the study was completed. The selection process sometimes extended over two or three cycles because of difficulties in predictably scheduling a premenstrual or late luteal interview. Each woman was evaluated, however, during the follicular phase of the cycle (range 3-13 days after onset of menses) when suitable subjects should have been asymptomatic, as well as during the premenstrual disturbance (range 0-7 days before onset of menses). A third clinical interview was performed during the follicular phase of the subsequent menstrual cycle. This used the Schedule for Affective Disorders and Schizophrenia, Lifetime Version (SADS-L), a structured psychiatric interview (Endicott and Spitzer, 1978) which permitted the systematic assessment of any psychopathology occurring up to the time of the study.

Twenty-four women were selected from 130 respondents to the advertisements. Each successful subject met the selection criteria (Table 1) which, like those in many earlier studies of PMS, included only a global description of the premenstrual disorder. The use of a loosely defined description of premenstrual syndrome was expected to provide a study population of women with a relatively heterogeneous group of disorders. Details of clinical features that were observed or reported at each interview were recorded for later use in the subgrouping of the study population. Individual clinical features were not used as inclusion or exclusion criteria for this study. No distinction was made between the presence of psychological or somatic symptoms, either or both of which could be present. The severity factor in the selection criteria depended upon the reported magnitude of symptoms and not upon the consideration of overall

functional impairment or need for care and treatment. Volunteers were not informed of our selection criteria except to explain their failure to be accepted for the study. Five women were excluded from the study because of current psychiatric disorder.

Table 1. Selection criteria

1. Moderate to severe premenstrual emotional and/or physical symptoms
2. Symptoms occurring in most menstrual cycles
3. Symptoms only during the premenstrual phase and remitting at or shortly after the onset of menses
4. Between 21 and 40 years of age
5. Regular menstrual cycles and not pregnant
6. No hormonal contraception or other medication
7. Does not meet Research Diagnostic Criteria for present major psychiatric disorder

Collection of Daily Symptom Profiles. After successful completion of the selection process, the 24 study subjects completed two self-report questionnaires daily, beginning on day 10 of one cycle (where the onset of menses is day1) and ending on the second day of menses one and a half cycles later. The questionnaires were the Profile of Mood States (POMS) (McNair et al., 1971) and the Somatic-Behavioral-Sexual Symptom Profile (SBS). The POMS is a 65-item mood adjective checklist comprising one positive and five negative mood scales. Each item is scored between 0 (not at all) and 4 (extremely). Normative values for the POMS are available from studies of asymptomatic individuals as well as from psychiatric outpatients. The SBS is a 29-item checklist which includes somatic and behavioral features that have been described in the literature on premenstrual syndrome but not included in the POMS. Sources included the Menstrual Distress Questionnaire (Moos et al., 1969). The scoring system for the SBS is similar to that used for the POMS.

Daily self-rating scores on POMS and SBS provided a detailed concurrent record of subjects' clinical features over the phases of the menstrual cycle. Three 4-day intervals were selected from these symptom profiles to represent critical phases of the menstrual cycle. The *intermenstrual* (follicular) phase was defined as the 4-day interval beginning 3 days after the end of menses. The *premenstrual* phase was defined as the 4 days immediately before the onset of menses. The *menstrual* phase was defined as the 4 days immediately following the first day of menses. For each 4-day interval we calculated a mean daily score for each scale of the POMS (five negative scales and one positive scale) and for each of the five somatic discomfort items on the SBS. Scores from the intermenstrual phase revealed the level of disturbances existing before the onset of PMTS, whereas those from the menstrual phase recorded the degree of resolution of the premenstrual syndrome after the onset of menses. All three phases were needed to demonstrate that these women suffered from a disturbance which clearly turned *on* and *off*.

The availability of daily reports from one and a half cycles permitted a more stringent definition of test intervals than was possible during the evaluation process. Variability in menstrual cycle length, scheduling difficulties, and the retrospective identification of the premenstrual phase ensure that clinical data collected from single outpatient visits cannot be as reliably related to a specific phase of the menstrual cycle as those obtained on a concurrent daily schedule. The acceptance of a broader range of days to define the follicular and premenstual phases of the cycle during subject evaluation is an approximation that commonly occurs when menstrual cycle research is dependent upon data collected from a few scheduled interviews.

