Assessment of Premenstrual Syndrome among Working Women in Baghdad City

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الخلاصـــة:

الهدف: تقييم أعراض متلازمة ما قبل الحيض (الطمث) بين النساء العاملات في مدينة بغداد.

المنهجيّة: دراسة تحليلية مقطعية، وتم استخدام الطريقة العنقودية العشوائية (متعددة المراحل) في اختيار مواقع إجراء البحث واختيرت عيّنة متكوّنة من (٣٠٠) امرأة من (٣٠) مدرسة متوسطة وإعدادية و(٣) معامل. جمعت المعلومات بطريقة المقابلة والتسجيل الشخصي خلال الفترة بين ٣٠ تشرين الثاني ٢٠٠٤ إلى ٣٠ آذار ٢٠٠٥. صُمّمت الاستمارة الاستبيانيّة والتي تكوّنت من (٤) أجزاء تشمل الخصائص الديموغرافيّة، الإنجابية، الدورة الحيضيّة، وأعراض متلازمة ما قبل الحيض .
حدّد صدق المحتوى وثبات الاستمارة الاستبيانيّة من خلال دراسة استطلاعية واستعمال الإحصاء الوصفي والاستنتاجي في تحليل البيانات.

النتائـــج: تشير النتائج إلى أنّ معظم النساء من الفئة العمرية (٣٠– ٣٤) سنة أعلى نسبة منهن خريجات الجامعة وأعلى نسبة منهن غير متزوجات وذات مستوى معاشي واطئ. معظم عيّنة الدراسة يعانون من أعراض متلازمة ما قبل الحيض بمستوى متوسط وتشير النتائج إلى عدم وجود اختلافات معنويّة ذات دلالة إحصائيّة بين أعراض متلازمة ما قبل الحيض والخصائص الديموغرافيّة والدورة الحيضيّة والتأريخ العائلي للمتلازمة، بينما تشير النتائج إلى وجود اختلافات معنويّة ذات دلالة إحصائيّة بين أعراض متلازمة ما قبل الحيض والخصائص الإنجابيّة.

التوصيات: أوصت الدراسة بتثقيف النساء حول أعراض متلازمة ما قبل الحيض من خلال البرامج التثقيفيّة وإنشاء عيادات خاصة (صحة المرأة) أو مراكز تعنى باضطرابات الدورة الحيضيّة.

Abstract:

Objectives: To assess the premenstrual syndrome among the working women in Baghdad City.

Methodology: A cross–sectional analytic study, using probability sampling cluster (multi–stage) sampling of (300) women who were selected randomly from (30) school and (3) factories. Data were collected through the interview and self–report techniques from November 30th 2004 to March 30th 2005. Questionnaire format was designed and consisted of (4) parts, including demographic, reproductive, menstrual cycle characteristics, and premenstrual syndrome symptoms. Content validity and reliability of the questionnaire were determined by conducting a pilot study. Descriptive and inferential statistical procedures were used to analyze the data.

Results: The results of the study revealed that the age of women ranged between 30–34 years. The highest percentage of them was college graduates, most of them was unmarried and most of them was with low socioeconomic status. The majority of the study sample had moderate level of premenstrual syndrome symptoms. There were no statistically significant differences between premenstrual syndrome symptoms and demographic, menstrual cycle characteristics and history of premenstrual syndrome, while there were statistically significant differences between premenstrual syndrome symptoms and reproductive characteristics.

Recommendation: The study recommends to educate women about the premenstrual syndrome symptoms by health educational program and reactivate women health clinic to deal with menstrual disorders.

Key words: Assessment, Premenstrual syndrome and working women

Introduction:

The menstrual cycle is a normal predictable and anticipated event that occurs regularly over the span of a woman's reproductive years [1]. Seventy five percent of girls and women who menstruate, experience some type of menstrual cycle discomfort [2]. A women who complains regularly recurring psychological or somatic symptoms, or both, which occur specifically during the luteal phase of the cycle is suffering from premenstrual syndrome (PMS) which are relieved by menstruation [3].

Premenstrual syndrome is a constellation of symptoms related to hormonal fluctuation of the menstrual cycle [4]. Premenstrual symptoms are commonly reported by adult women include (bloating, weight gain, breast soreness, hunger, thirst, fatigue, acne, constipation, hot flashes chills, difficulty with concentration and mood change) in the luteal phase of the cycle [5]. PMS can affect menstruating women of all ages and backgrounds [6], but it is more likely

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to trouble women in their (20) to (30) years [7]. Seven million women about 10% of U.S. women of childbearing age, experience PMS severe enough to disrupt their lives [8]. So, the objectives of the study were included to:

1. Identify the PMS symptoms among working women in Baghdad City.
2. Find out the relationship between PMS symptoms and demographic, reproductive and menstrual cycle characteristics.

