# PREMENSTRUAL SYMPTOMS AMONG THAI WOMEN

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**ABSTRACT:**

OBJECTIVE: To evaluate the prevalence and severity of premenstrual symptoms (PMS) among Thai women.

METHOD: A cross-sectional study was carried out among Thai women who lived in Bangkok, aged 18-45 years. One hundred subjects were asked to complete a questionnaire assessing premenstrual symptoms. The criteria of American College of Obstetricians and Gynecologists (ACOG) were used to diagnose premenstrual symptoms. The Women's Health Assessment Questionnaire (WHAQ) was used to evaluate the premenstrual symptoms and severity. The scoring system of severity from absent to strong is 0-4.

RESULTS: The mean age of subjects was 26.8 years. Of the 100 subjects, 58% were diagnosed with PMS by using ACOG criteria. According to WHAQ six categories, during the premenstrual phase, the mean score of negative effect category was 4.5 +/- 4.2. The mean score of water retention category was 2.9+/-2.4 and impaired concentration category was 3.7 +/- 2.1. The three additional categories which are increased appetite, feeling of well being, and undesirable hair change had mean score of 1.3+/-0.9, 1.6+/-0.9 and 0.2+/-0.1 respectively. The severity of symptoms was negative affect followed by impaired concentration and water retention.

CONCLUSION: High prevalence of premenstrual symptoms was found among Thai women in this study sample. The negative effect was the leading severity of PMS. Education, prevention and appropriate management for PMS are highly recommended to improve quality of life among reproductive age women.

**Keywords:** Premenstrual symptoms, Thai women, severity

**INTRODUCTION:** Premenstrual syndrome (PMS) is a cluster of mood, behavioral and physical symptoms that occur during the late luteal phase of the menstrual cycle and are relieved by the onset of menstruation. (1) The prevalence of premenstrual symptoms varies from 50–90% and varies with the criteria of diagnosis, ethnicity, social, cultural and other factors.(2) The causes of PMS have not been well demonstrated but have been propose to include hormonal changes, neurotransmitters, diet, stress and lifestyle.(1,3) There are many epidemiological studies about PMS in different population. (2) However, few studies have been conducted in Thai women.(3) Moreover, the detail and severity of premenstrual disorders in Thai women are not well elaborated. Most of healthcare providers do not recognize PMS as an important health concern. This study was conducted in order to assess the magnitude of this problem in Thai women. The objective of this study was to evaluate the prevalence and severity of PMS among Thai women.

**MATERIALS AND METHODS:** A cross-sectional descriptive study was carried out among Thai women who lived in Bangkok. The inclusion criteria were aged 18-45 years, regular menstruation and no use of hormonal contraceptive, no chronic disease, and willing to provide informed consent. The exclusion criteria were irregular bleeding, taking antidepressant or anti psychiatric drug and having psychiatric problems. One hundred subjects were asked to complete a questionnaire assessing premenstrual symptoms. The criteria of American College of Obstetricians and Gynecologists (ACOG) were used to diagnose premenstrual symptoms. The detail of ACOG criteria for diagnosis PMS was shown in Table 1. The Women's Health Assessment Questionnaire (WHAQ) was used to evaluate the premenstrual symptoms and severity. The WHAQ was translated from English to Thai

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and tested for reliability with a Cronbach's coefficient of .80. This self- administered questionnaire included six categories that contained a total of 23 items. The six categories composed of three main categories, that is, negative affect, water retention, impaired concentration, and another three additional categories, that is, increased appetite, feelings of well-being, and undesirable hair changes. The negative affect category contained eight items, the water retention category contained four items and the impaired concentration category contained eight items, as shown in Table 2. Each item was graded using a five-point scale from 0 to 4 (0=absent, 1=mild, 2=moderate, 3=strong, 4=severe/very strong). The WHAQ assessed the patient symptoms at premenstrual phase (4 days before menstrual flow). The statistical method uses were percent, mean, standard deviation, and 95 % CI.

**RESULTS:** A total of 100 women who were diagnosed PMS following the ACOG criteria were recruited. The mean age of subjects was 26.8+/-4.5 years. The characteristics of subjects were shown in Table3. According to ACOG criteria for PMS, 58% of women were diagnosed with PMS. In terms of severity, WHAQ six categories were used to assess the severity of symptoms during the premenstrual phase. The mean score of negative effect category was 4.5 +/- 4.2. The mean score of water retention category was 2.9+/-2.4 and impaired concentration category was 3.7 +/- 2.1. The three additional categories which are increased appetite, felling of well being, and undesirable hair change had mean score 1.3+/-0.9, 1.6+/-0.9 and 0.2+/-0.1 respectively. The detail of WHAQ six categories is shown in Table 4. The most severe of symptom was negative effect followed by impaired concentration and water retention.

