

Original article

Premenstrual syndrome: A cross-sectional study among women of reproductive age in Sibü, Sarawak, Malaysia

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Abstract

Background: Premenstrual syndrome (PMS) is a collection of physical and psychological symptoms in relation to the menstrual cycle. Little is known about the prevalence and attitude of pre-menstrual syndrome among women of reproductive age in Sibü, Sarawak, Malaysia.

Materials & Methods: A cross-sectional study was carried out during the first quarter of 2017. A total of 255 women of reproductive age from both urban and rural areas of Sibü were voluntarily participated and face-to-face interview was undertaken.

Results: The prevalence of PMS was 44.3% (95% CI: 38.1%, 50.6%) and more than half of the respondents (56.1%; 95% CI: 49.8%, 62.3%) had positive attitude towards PMS. Although age, ethnicity, residence and education status were found to have significant association with having positive history of PMS, none of them were significantly related to the attitude towards PMS. The common symptoms of PMS were increased appetite, acne, mood swing, irritability and breast tenderness.

Conclusion: A significant portion of women in reproductive ages had positive history of PMS.

Keywords: Premenstrual syndrome, PMS, Sibul, Malaysia

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Introduction

Premenstrual syndrome (PMS) is a collection of physical and psychological symptoms in relation to the menstrual cycle. Symptoms range from mild or moderate to severe debilitating presentations which can cause disruptions in a woman's life. The psychological symptoms of premenstrual syndrome consist of affective lability (e.g mood swings), apathy, confusion, insomnia, anxiety, depressive symptoms, feeling of uselessness and marked irritability. The somatic presentations of PMS include fatigue, headache, loss of appetite, abdominal bloating, breast tenderness and acne. Most women suffer from at least one symptom of premenstrual syndrome and it usually does not affect their daily activities enormously.^{1,2} Various studies revealed varying prevalence of PMS in different countries and settings.³⁻⁷ The prevalence of PMS ranges from 12.2% in France⁵ to 74.6% among secondary students in Seremban, Malaysia.³ Besides, a study carried out in France showed 79.8% of symptomatic women with premenstrual syndrome did not seek medical consultation as they assumed symptoms were normal, 18.7% of symptomatic women sought treatment and 1.59% of symptomatic women were unsure.⁸

Little is known about the prevalence and attitude towards PMS among women of reproductive age in Sibul, Sarawak, Malaysia. Therefore, the present study was undertaken.

Aim:

To study the prevalence and attitude towards premenstrual syndrome among women of reproductive ages in Sibul, Sarawak, Malaysia.

Materials and Methods

A cross-sectional study was carried out in both urban and rural areas of Sibul town from January to March 2017. Sample size was calculated using Epi-info version 7.0 statistical package. The prevalence of PMS, confidence limits and confidence level were set at 20%⁴, 5% and 95%, respectively. Altogether 255 women of reproductive age (i.e., between 18 and 45 completed years of age) were recruited into the study. Informed consent was taken and face-to-face interview was applied to get the necessary data. A pretested, structured questionnaire, developed in English language and back translated into Malay was used. Data entry and analysis was done using SPSS version 20 statistical package. Chi-squared test was utilized to assess the association between PMS and socio-demographic variables.

PMS was diagnosed based on the ACOG criteria.⁹ Inclusion criteria used in the present study were (1) having regular menstrual cycle, (2) positive history of at least one affective symptom (anxiety, cravings, depression, angry outbursts, irritability, confusion, social withdrawal) and at least one somatic

symptom (breast tenderness, abdominal bloating, headache, swelling of extremities) with some limitation of daily activity and (3) the onset of symptoms must be during the week before menses in three cycles and relieved with the menstrual flow. The presence or absence of PMS was assessed for the past one year period from the date of data collection. Attitude towards PMS was assessed using three items of questionnaires with 5-point-Likert scale. Attitudinal status was categorized into two groups; positive (if total score was 11-15) and negative (if scores was < 11).

Results

A total of 255 women participated in the study. Socio-demographic characteristics and residence of the respondents are shown in Table 1.

