

PREVALENCE OF PREMENSTRUAL SYNDROME AMONG UNDERGRADUATE UNIVERSITY STUDENTS IN THAILAND

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ABSTRACT

Premenstrual syndrome (PMS) has a variety of signs and symptom which occurs during the luteal phase. The fundamental concern with PMS is that it causes symptoms that interfere with regular activities. The negative impact of symptoms interferes with daily activities. The objective of this study was to investigate the current incidence of PMS and rank the most typical symptoms among female college students. This descriptive approach used a random sampling method to select 108 female undergraduate public health students. The questionnaire was developed to collect information about participants' demographics, menstruation history, and daily health and behavioural patterns. The Women's Health Assessment Questionnaire (WHAQ) was also used to assess participants' PMS. According to the findings, the prevalence of PMS was 64.8 percent, with moderate to severe PMS symptoms. The most prevalent symptom categories with negative effect (97.2 percent) were found to be mood swings and irritation, another category were found 94.5 percent revealing increased appetite, and 91.7 percent revealing skin blemishes. This study has shown that more than half of the female participants had PMS, with moderate to severe PMS symptoms. In general, it seems that the findings of the study would be utilised to understand the premenstrual syndrome of reproductive-age women. It is vital to evaluate whether PMS has an influence on individuals.

Keywords: premenstrual syndrome, premenstrual symptom, undergraduate students

INTRODUCTION

In recent years, there has been an increasing interest in premenstrual syndrome (PMS). PMS is of interest because it is a worldwide public health issue that is present in all cultures. This is a chronic disorder that affects over a million women around the world among those who have started their period of menstruation. Adolescence is a phenomenon which is a sign of reproductive maturity and might not be seen as a health problem or disease. According to the World Health Organization (WHO) the number of women who have premenstrual syndrome is approximately 199 million⁽¹⁾. There has been a detailed investigation into PMS in Malaysia, which found that 80.7

percent of women experienced some emotional symptoms, such as irritability, mood swings, and tension in the pre-menstrual phase. While 83.6 percent of them had somatic symptoms and they experienced exhaustion and muscle cramps during both the pre-menstrual and menstrual phase⁽²⁾. In Thailand, few studies have been conducted on Thai women⁽³⁾.

METHODOLOGY

This descriptive study was used to determine the spread of PMS in female public health undergraduate students using random sampling during the academic year of 2018-2019, Kasetsart

university in Sakon Nakorn campus, province in Thailand

G*Power software was used to compute the sample size. The programme is free to use and is used to compute statistical power based on research with a 95 percent confidence level and an 80 percent test power. 96 participants were evaluated. There were 108 persons who initially participated in the study, with a 10% chance of sample loss.

The respondents were recruited following criteria that also included undergraduate female public health students. They also have regular menstruation and the ACOG PMS criterion, which includes at least one emotional and one physical symptom(4). Likewise, they were not using any medications on a regular basis during the research, such as antihypertensive, antidepressant, antihistamine, anticholinergic, or hormonal treatments. They would not have chronic diseases such as epilepsy, thyroid disease, or psychological issues. Concerning the ethical considerations, they agreed to participate in the study.

Data collection

The dataset consists by getting data from a questionnaire. Individual data such as social economic, underlying illness, family history, daily health behaviour, menstruation history, and PMS assessment are also included. The PMS examination can be self-administered in conjunction with the WHAQ, which has been completed by the subjects. There were six categories with a total of 23 items. These six categories are divided into three major sub-categories: water retention (about four items), bad affect (eight items), and difficulty concentrating (about eight items). Increased appetite, feelings of well-being, and undesirable hair changes are three additional sub-categories. The item was scored on a five-point scale ranging from 0 to 4 (0=absent, 1=mild, 2=moderate, 3=strong, 4=severe/very strong). The WHAQ will evaluate the symptoms of the participants during the premenstrual phase (four days before menstrual flow). The

measurement's validity was translated from English to Thai, and the findings were verified for reliability using a Cronbach's value of 0.80(3).

The descriptive statistics used in the statistical study were mean, standard deviation (SD), and percentage. All were utilised when it was suitable to record socio-demographic data, the severity of symptoms, the prevalence of PMS.

Ethical approval

In terms of ethics, the procedure of obtaining ethical permission was supplied by the ethics committee of Kasetsart University, Chalermphrakiat Sakon Nakhon Province Campus, in accordance with the Helsinki Declaration (Number KUcsc.HE62011).