Phase-related changes in the daily self-reports were examined in the whole group and compared between subgroups. The latter were formed by retrospectively assessing the data obtained from each study subject during the selection phase. The first subgrouping was based

upon the clinical interview records from this phase. Each woman's record was checked for the presence of all the features necessary to meet DC (Table 2).

Table 2. Primary recurrent premenstrual tension syndrome

This category is applied to female subjects in their fertile years who do not currently meet the criteria for any other psychiatric disorder.

The psychological and behavioral symptoms included in this disorder frequently occur in association with physical premenstrual symptoms, e.g., painful or tender breasts; headaches; swelling of abdomen, breasts, or ankles; water retention; weight gain. These are *not* necessary for the psychiatric diagnosis.

A through D are required.

A. At least 5 of the following are required for definite and 4 for probable as part of a current episode.
1. Irritable, hostile, angry, short-fused.
2. Tense, restless, jittery, upset, high-strung, unable to relax.
3. Decreased efficiency, fatigue.
4. Dysphoric, marked spontaneous emotional lability, crying.
5. Lower motor coordination, clumsy, prone to accidents (e.g., cut finger, break dish).
6. Distractible, confused, forgetful, difficulty with concentration, lowered judgment.
7. Change in eating habits (e.g., craving, overeating).
8. Marked change in libido.

B. Overall disturbance is so severe that at least *one* of the following is present;
1. Serious impairment socially, with family, at home, at school or work.
2. Sought or was referred for help from someone or took medication (especially tranquilizers and/or diuretics) at least once during a premenstrual period.

C. Premenstrual dysphoric symptoms for at least the six preceding menstrual cycles.

D. Symptoms *only* during the premenstrual period with relief soon after onset of menses.

A second subdivision of the subject population used the PMRS scores obtained at follicular and premenstrual visits during the evaluation. The PMRS required Yes/No responses to 32 questions about the presence and severity of emotional/behavioral features of PMTS, including degree of social impairment.[1] When the PMRS was scored, a "Yes" response indicated the presence of a particular feature, scored 1, and a "No" response indicated its absence, scored 0. Although there was no opportunity for a graded response to each item, the scale was designed so that separate items could reflect differing degrees of severity of the same clinical features; e.g., Item #9—Do you feel tense and restless? Item #27—Do you think that your restless behavior is noticeable to others? The total scores on the PMRS should provide a measure of severity of the disturbances as well as the number of clinical changes. Total scores for emotional/behavioral items range from 0 to 32. Arbitrary criterion values were chosen to identify a subgroup of women with no more than occasional mild symptoms in the follicular phase (total score $\leqslant 5$) and a significant degree of disturbance in the premenstruum (total score $\geqslant 14$). Women who met the diagnostic criteria for PMTS *and* whose PMRS scores met the above criteria (total score $\leqslant 5$ and $\geqslant 14$ at follicular and premenstrual visits, respectively) were designated COMB+. The

1. The PMRS also contained four questions about physical symptoms. Responses to these questions were not used in this portion of the study.

remaining women who failed to meet any one of these criteria were assigned to the subgroup COMB- (i.e., COMB = DC + PMRS).

The mean daily scores for each of the six POMS scales and for the five somatic SBS items were examined by a 2 × 3 analysis of variance (ANOVA) of Group by Menstrual cycle phase with repeated measures and a trend analysis. Two separate sets of analyses were performed after the study subjects were divided by the two methods described.

Results

Demographic characteristics of the 24 women included in the study are listed in Table 3. Basal body temperature was recorded daily by each subject, and in 16 women these revealed biphasic profiles suggestive of ovulatory cycles. More definitive indicators of ovulation, such as plasma progesterone levels, were not obtained.