Methodology:

A cross–sectional analytic study was carried out to assess the PMS symptoms among working women. The study was conducted at intermediate and secondary schools from four sectors (AL–Rusafa and AL–Karkh sectors) and working women at three factories. The probability sampling cluster (multi–stage) of a group of (30) schools out of (515) and (3) factories out of (10) have been selected and (300) working women. Data were collected through the interview and self–report techniques from November, 30th, 2004 through March 30th, 2005.

A questionnaire format was designed that consisted of four parts which included demographic data, reproductive status, menstrual cycle characteristics and PMS symptoms which consisted 33 items (pain six items, concentration five items, behavioral change three items, autonomic reaction four items, water retention four items, negative effect eight items and symptoms during first two days of period which consisted three items). Content validity and reliability of the questionnaire were determined by conducting a pilot study. Descriptive and inferential statistical procedures were used to analyze the data, which included frequency, percentage, mean of score and chi-square test. All symptoms are rated according to the following criteria: zero=none, one=mild, two=moderate, three=severe. So, the cut-off-point= 1.5 according to the following formula:

Cut-off-point = 0+1+2+3/4

Relative sufficiency was calculated according to the following formula:
Cut-off-point / No. of score *100

Results:

Table 1. Distribution of the study sample according to demographic characteristics (N=300)

Variables	Number	Percent
Age group/years		
20 - 24	17	5.7
25 - 29	72	24
30 - 34	84	28
35 - 39	66	22
≥ 40	61	20.3
$\bar{x} = 33.3 \pm 6.02$		

Table 1. (Continued)

Variables	Number	Percent
Marital status		
Married	134	44.7
Divorced	12	4
Separated	1	0.30
Widowed	8	2.7
Un married	145	48.3
Marital status		
Married	134	44.7
Divorced	12	4
Separated	1	0.30
Widowed	8	2.7
Un married	145	48.3
Type of job		
Teacher	156	52
Worker	144	48
Educational Level		
Read and write	18	6
Primary school graduate	44	14.7
Intermediate school graduate	41	13.7
Secondary school graduate	34	11.3
Institute graduate	34	11.3
College graduate	129	43
Socioeconomic status		
High 121 – 150	68	22.7
Middle 90 – 120	105	35
Low ≤ 89	127	42.3

Table (1) shows that the highest percentage (28%) of women was at age group of (30–34) years and the mean and SD of age was (33.3 ± 6.02), (48.3%) of them were unmarried, (52%) of them were teachers and (48%) were workers, (43%) of them were college graduate and (42.3%) of them were in low socio economical status.

Table 2. Distribution of the study sample according to reproductive characteristics N=155

Variables	Number	Percent
Age at marriage / Years		
17–21	37	23.9
22–26	69	44.5
27–31	32	20.6
32–36	17	11
X = 24.93 ± 4.61		
Gravidity		
None	14	9
1	31	20
2–3	60	38.7
≥ 4	50	32.3

Table 2. (Continued)

Variables	Number	Percent
Parity		
None	14	9
1	43	27.7
2–3	62	40
≥ 4	36	23.2
Abortion		
None	106	68.4
1–2	44	28.4
≥ 3	5	3.2
Infertility		
None	136	87.7
Primary infertility	11	7.1
Secondary infertility	8	5.2

Table (2) shows that the highest percentage of the study sample (44.5%) their ages at marriage between (22–26) years, (38.7%) of them had 2-3 pregnancies, (40%) of them had 2-3 deliveries, (68.4%) of them had not any previous abortion, 28.4% of them had 1-2 abortion and (87.7%) of them did not have any type of infertility, while (12.3%) of them had primary infertility and secondary infertility in their fertile age.

Table 3. Distribution of the study sample according to menstrual cycle characteristics
N = 300

Variables	Number	Percent
Age at menarche / Years		
11 Years	27	9
12 Years	68	22.7
13 Years	84	28
≥ 14 Years	121	40.3
$X = 13.01 \pm 1.0$		
Duration of menstrual flow (days)		
< 4	27	9
4 - 5	135	45
≥ 6	138	46
Amount of menstruation flow		
Mild	11	3.7
Moderate	228	76
Heavy	61	20.3

Table (3) reveals that the highest percentage (40.3%) of the study sample their age at menarche was 14 years and more, with mean (13.01 ± 1.0), (46%) of them their duration of menstrual flow lasted six days and more, and (76%) of them the amount of menstruation flow was moderate.