RESULTS

The socio-demographic characteristics of the participants are shown in Table 1. This study included 108 female students with an average age of 21.0 ± 0.5 years. Half had a normal BMI (BMI=18.5-22.9), 26.9% were overweight (BMI \geq 23), and 23.1 percent were underweight (BMI< 18.5). The average annual income was 4980.5 ± 1524.5 BTH, whereas 85.2 percent of the students stayed in an off-campus dormitory.

In terms of daily health behaviour, the study indicate that 64.8 percent of them consumed alcohol while 80.6 percent consumed Coca-Cola. Almost 80 percent of the total of the individuals did not engage in any form of physical activity. The participants' sleep patterns suggested that 83.3 percent of them slept for fewer than 8 hours on daily basis.

In terms of menstruation history, the menarche mean age was 12.7 ± 1.2 years old, and bleeding length was 5.2 ± 1.2 days, with 49.1 percent having a mother or sister(s) with PMS and more than 50 percent complaining of dysmenorrhea.

Table 1. The socio-demographic characteristics of the participants

Characteristics	Total (n=108) (%)
Age (years)	21. ± 0.5
BMI (kg/m ²)	
Underweight (< 18.5)	25 (23.1)
Normal (18.5 – 22.9)	54 (50.0)
Overweight (≥ 23)	29 (26.9)
Income/month(THB)	4980.5 ± 1524.5
Place of Residence	
Home/ House of rent	4 (3.8)
Dormitory in university	12 (11.0)
Dormitory out of university	92 (85.2)
Cigarette Smoking	
No	107 (99.1)
Yes	1 (0.9)
Alcohol consumption	
No	38 (35.2)
Yes	70 (64.8)
Tea consumption	
No	42(38.9)
Yes	66 (61.1)
Coffee consumption	
No	80 (74.1)
Yes	28 (25.9)
Coca Cola consumption	
No	21 (19.4)
Yes	87 (80.6)
Energy drink consumption	
No	102 (94.4)
Yes	6 (5.6)

Exercise (≥ 30 min/time)	
Never	8 (7.4)
1 – 2 days/ week	90 (83.3)
≥ 3 days/ week	10 (9.3)
Sleep (hrs./ day)	
≤ 8 hr.	90 (83.3)
> 8 hr.	18 (16.7)
Class of learning and activity (hrs./ day)	
≤ 8 hr.	68 (63.0)
> 8 hr.	40 (37.0)
Underline disease	
No	98 (90.7)
Yes (gastritis, allergy)	10 (9.3)
PMS History of mother-sister	
No	55 (50.9)
Yes	53 (49.1)
Complaint of dysmenorrhea	
Never	18 (16.7)
Sometimes	62 (57.4)
Always	28 (25.9)
Drug usage for pain	
Never	57 (52.8)
Sometimes	50 (46.3)
Always	1 (0.9)
Menarche age (years)	12.7 \pm 1.2
Bleeding Duration(days)	5.2 \pm 1.2
Cycle Interval(days)	27.2 \pm 3.2

Note: Data are presented mean \pm standard deviation

Table 2 provides the numbers and percentages of premenstrual symptoms by severity level, with the fifth rating of premenstrual symptoms being, 97.2

percent of respondents reported mood swings and irritability, 94.5 percent reported an increase in appetite, 91.7 percent experienced skin blemishes,

and 89 percent suffered uncomfortable or sore breasts.

As previously stated, the WHAQ examined the participants' premenstrual disorder symptoms in six groups and a total of 23 items. The maximum score was 92 points. The point 0-23 (absent/mild

symptom) was "Do not have PMS," whereas the point 24-92 (moderate to severe symptom) was "Do have PMS." The results in Table 3 showed that the incidence of PMS was 64.8 percent of those who had moderate to severe PMS symptoms.

Table 2. Prevalence of premenstrual symptoms by level of severity (n = 108).