Table 3. Subject characteristics (*n* = 24)

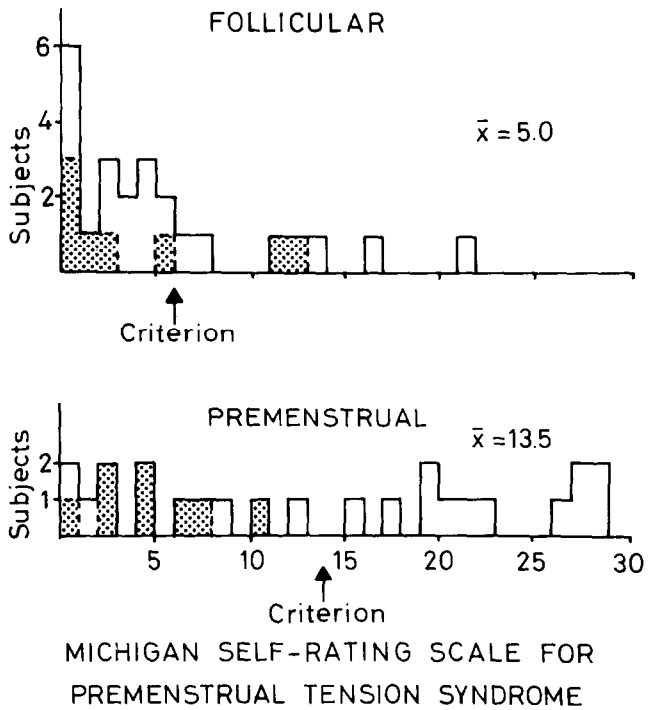
Age	Mean	30.6 years
	Range	22 - 38
Marital status	Married	11
	Divorced	8
	Single	4
	Widowed	1
Pregnancy history	Parous	9
	Abortion	4
	Never pregnant	11
Race	White	21
	Black	3
Menstrual cycle length	Mean	28.2 days
	Range	24 - 46

Diagnostic Criteria for PMTS Based on Interviews (DC). Retrospective evaluation of the clinical interview records obtained during subject selection revealed that only 16 out of the 24 women reported sufficient features to meet diagnostic criteria for PMTS (DC+). Although all subjects suffered from premenstrual symptoms, as defined by the study selection criteria in Table 1, eight failed to meet one or more of the specific criteria necessary for the diagnosis of PMTS (DC-). Five of these women reported only three of the eight categories of emotional and behavioral symptoms, whereas at least five are required. Two women failed to meet the criterion of serious impairment in functioning or need for professional help during the premenstrual syndrome. In one individual, it became apparent during the phase of daily data collection that significant premenstrual distress was only an occasional occurrence.

PMRS Score Criteria at Follicular and Premenstrual Visits. The total scores from the PMRS completed during the selection interviews are presented in Fig. 1. The mean values were 5.0 and 13.5 at the follicular and premenstrual visits, respectively.

The scores of those women who failed to meet the interview diagnostic criteria are identified in the figure.

Fig. 1. Total PMRS scores from 24 women during the follicular and premenstrual phases.



Scores from subjects who failed to meet the diagnostic criteria for PMTS at the interviews are represented by shaded areas.

The eight women who did not meet the Diagnostic Criteria for PMTS (DC-) also failed to meet the PMRS score criteria (DC-, COMB-). Two recorded excessive PMRS scores at the follicular visit, and all recorded a low PMRS score at the premenstrual visit. Another eight women who had reported the clinical features noted in the diagnostic criteria for PMTS failed to score appropriately on the PMRS at either the follicular or premenstrual visit (DC+, COMB-). A total of 16 women were therefore included in the subgroup, COMB-, because of failure to meet either the clinical interview or self-report criteria for PMTS. Only eight subjects met the clinical evaluation diagnostic criteria *and* the PMRS score criteria for PMTS (COMB+).

POMS. One subject did not return her daily symptom reports; she met the diagnostic criteria at interviews, but her premenstrual PMRS score was too low. Table 4 shows

the mean daily scores on the six POMS scales for the subgroups DC+ and DC- during the three menstrual cycle phases. A summary of the results of the two-way ANOVA is also given. Table 5 contains similar data for the study population divided into the subgroups COMB+ and COMB-.