Table 4. Distribution of the study sample according to the history of PMS (N=300)

Variables	Number	Percent
Family history of PMS		
Yes	181	60.3
No	119	39.7
PMS start		
At Puberty	145	48.3
Before married	111	37
After married	34	11.3
After child birth	10	3.3
***Causes of PMS**		
Hormonal factor	140	39.1
Psychological factor	190	53.07
Social factor	28	7.82

*** more than one answer**

Table (4) indicates that there was a significant relationship between physical stressors and gender at p-value=(0.131), and between physical stressors and age at p-value=(0.189), and there was a significant relationship between psychological stressors and marital status at p-value=(0.150).

Table 5. Level of PMS symptoms (Luteal Phase) among the study sample with mean of scores, standard deviation, relative sufficiency and their grades

Level of Symptoms Categories	Never (0)		Mild (1)		Moderate (2)		Severe (3)		*Total*	Grand Mean	SD	RS%	Grades
	No.	%	No.	%	No.	%	No.	%					
1. Pain	366	20.33	403	22.39	595	33.06	436	24.22	1800	1.61	0.56	40.19	Mild
2. Concentration	437	29.13	214	14.27	505	33.67	344	22.93	1500	1.55	0.66	38.7	Mild
3. Behavioral change	104	11.56	104	11.56	360	40	332	36.89	900	2.05	0.76	51.19	Mild
4. Autonomic Reaction	622	51.83	154	12.83	251	20.92	173	14.42	1200	0.98	0.53	24.54	No Effect*
5. Water retention	464	38.67	249	28.75	313	26.08	174	14.5	1200	1.17	0.59	29.21	No effect*
6. Negative effect	341	14.21	274	11.42	848	35.33	937	39.04	2400	1.95	0.54	48.82	Mild
7. Symptoms during first two days of period	112	12.44	152	16.89	251	27.89	385	42.78	900	2.01	0.81	50.25	Mild

No.=Number, %= percent, RS=Relative Sufficiency, SD=Standard Deviation, *No effect = Less than 37.5

Table (5) shows that the high grand mean of PMS symptoms category is behavioral change (2.05) which is above cut-off-point, while the lowest grand mean is autonomic reaction (0.98). The same table reveals that the items related to pain, concentration, behavioral change, negative effect and symptoms during first two days of period are rated at mild level, while there is no clear effect on the other categories (autonomic reaction and water retention).

Table 6. The descending order of premenstrual syndrome symptoms among the study sample

Item No.	Symptoms	Mean	SD	Descending order No.
31	Menstrual cramps	2.50	0.64	1
25	Irritability	2.43	0.73	2
27	Nervous tension	2.42	0.76	3
32	Menstrual backache	2.41	0.74	4
24	Mood swings	2.23	0.86	5
14	Decreased efficiency	2.21	0.90	6
30	Fatigue & restlessness	2.1	0.87	7
23	Depression	2.06	0.88	8
13	Stay in bed	2.06	1.06	9
3	Backache	2.03	0.84	10
9	Insomnia	1.95	1.08	11
2	Lower abdominal cramps	1.87	0.94	12
12	Decreased social activities	1.87	0.88	13
19	Breast fullness	1.82	0.93	14
8	Forget	1.76	1.09	15
20	Abdominal bloating	1.76	0.95	16
1	Headache	1.73	1.12	17
6	Breast tenderness	1.70	1.07	18
26	Anxiety	1.61	1.10	19
7	Difficulty concentrating	1.60	1.10	20
15	Dizziness of faintness	1.52	1.14	21

No.=Number, SD=Standard Deviation

Table (6) shows that the mean score of 21 items of PMS were more than the cut-off point (1.5). The highest mean score (2.5) was menstrual cramps and the lowest mean score (1.52) was dizziness and faintness.

Table 7. Differences between PMS symptoms levels and some characteristics

PMS Symptoms Variables	Chi - Square	D.f.	P. Value	S
Age group	6.098	8	0.636	NS
Marital status	3.936	8	0.863	NS
Type of job	0.310	2	0.856	NS
Educational Level	6.872	10	0.737	NS
Socio–economic status	2.365	4	0.669	NS
Age at marriage	1.926	6	0.926	NS
Gravidity	12.768	6	0.047	S
Parity	11.239	6	0.081	S
Abortion	4.505	4	0.342	NS
Infertility	13.430	4	0.009	S
Age at menarche	5.733	6	0.454	NS
Duration of menstrual flow	1.502	4	0.826	NS

Table 7. (Continued)

PMS Symptoms Variables	Chi - Square	D.f.	P. Value	S
Amount of menstrual flow	1.675	4	0.795	NS
Family history of PMS	6.359	6	0.384	NS
PMS starting	3.319	6	0.768	NS

DF=Degree of freedom, P. Value=Probability level at p≤0.05, S=Significance

Table (7) shows that there are statistically significant differences between P M S symptoms and gravidity, parity and infertility

Discussion:

Table (1) shows that the mean age of the study sample was 33.3±6.02. PMS is most commonly diagnosed in the age of 30 years [9], 48.3% of them were unmarried, 52% of them were teachers and 48% were workers, 43% of them were college graduates and 42.3% of them were in low socio-economic status. PMS is extremely common at all ages, especially in women aged between 30 -45 years [10]. It was reported that less than (1%) of women regularly missed work due to their symptoms and only (2%) felt their symptoms impaired their work [11]. It was mentioned that women with high incomes and high education had lower prevalence of several symptoms of PMS than others [12].