Table 1: Socio-demographic characteristics and residence of study participants

Variables	Frequency (n=255)	Percent (%)
Age-group		
18 – 24	124	48.6
25 – 34	95	37.3
35 – 45	36	14.1
Ethnicity		
Malay	59	23.1
Chinese	61	23.9

Iban	98	38.5
Others	37	14.5
Employment status		
Employed	132	51.8
Un-employed	123	48.2
Education status		
Primary	22	8.6
Secondary	123	48.2
Tertiary	110	43.2
Residence		
Urban	155	60.8
Rural	100	39.2

The symptoms of PMS reported by the respondents are summarized in Table 2. Among the different presentations, the commonest is increase in appetite (63.1%), followed by acne (58.8%) and mood swings (56.1%). The least presentation experienced by the study participants is allergic reaction (3.1%).

Table 2: Symptoms of PMS

Symptoms	Frequency (n=255)	Percent
Appetite increase	161	63.1
Acne	150	58.8
Mood Swings	143	56.1
Food Cravings	134	52.5
Irritability	126	49.4
Oily Skin	126	49.4
Breast Tenderness	119	46.7
Fatigue	102	40.0
Headache	96	37.6
Backache	77	30.2
Lack of Concentration	71	27.8
Anxiety	69	27.1
Joint and Muscle Pain	57	22.4
Insomnia	55	21.6

Abdominal Bloating	54	21.2
Disinterest in daily activities	50	19.6
Weight gain	50	19.6
Nervous Tension	49	19.2
Crying	49	19.2
Hypersomnia	48	18.8
Forgetfulness	43	16.9
Frequent Urination	43	16.9
Sensitive to Rejection	42	16.5
Weakness Radiation Down Thighs	41	16.1
Diarrhoea	40	15.7
Feeling Overwhelmed	39	15.3
Depression	36	14.1

Interpersonal Conflicts	36	14.1
Confusion	33	12.9
Dizziness or Fainting	28	10.9
Palpitation	28	10.9
Fluid Retention	20	7.8
Constipation	19	7.5
Swollen Extremities	15	5.9
Hives	10	3.9
Allergic Reaction	8	3.1

The prevalence of PMS among study population was 44.3% (95% CI: 38.1%, 50.6%). Table 3 shows the prevalence of PMS by socio-demographic characteristics and residence. Age, ethnicity, education and residence were significantly related to the occurrence of PMS ($p < 0.05$).

Table 3: The occurrence of PMS by socio-demographic characteristics and residence

Variables	PMS	Total	
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	Present (n=113)	Absent (n=142)	(n=255)	p- value
Age-group (completed years)				
18 – 24	58 (46.8%)	66 (53.2%)	124 (100%)	0.002
25 – 34	31 (32.6%)	64 (67.4%)	95 (100%)	
35 – 45	24 (66.7%)	12 (33.3%)	36 (100%)	
Ethnicity				0.026
Malay	23 (39.0%)	36 (61.0%)	59 (100%)	
Chinese	21 (34.4%)	40 (65.6%)	61 (100%)	
Iban	55 (56.1%)	43 (43.9%)	98 (100%)	
Others	14 (37.8%)	23 (62.2%)	37 (100%)	
Employment status				0.527
Employed	61 (46.2%)	71 (53.8%)	132 (100%)	
Un-employed	52 (42.3%)	71 (57.7%)	123 (100%)	
Education status				0.033
Primary	13 (59.1%)	9 (40.9%)	22	
Secondary	61 (49.6%)	62 (50.4%)	123	
Tertiary	39 (35.5%)	71 (64.5%)	110	
Residence				<
Urban	60 (60.0%)	40 (40.0%)	100 (100%)	0.001
Rural	53 (34.2%)		155 (100%)	

		102 (65.8%)		
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More than half of the respondents (56.1%; 95% CI: 49.8%, 62.3%) had positive attitude towards PMS. Although age, ethnicity, residence and education status were found to have significant association with having positive history of PMS, none of them were significantly related to the attitude towards PMS (Table 4).