There is a highly significant menstrual cycle phase main effect present for all POMS scales ($p < 0.005$). Trend analysis for this effect reveals a significant quadratic component on each scale. Scores for the negative moods were higher and "Vigor" was lower during the premenstrual phase compared with the intermenstrual and menstrual phase. This reflects the on/off characteristic which is typically described for PMTS and was present in our study population. Trend analysis for the phase main effect also revealed a significant linear component for several of the POMS scales. Inspection of the mean daily scores in Tables 4 and 5 suggests that, in some subjects, the POMS scale scores in the menstrual phase had not yet completely returned to the values reported in the intermenstrual phase.

Examination of the group by phase interaction effect reveals a major finding of this study. When the subjects were grouped according to the interview criteria (DC), a significant interaction effect ($p < 0.05$) was present only for the "Anger" scale. No significant interaction was present for the other five scales. When the PMRS criteria were added to those from the evaluation interview, i.e., COMB+/-, a significant Group × Phase interaction effect was present for all five negative scales of the POMS. This suggests that variation in mean daily POMS scores on these scales across the three phases of the menstrual cycle is significantly different between the COMB+ and COMB- subgroups. Trend analysis for this interaction effect reveals a significant quadratic component on all five scales. Although both the COMB+ and COMB- groups displayed a quadratic function across the three phases of the cycle, this effect, which reflects the on-off characteristic of the syndrome, was significantly more pronounced in the COMB+ group. Despite the significant phase main effect for the "Vigor" scale, there was no significant Group × Phase interaction with either method of subdividing the subject population. This suggests that there was no significant difference in the variation of this feature between subgroups.

The clinical importance of the changes in the actual scores on the POMS for the COMB+ subgroup can be demonstrated by comparing them to the normative values (Fig. 2). Each scale of the POMS contains a different number of items. In Fig. 2 the vertical axes have been adjusted so that the mean item score for each scale is comparable. The mean item scores for the COMB+ subgroup can then be related to the descriptive keys given in the instructions to the POMS and compared with the values obtained from two reference populations: women admitted to a psychiatric clinic with menstrual phase unspecified (McNair et al., 1971) and asymptomatic female volunteers studied at three points in the menstrual cycle (Abplanalp et al., 1979). The scores obtained on the negative scales of the POMS in these study subjects during the intermenstrual and menstrual phases were much lower than those obtained from the psychiatric patients. The premenstrual scores on these scales in our subjects were also lower than those obtained from the psychiatric patients, but they were much higher than the premenstrual scores from the asymptomatic volunteers.

Table 4. Summary of 2-way ANOVA of mean daily scores on POMS scales during 3 menstrual cycle phases for subgroups DC +/-

POMS scale	Tension/anxiety			Anger			Depression			Fatigue			Confusion			Vigor		
Menstrual cycle phase	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME
DC+ ($n = 15$)	4.5	14.6	6.3	2.5	12.1	3.9	1.1	11.6	4.2	3.3	9.7	4.7	3.1	8.4	4.8	15.5	8.4	13.1
DC- ($n = 8$)	3.1	7.9	5.8	1.0	3.8	3.4	1.8	5.1	4.2	1.8	4.4	3.3	2.8	4.7	4.0	11.3	8.0	10.5
	df	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*
Group main effect	1	4.24	NS	1	5.47	*	1	1.69	NS	1	4.72	*	1	2.67	NS	1	1.46	NS
Phase main effect	2	15.28	**	2	8.91	**	2	9.73	**	2	8.55	**	2	6.71	**	2	8.60	**
Trend analysis:																		
Linear	1	6.97	*	1	3.26	NS	1	10.08	*	1	5.26	*	1	5.93	*	1	2.20	NS
Quadratric	1	17.39	**	1	10.75	**	1	9.67	*	1	9.16	*	1	6.89	*	1	11.89	**
Group × Phase interaction effect	2	2.97	NS	2	3.92	*	2	3.21	NS	2	2.06	NS	2	1.67	NS	2	1.11	NS
Trend analysis:																		
Linear	1	0.26	NS	1	0.18	NS	1	0.19	NS	1	0.01	NS	1	0.16	NS	1	0.63	NS
Quadratic	1	3.66	NS	1	5.14	*	1	3.74	NS	1	2.44	NS	1	2.02	NS	1	1.36	NS