**DISCUSSION:** The prevalence and severity of premenstrual symptoms in Thai women using ACOG criteria were measured in this study. 58% of women in this study experienced symptoms during premenstrual phase. The previous studies of PMS in developed countries reported prevalence from 50% to 90%. (2) The difference in prevalence is up to criteria for diagnosis. The present standard criteria for diagnosis of PMS are ACOG criteria. (4) This study is also following the ACOG criteria to diagnose PMS. Nevertheless, the result of this study is not much different with the previous ones. (1-3) This outcome demonstrated that prevalence of PMS in Thai women was not different from the developed countries. (2,5-7)

There are many hypotheses which have been proposed to explain the mechanisms of mood, behavioral or psychological changes in the premenstrual phase of the cycle, as related to neurotransmitters such as serotonin, endogenous opioids, c-aminobutyric acid, cathecholamines, fluctuation of female hormones, and testosterone. However, these mechanisms are not yet well elaborated. Progesterone is known to have direct sedative effect on the central nervous system, as reflected in slowing electroencephalogram in humans and alteration of arousal threshold stimuli in the hypothalamus of various animals. Thus, its deficiency would increase nervous excitability, irritability, tension, anxiety and aggression. (1)

Considering the severity of symptoms, it was found that the mean score of negative effect was the highest and the mean score of the hair changed is the lowest. These finding would be elaborated that Thai women in this study had more concerned in emotional effects rather than physical change. The sociocultural factors would have influence on outcome of PMS. (6) Women with stressful lifestyles were more likely to complain of depression and withdrawal mood during the premenstrual phase than those without stress. Research studies have shown that chronic stress can exacerbate PMS symptoms and some claim that PMS, itself, is a stress related phenomenon (8). Further study would be conducted to clarify this association.

In conclusion, this study measured the PMS prevalence in Thai women. The PMS prevalence was examined, along with the severity of PMS symptoms in terms of the scoring system. Although the concept of PMS in Thailand has not been recognized by Thai women and physicians, this study revealed that reproductive aged women in Bangkok have symptoms similar to those in Western countries. In addition, Thai women in this study had severity score for emotional effects higher than those for physical change. Since this research study is one of the studies to explore PMS in Thailand, there is need for further research aimed at understanding symptoms of PMS and its effect on women health, daily life and work. Understanding the severity of PMS in Thai women is important in order to inform the choice of management. Further research should focus on factors that are associated with PMS in Thai women, and on comparing modalities of PMS management.

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**Table 1** ACOG diagnostic criteria for PMS

- Patient reports ≥ 1 of the following affective and somatic symptoms during the 5 days before menses in each of 3 prior menstrual cycles:

| **Affective** | **Somatic** |
|---|---|
| - Depression | - Breast tenderness |
| - Angry outbursts | - Abdominal bloating |
| - Irritability | - Headache |
| - Anxiety | - Swelling of extremities |
| - Confusion | |
| - Social withdrawal | |

- Symptoms relieved within 4 days of menses Onset without recurrence until at least cycle day 13
- Symptoms present in absence of any pharmacologic therapy, hormone ingestion, or drug or alcohol abuse
- Symptoms occur reproducibly during 2 cycles of prospective recording
- Patient suffers from identifiable dysfunction in social or economic performance

**Table 2** WHAQ (six categories, total 23 items)

| Impaired concentration (8) | Water retention (4) | Negative affects (8) | Three additional categories |
|---|---|---|---|
| Insomnia | Weight gain | Loneliness | Increased appetite |
| Forgetfulness | Painful or tender breasts | Anxiety | Feeling of well-being |
| Confusion | Breast and abdominal swelling | Mood swings | Undesirable hair changes |
| Poor judgment | Skin blemishes or disorders | Crying | |
| Difficulty concentrating | | Irritability | |
| Distractibility | | Tension | |
| Poor motor coordination | | Feeling sad or blue | |
| Minor accidents | | Restlessness | |

**Table 3** Characteristics of subjects

| Variable | N= 100 cases | 95% CI |
|---|---|---|
| Mean age +/- SD (years) | 26.8+/- 4.5 | 25.9, 27.7 |
| Mean height +/- SD (cms) | 153.9+/- 5.6 | 153,155 |
| Mean weight +/- SD (kgs) | 52.6+/- 8.5 | 50.9,54.3 |
| Mean parity +/- SD | 1.1+/- 0.5 | 1,1.2 |
| Education; cases (%) | | |
| Primary | 24 (24%) | |
| Secondary | 66 (66%) | |
| College or higher | 10(10%) | |

**Table 4** Mean WHAQ score of premenstrual phase

| Items WHAQ | Mean +/- SD | 95%CI |
|---|---|---|
| Negative affect | 4.5+/- 4.2 | 3.7, 5.3 |
| Water retention | 2.9+/- 2.4 | 2.4, 3.4 |
| Impaired concentration | 3.7+/- 2.1 | 3.3, 4.1 |
| Well-being | 1.6+/- 0.9 | 1.4, 1.8 |
| Increased appetite | 1.3+/- 0.9 | 1.1, 1.5 |
| Undesirable hair change | 0.2+/- 0.1 | 0.1, 0.2 |