Table 4: The attitude towards PMS by socio-demographic characteristics and residence

Variables	Attitude towards PMS		Total (n=255)	p- value
	Positive (n=143)	Negative (n=112)		
Age-group				
18 – 24	65 (52.4%)	59 (47.6%)	124 (100%)	0.442
25 – 34	58 (61.1%)	37 (38.9%)	95 (100%)	
35 – 45	20 (55.6%)	16 (44.4%)	36 (100%)	
Ethnicity				
Malay	37 (62.7%)	22 (37.3%)	59 (100%)	0.523
Chinese	34 (55.7%)	27 (44.3%)	61 (100%)	
Iban	50 (51.0%)	48 (49.0%)	98 (100%)	

Others	22 (59.5%)	15 (40.5%)	37 (100%)	
Employment status				0.310
Employed	70 (53.0%)	62 (47.0%)	132 (100%)	
Un-employed	73 (59.3%)	50 (40.7%)	123 (100%)	
Education status				0.952
Primary	13 (59.1%)	9 (40.9%)	22	
Secondary	69 (56.1%)	54 (43.9%)	123	
Tertiary	61 (55.5%)	49 (44.5%)	110	
Residence				0.203
Urban	61 (61.0%)	39 (39.0%)	100 (100%)	
Rural	82 (52.9%)	73 (47.1%)	155 (100%)	

Discussion

The most prevalent symptoms experienced by the respondents were increased appetite, acne, mood swings, food cravings, irritability, oily skin, breast tenderness and fatigue. More or less the same symptoms were reported by similar studies done in different countries such as India^{10,11}, Pakistan¹², China⁴, and Iran.¹³

This study provides information on the prevalence of PMS among women of reproductive age in Sibuhajuh and their attitude towards PMS. The prevalence of

PMS among study population was 44.3%. This is much higher than those of studies conducted among students from secondary school in Sri Lanka (8.8%)¹⁴ and among college students in India (18.4%).¹⁵ However, the prevalence of PMS determined by the present study is lower than those reported in studies done among secondary school students in Seremban, Malaysia (74.6%)³, and among university students in Egypt (56.1%)¹⁶ and Iran (98.2%).¹³ Besides, the prevalence of PMS revealed in similar community based studies carried out in France⁵, Spain⁸ and China⁴ were 12.2%, 8.9% and 21.1%, respectively while institution based studies conducted in Saudi Arabia¹⁷ and Inida¹¹ reported that the prevalence of PMS among women of reproductive age were 56% and 67%, respectively. The differences of age, socio-cultural characteristics such as education, occupation etc. and awareness on PMS among study populations could explain these findings. The utilization of different diagnostic criteria should also be taken into consideration in comparing the prevalence of PMS among various studies. Direkvand-Moghadam and colleagues¹⁸ concluded in their study that the use of various measurement tools and the difference in study population were solely responsible for the differences in the reported prevalence of PMS among studies. However, the pooled prevalence of PMS worldwide (47.8%) and in Asia (46%) reported in a meta-analysis¹⁸ were almost similar to that of present study (44.3%).

In this study, age, education status, ethnicity and residence of the respondents were significantly related to the occurrence of PMS. Previous studies also

revealed similar findings. Independent studies conducted in India and Pakistan reported that residence¹⁹, education^{19,20} and age^{21,22} were significantly associated with the prevalence of PMS.

In this study, more than half of the respondents (56.1%) had positive attitude towards PMS. This finding is consistent with those found in similar studies carried out in Kelantan, Malaysia²³, Spain⁸ and UK.²⁴ This might be due to the fact that women in Sibul may be knowledgeable or have a generally high tolerance towards the symptoms of PMS. However, no clear associations could be elicited between socio-demographic factors and attitudes.

Conclusion

A significant proportion of women of reproductive age in Sibul, Sarawak, Malaysia had positive history of PMS and they should be encouraged to seek out appropriate treatment. Age, ethnicity, residence and education status were significantly associated with the occurrence of PMS but not with attitude.

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