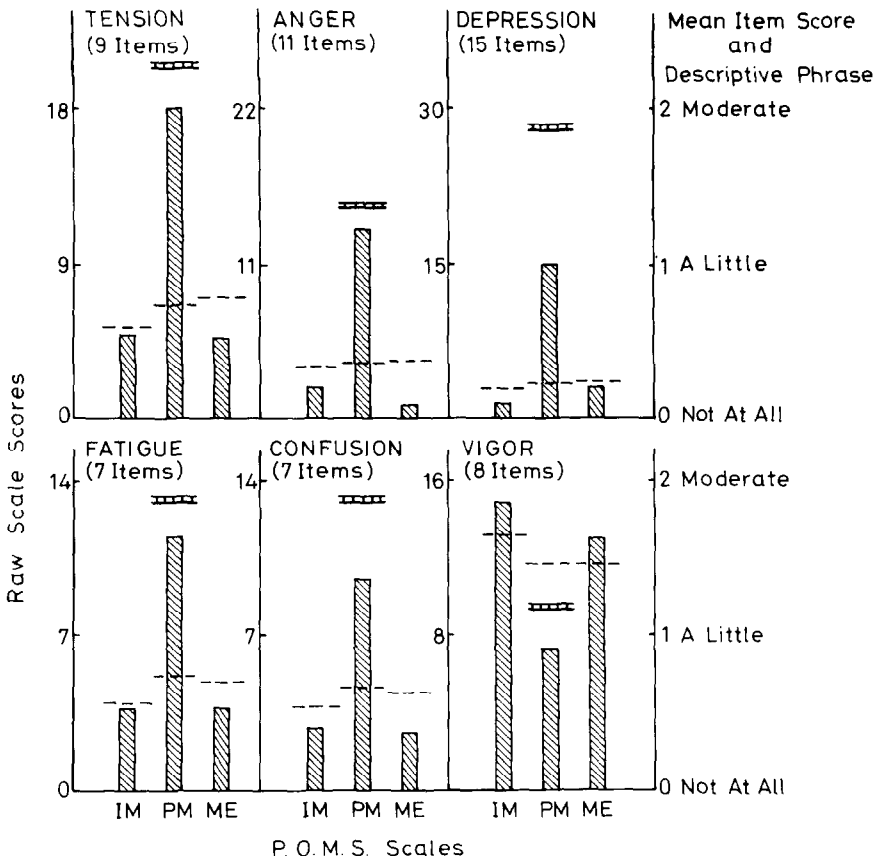
* = $p < 0.05$.
** = $p < 0.005$.
IM = intermenstrual.
PM = premenstrual.
ME = menstrual.

Table 5. Summary of 2-way ANOVA of mean daily scores on POMS scales during 3 menstrual cycle phases for subgroups COMB +/-

POMS scale	Tension/anxiety			Anger			Depression			Fatigue			Confusion			Vigor		
Menstrual cycle phase	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME
COMB+ (n = 8)	4.9	17.9	4.7	2.1	13.4	0.9	0.8	15.7	3.3	3.7	11.5	3.7	2.8	9.5	2.6	14.9	7.3	13.0
COMB- (n = 15)	3.5	9.3	7.0	1.9	7.0	5.2	1.6	5.9	4.6	2.3	5.9	4.5	3.1	5.9	5.6	13.6	8.8	11.8
	df	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*
Group main effect	1	3.23	NS	1	0.23	NS	1	3.15	NS	1	2.46	NS	1	0.01	NS	1	0.02	NS
Phase main effect	2	34.65	**	2	19.78	**	2	25.77	**	2	16.98	**	2	15.13	**	2	12.08	**
Trend analysis:																		
Linear	1	4.25	NS	1	1.34	NS	1	10.34	**	1	3.47	NS	1	4.56	*	1	2.91	NS
Quadratric	1	42.96	**	1	25.01	**	1	29.54	**	1	19.37	**	1	17.39	**	1	16.89	**
Group × Phase interaction effect	2	10.61	**	2	7.23	**	2	10.48	**	2	5.01	*	2	6.93	**	2	0.75	NS
Trend analysis:																		
Linear	1	5.47	*	1	5.67	*	1	0.07	NS	1	3.72	NS	1	6.85	*	1	0.00	NS
Quadratic	1	12.02	**	1	7.68	*	1	13.02	**	1	5.24	*	1	6.94	*	1	1.14	NS

* = $p < 0.05$.
** = $p < 0.005$.
IM = intermenstrual.
PM = premenstrual.
ME = menstrual.