Table (2) shows that 44.5% of the study sample their ages at marriage were ranged (22–26) years, 38.7% of them had 2-3 pregnancies, 40% of them had 2-3 deliveries, 68.4% of them have not any previous abortion and 87.7% of them did not have any type of infertility. This finding is supported by a study which stated that PMS occur more commonly in the multiparous women [12].

Table (3) shows that the mean age at menarche was 13.01±1.0. This result is agreed with the study which stated that menarche usually starts between the ages of 8 to 13 years [13]. 46% of them their duration of menstrual flow lasted five days and more, and 76% of them their amount of menstruation flow was moderate.

Table (4) shows that 60.3% of the study sample had family history of PMS. Family history of premenstrual tension makes women predispose to PMS [12], 48.3% of them PMS were starting at puberty, and 53.07% of them responding that the main causes of PMS were psychological factors. Many theories proposed that there are factors may contribute toward the development of the syndrome; these include environmental, social, dietary and psychological factors [13]. Table (5) shows PMS symptoms categories (pain, concentration and behavioral change) are highly rated at moderate level (negative effect and symptoms during first two days of period) are highly rated at severe level, while there is no clear effect on the other categories (autonomic reaction and water retention). It was revealed that the highest percentage (33.06%) of the study sample rated their pain as moderate level and the most frequent symptoms were backache, lower abdominal cramps and general aches. These symptoms may be related to the type of job of the study sample which needs standing for long time during their work. The same table revealed that the highest percentage (33.67%) of the study sample rated their concentration as moderate level; the most frequent symptoms were forgetful, difficulty concentrating and insomnia. These findings were supported by a study which stated that the PMS symptoms may include a variety of cognitive problems, such as difficulty in thinking or forgetfulness [9]. The findings indicated that the highest percentage (40%) of the study sample rated their symptoms related to behavioral change as moderate level and the most frequent were decreased social activities, stay in bed and decreased in efficiency. PMS may be accompanied with symptoms of decreased interest in everyday activities and lack of energy [12]. The highest percentages (51.83%), (38.67%) of the study sample did not have any symptoms of autonomic reaction and water retention respectively. It was reported that over 60% of women report swelling or bloating and 70% cyclic breast symptoms during reproductive years [14]. Concerning the negative effect,

the highest percentage (39.04%) of the study sample rated their symptoms as severe level and the most frequent symptoms were depression, mood swings, irritability, anxiety, nervous tension, fatigue and restlessness. This may be related to the recent situation that face Iraqi people, like absence of peace and non existence of safety which lead to increase the woman's suffering from anxiety and depression during prenmenstrual phase. Regarding the symptoms during first two days of period, the highest percentage (42.78%) of the study sample rated their symptoms as severe level and the most frequent symptoms were menstrual cramps and backache. This result was consistent with a study which found that more than half of all women who menstruate have cramps during the first few days of their periods [13].

Table (6) shows that the items with highest mean score (2.5) was menstrual cramps and the lowest mean score (1.52) was dizziness and faintness. It was reported that the most frequent symptoms were menstrual cramps, backache, headache, lower abdominal pain, fatigue, depression, sadness, painful breasts, swelling, abdominal bloating, mood swings and tension [15].

There are statistically significant differences between PMS symptoms and some of reproductive characteristics, while there are no statistically significant differences between PMS symptoms and demographic characteristics as shown in (Table 7). It was reported that there was an association between physical and emotional symptoms and occupation [16]. Women who had been pregnant were significantly less likely to experience menstrual cramps than the nulliparous [12]. The same table shows there are no statistically significant differences between PMS symptoms and menstrual cycle characteristics. The cycle regularity, interval, duration of flow, estimated amount of flow, and duration of cramps were not associated with different degrees or types of premenstrual symptoms [17], while there is a significant correlation between menstrual symptoms and the occurrence of PMS in daughter, mothers, and between sisters [18, 19].

Recommendations:

The study recommends the followings :

1. Health education concerning the PMS symptoms should not be restricted to maternal and child health centers, but extend to other settings; like schools and universities.
2. Consultation with or referral to a mental health care providers about psycho-educational interventions by teaching women how to minimize stress, tension, irritability, or angry during the premenstrual phase.
3. Health promotion program that provide family social support and coping strategies.
4. Reactivation of women health clinic to deal with menstrual disorders.

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