Symptom	Severity of Symptoms				Total Prevalence
	mild	moderate	strong	severe	
	n (%)				
Water retention					
Weight gain	42 (38.9)	14 (13.0)	7 (6.5)	0 (0.0)	63 (58.4)
Painful or tender breasts	28 (25.9)	42 (38.9)	18 (16.7)	8 (7.5)	96 (89.0)
Breast and abdominal swelling	34 (31.5)	15 (13.9)	7 (6.5)	1 (0.9)	57 (52.8)
Skin blemishes or disorders	28 (25.9)	34 (31.5)	29 (26.9)	8 (7.4)	99 (91.7)
Negative affect					
Loneliness	20 (18.5)	15 (13.9)	13 (12.0)	2 (1.9)	50 (46.3)
Anxiety	38 (35.2)	16 (14.7)	11 (10.2)	2 (1.9)	67 (62.0)
Mood swings	27 (25.0)	32 (29.6)	25 (23.2)	21 (19.4)	105 (97.2)
Crying	35 (32.5)	16 (14.7)	14 (13.0)	4 (3.7)	69 (63.9)
Irritability	23 (21.3)	40 (37.0)	20 (18.5)	22 (20.4)	105 (97.2)
Tension	31 (28.7)	26 (24.1)	12 (11.1)	3 (2.8)	72 (66.7)
Feeling sad or blue	37 (34.2)	18 (16.7)	12 (11.1)	3 (2.8)	70 (64.8)
Restlessness	32 (29.6)	16 (14.7)	3 (2.8)	1 (0.9)	52 (48.0)
Impaired concentration					
Insomnia	22 (20.4)	21 (19.4)	12 (11.1)	3 (2.8)	58 (53.7)
Forgetfulness	26 (24.1)	15 (13.9)	15 (13.9)	1 (0.9)	57 (52.8)
Confusion	24 (22.2)	12 (11.1)	6 (5.6)	1 (0.9)	43 (39.8)
Poor judgment	30 (27.8)	17 (15.7)	4 (3.7)	1 (0.9)	52 (48.1)
Difficulty in concentrating	30 (27.8)	13 (12.0)	7 (6.5)	1 (0.9)	51 (47.2)
Distractibility	36 (33.4)	12 (11.1)	5 (4.6)	5 (4.6)	58 (53.7)
Poor motor coordination	23 (21.3)	11 (10.2)	2 (1.9)	1 (0.9)	37 (34.3)

Minor accidents	34 (31.5)	16 (14.7)	3 (2.8)	2 (1.9)	55 (50.9)
another three additional categories					
Increased appetite	19 (17.6)	32 (29.6)	29 (26.9)	22(20.4)	102 (94.5)
Feelings of well being	29 (26.9)	29 (26.9)	13 (12.0)	3 (2.8)	74 (68.6)
Undesirable hair changes	31 (28.7)	18 (16.7)	18 (16.7)	4 (3.7)	71 (65.8)

Table 3 Prevalence rates of premenstrual syndrome

Participants	No PMS	Have PMS
Female undergraduate students, no. (%)		
n = 108	48 (35.2)	60 (64.8)

DISCUSSION

The current study has identified the prevalence of premenstrual syndrome (PMS) and assessed premenstrual symptoms in female undergraduate students. This study has found that generally, the average age of those studied was 21.0 ± 0.5 years old. In addition, the history of menstruation during the menarche period was 12.7 ± 1.2 years old. It revealed that the average menarche was 12.4 ± 1.3 years among Chinese female undergraduates (14). The cycle interval was 27.2 ± 3.2 days and the bleeding duration was 5.2 ± 1.2 days. These results corroborate the findings of a great deal of the previous work on menstruation duration (5-6 days) in another study among nursing students at the university of Gyeonggi, Korea (15).

The results of this study suggest that the majority of premenstrual symptoms, such as mood swings and irritability, are 97.2 percent, which is higher than the female medical students of the university, who were 80.7 percent (2) 60 percent (10) 54 percent (9) and 40 percent (5), which can be explained by age differences (e.g. school age, teenage students and working women). Physical and behavioural signs included skin blemishes, uncomfortable or sore breasts, and an increased hunger. Similar findings have been published elsewhere (11,13).

PMS was found in 64.8 percent of female public health undergraduate students at Kasetsart University's Sakon Nakhon campus. This frequency is higher than previous reports by Assumption University in Bangkok, which reported approximately 59 percent (5) and 39.85 percent (6) of female undergraduate students in Taiwan. While the prevalence of PMS was lower than in previous studies, it was still higher than 17.3 percent (12), 16.9 percent (7), 16.8 percent (8) and 11.8 percent (9). This variation might be attributed to the differences in PMS criteria, for example, premenstrual assessment form (5), BSRS-5 (6), PSST-A (12), and DSM-IV (7).

However, with a small sample size, caution must be applied, as the findings might not be represented the population of female undergraduate students in Thailand.

CONCLUSIONS

The current study determined the prevalence and severity of PMS in female undergraduate students, with 64.8 percent reporting moderate to severe PMS and the fifth ranking of premenstrual symptoms being was, 97.2 percent revealing mood swings and irritability, 94.5 percent revealing increased appetite, 91.7 percent revealing skin

blemishes, and finally, 89 percent revealing painful or tender breasts, respectively.

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