Fig. 2. Mean daily scores on the POMS scales.



Scores obtained by eight subjects who met the diagnostic criteria at the interviews and the PMRS score criteria for PMTS ("COMB +" subgroup) are shown by the hatched bars. Three phases of the menstrual cycle are represented: intermenstrual (IM), premenstrual (PM), and menstrual (ME). Reference values obtained from asymptomatic female volunteers (---) and women admitted to a psychiatric clinic (IIII) are shown for comparison.

SBS. Mean daily scores for the five items on the SBS which referred to somatic discomfort are listed in Tables 6 and 7. A summary of the two-way ANOVA is also provided. As was seen for the POMS scales, a highly significant phase main effect ($p < 0.005$) was present for all SBS items. Unlike the POMS scales, however, the Group × Phase interaction effect was not significant for the SBS items with either of the criteria for defining the study subgroups (DC+/-, COMB+/-). Neither method of dividing the subjects distinguished women whose variation in somatic complaints was significantly different between subgroups. As the scores on the SBS are for single items, their clinical magnitude can be assessed by comparing them directly with the descriptive phases in Fig. 2.

Table 6. Summary of 2-way ANOVA of mean daily scores on SBS somatic items during 3 menstrual cycle phases for subgroups DC +/-

SBS item	Breast tenderness			Breast swelling			Headache			Backache			Weight gain		
Menstrual cycle phase	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME
DC+ ($n = 15$)	0.0	1.6	0.5	0.1	1.4	0.6	0.3	1.3	0.5	0.1	1.0	0.4	0.4	1.1	0.9
DC- ($n = 8$)	0.0	1.0	0.6	0.0	1.3	1.1	0.3	1.3	0.8	0.1	0.6	0.8	0.0	0.7	0.9
	df	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*
Group main effect	1	0.76	NS	1	0.08	NS	1	0.08	NS	1	0.01	NS	1	1.54	NS
Phase main effect	2	15.36	**	2	17.88	**	2	8.59	**	2	6.88	**	2	6.67	**
Trend analysis:															
Linear	1	9.40	*	1	18.49	**	1	3.38	NS	1	10.15	**	1	10.59	**
Quadratic	1	17.72	**	1	17.52	**	1	11.73	**	1	5.69	*	1	3.71	NS
Group × Phase interaction effect	2	1.16	NS	2	1.20	NS	2	0.29	NS	2	1.97	NS	2	0.62	NS
Trend analysis:															
Linear	1	0.00	NS	1	2.09	NS	1	0.64	NS	1	1.57	NS	1	0.81	NS
Quadratic	1	1.62	NS	1	0.68	NS	1	0.08	NS	1	2.12	NS	1	0.47	NS

* = $p < 0.05$.
** = $p < 0.005$.
IM = intermenstrual.
PM = premenstrual.
ME = menstrual.

Table 7. Summary of 2-way ANOVA of mean daily scores on SBS somatic items during 3 menstrual cycle phases for subgroups COMB +/-

SBS item	Breast tenderness			Breast swelling			Headache			Backache			Weight gain		
Menstrual cycle phase	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME	IM	PM	ME
COMB+ (n = 8)	0.0	1.5	0.5	0.2	1.2	0.5	0.3	1.6	0.5	0.2	1.1	0.4	0.3	1.1	0.8
COMB- (n = 15)	0.0	1.3	0.6	0.0	1.5	0.9	0.3	1.1	0.7	0.1	0.8	0.6	0.2	0.9	0.9
	df	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*	*df*	*F*	*p*
Group main effect	1	0.04	NS	1	0.51	NS	1	0.14	NS	1	0.07	NS	1	0.14	NS
Phase main effect	2	17.87	**	2	15.70	**	2	10.78	**	2	8.45	**	2	6.45	**
Trend analysis:															
Linear	1	9.00	*	1	11.63	**	1	2.23	NS	1	5.97	*	1	8.00	*
Quadratic	1	21.16	**	1	17.99	**	1	16.52	**	1	9.32	*	1	5.26	*
Group × Phase interaction effect	2	0.18	NS	2	1.17	NS	2	1.12	NS	2	1.03	NS	2	0.22	NS
Trend analysis:															
Linear	1	0.04	NS	1	2.81	NS	1	0.07	NS	1	1.26	NS	1	0.12	NS
Quadratic	1	0.23	NS	1	0.24	NS	1	1.82	NS	1	0.95	NS	1	0.29	NS

* = $p < 0.05$.
** = $p < 0.005$.
IM = intermenstrual.
PM = premenstrual.
ME = menstrual.

Discussion

This study did show that the DC and the PMRS together could, using only two contacts with volunteers, identify a group of women whose concurrent daily symptom profiles revealed a severe and time-limited premenstrual psychological disturbance. The POMS has been shown to report fluctuating mood change reliably in many different situations. The component scales of the POMS in the COMB+ subgroup of women showed greatly increased negative mood scores in the premenstruum but very low levels of symptomatology during other phases of the menstrual cycle. The subgroup of women distinguished by the use of interview criteria alone (DC+) did not report a significantly more pronounced on/off characteristic for the syndrome as measured by the POMS scales. The identification of the COMB+ women, using two visits rather than daily symptom ratings for a full menstrual cycle, has obvious practical advantages. Although our results suggest that the use of the PMRS score criteria alone may be sufficient to identify women for studies of severe PMTS, this finding needs replication and a clinical interview is still needed to exclude current physical and psychiatric illness. The SADS-L appeared to be a valuable aid in classifying reports of past psychopathology.

The practice of using operationally defined diagnostic criteria to improve the homogeneity and replicability of study populations is now well established. This step is often combined with a severity criterion based on scores with observer or subject rating scales. It is particularly useful in treatment studies when a clearer definition of study subjects of similar severity within a diagnostic category is needed—for example, minimum Hamilton Depression Scale scores for subjects in trials of antidepressants. A third step is necessary in the study of a cyclical time-limited syndrome such as PMTS. That step requires the designation of a "normality" criterion which must be met at times when the disturbance has remitted. The critical importance of a self-report scale in determining the "normality" criterion was suggested in an earlier report (Haskett et al., 1980). After the selection of only those women who reported that their symptoms were confined to the premenstruum, it was later noted that one in three subjects showed abnormally high values on a self-report symptom checklist completed during the follicular phase. Although this disturbance was not clinically apparent, it was associated with a profile of premenstrual symptoms which differed from that seen in women reporting no symptoms in the follicular phase.

Only the five SBS items related to somatic discomfort were analyzed for this portion of the study. The daily symptom ratings for these items did not support a particular association between PMTS and somatic discomfort, although the two forms of disturbance could coexist. A similar conclusion could be made for the items on the "Vigor" scale of the POMS. Perhaps variations in this dimension are also unrelated to the emotional and behavioral features of PMTS. The results of this study, however, cannot be said to demonstrate that somatic discomfort is a distinct and separate syndrome; it may be a variable accompaniment of PMTS. A study with differing selection criteria would be needed to determine whether somatic discomfort can occur alone or is always associated with the psychological disturbances of PMTS.

The diagnostic category of PMTS received some validation from the results of this study. It proved possible to distinguish a group of women with a temporally specific

syndrome of PMTS. The symptom profile in these women was significantly different from that seen in others who had some similar symptoms, but whose clinical disturbance was not so clearly confined to a particular phase of the menstrual cycle. The present report provides descriptive support for the validity of PMTS, but future studies will need to demonstrate distinct biological characteristics, natural and family history, or different treatment responses by affected individuals (Robins and Guze, 1970).

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